



GLEANINGS

IN
PART 48.

NATURAL HISTORY.

647
551
SECOND SERIES.

TO WHICH ARE ADDED

SOME EXTRACTS FROM THE UNPUBLISHED MSS. OF
THE LATE MR. WHITE OF SELBORNE.

BY

EDWARD JESSE, Esq.,

SURVEYOR OF HIS MAJESTY'S PARKS, PALACES, &c.

- With *White* my spirit finds beloved
- A Sage who cared not how the
- His sylvan strolls, so nough
- Roaming through Selborne!

BOOK NO.

468

LONDON:

JOHN MURRAY, ALBEMARLE STREET.

MDCCCXXXIV.



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P R E F A C E.

THE favourable, and I may add, unexpected reception which the Public has given to my 'Gleanings in Natural History,' has induced me to venture upon a second series. Like the former, it has been principally composed from notes which I had by me, and from the communications of those kind and observant friends, who, as well as myself, are admirers of what is curious in nature.

In submitting this unpretending work to the Public, I beg again to repeat that I am completely ignorant of the scientific part of Natural History. Filling, as I do, an arduous and responsible situation, I have only the means of making very cursory observations in my favourite amusement. These observations have indeed been made during my

various rides in His Majesty's Parks in the fulfilment of official duties, and my chief relaxation has been in the tranquil and agreeable occupation of writing down in the evening whatever interested me in the course of the day. Having made this avowal, I trust that my little work will not be criticized too severely. It is at all events an innocent one.

It has been well said that Religion and Nature, like two sisters, should always walk hand in hand, that they may reciprocally aid and assist each other. It is with this impression that I have ventured to draw the attention of my readers, in a few instances, to those beautiful traits in Nature which prove, (at least to my feelings), not only that there is a great Parent of the universe, but that He is always engaged for the benefit of His creatures.

Feeble as may be my attempts to do good, I should greatly regret if I thought they

would be altogether fruitless. The human mind perhaps knows no pleasure greater than the consciousness of having been useful to others.

To those friends who have so kindly contributed to this work, I have to make my grateful acknowledgements, especially to Dr. William Roots of Kingston on Thames and to William Yarrell, Esq. of Ryder Street, London, for the able assistance they have afforded me in my endeavours to elucidate the Natural History of the Eel.

*Hampton Court,
January, 1834.*

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GLEANINGS
IN
NATURAL HISTORY.

SECOND SERIES.

' I solitary court
' Th' inspiring breeze, and meditate the book
' Of nature ever open.'

THOMSON'S SEASONS.

I WAS seated the other day (it was about the middle of the month of May) on a fine projecting root which helps to support one of the old magnificent oaks in Richmond Park. The scenery about me was beautiful—the day was perfect, and there was that freshness and sweetness in the air which is seldom felt but in the spring. I held the bridle of my horse whilst he grazed, taking care however that he did not touch a little bunch of “freckled cowslips,” which were growing under the protection of the root whereon I sat. All nature seemed in its most agreeable mood, and every thing around me appeared smiling and cheerful. Sometimes I heard the *laugh* of the Green wood-pecker, for it can be called nothing else:

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then the cooing of the wood pigeon from a large thorn tree, not far from me, covered with ivy, and now and then the chirping of a family of titmice, as they suspended themselves from the branches of the trees over my head in search of insects between the interstices of the bark. There was also the shrilling or *crinking*, as Mr. White calls it, of the field-cricket, and the piping of the wryneck, a bird it is difficult to discover, though he may be heard in every direction during the spring months. A large herd of red deer were grazing quietly near me, and at a little distance numerous cattle were cooling themselves in the shallows of the large pond, and whisking off with their tails the flies which fell into the water, and afforded food for the smaller fish—so great is the economy of nature. The sun beams were sometimes seen smiling on the water, and at other times disappeared for a moment in consequence of a passing cloud.

As plays the sun upon the glassy stream,
Twinkling another counterfeited beam.

It was impossible to witness this scene—to inhale the fresh breeze—and see all nature joyous about one, without sensations of gratitude and pleasure;—

‘ Who would live turmoiled in the court,
That might enjoy such quiet scenes as these.’

The "antique" root on which I sat was one of those sturdy ones which may generally be seen projecting from old trees, especially those which grow on banks. That part of it which "peeped out" above the soil, was covered with moss, and it appeared to grasp and seize upon the ground as if conscious of the support and assistance it would be required to afford when storms and gales attacked the splendid tree of which it formed a part.

'It seems Idolatry, with some excuse,
'When our forefather Druids in their Oaks
'Imagined sanctity.'

COWPER.

I delight in viewing the varied shapes and appearances of old oaks. Some of the pollards even preserve a great irregularity, but there is one tree growing in the valley below Lady Stewart's Lodge in Richmond Park, which I often visit, and never without an increased admiration of its beauty. It has more branches projecting from its stem than I ever saw before, and they are so disposed, and spread themselves so high and so wide, that the effect of the whole is sufficient to strike any observer with admiration. It is surrounded by numerous thorns, and one may almost fancy that they have voluntarily placed themselves under the protection of this monarch of the park, and are regarding him with silent

wonder, while they are receiving the benefit of his shelter:—

‘ His top branch over peer’d Jove’s spreading tree,
 ‘ And kept low shrubs from winter’s powerful wind.’

I find a great variety of birds in that part of the park in which my favourite oak flourishes. I was admiring it the other day, when I heard the five or six successive taps which the spotted woodpecker, or witwall, (*Picus Major*) makes on a loose piece of decayed bark. I looked and expected to see the bird close to me. I could not however discover it, and then went to the next tree. The tapping continued, as before, apparently close to me, but still no bird was to be seen. I at last discovered it about fifty yards from the spot at which I first heard it, pursuing its operations without appearing to notice me. There seemed to be a sort of ventriloquism in the brisk and rapid blows of the bird, which made it appear nearer than it really was. It may not perhaps be generally known that these taps, against decayed bark, are for the purpose of frightening the woodlouse and other insects from their retreats, and the bird then feeds upon them.

In this part of the park I witness constant fights between the misseltœ thrush, (*Turdus Viscivorus*) or as I hear it called, the stern cock, and the magpie, and sometimes with the jackdaw. The

missel defends itself, or rather its nest, with great courage, and I see it beat off the jackdaw. These birds build in the holes of the pollards in the Park, and with so little attempt either at concealment or security, that I frequently can look into the holes during my rides in the park, and see the nests.

Titmice are in great abundance. "It is the great titmouse which sings those three cheerful notes which the country people say sounds like 'sit ye down.' They call the bird by that name. It is the marsh titmouse which makes two quaint sharp notes, which some people compare to the whetting of a sithe."* The goldfinch will sometimes flit past me and settle on some thistles growing near the park wall. They must assist in floating the down by pecking at the heads of the weed;—

' Wide o'er the taisty lawn, as swells the breeze,

' A whitening shower of vegetable down

' Amusive flogts.'

THOMSON.

The tree-creeper is a great favorite with me. It is a pretty little nimble bird, and runs up the bodies and boughs of trees like a mouse. It runs also on the lower side of the arms of trees with its back downwards. It stays with us all the winter. Mr. White has observed this property, and says that a pair of these birds built at one

* White. MSS.

end of a house behind some loose plaster, and that they crept up the wall with the agility of a mouse, and seemed at all times to prefer climbing up steep surfaces.

The nightingale is heard in this part of the park. In the day time its song is of short continuance. At night if another nightingale is singing near, the song is continued with great energy.

' The nightingale, that chaunteth all the springe,
' Whose warbling notes throughout the wooddes are harde,
' Being kept in cage, she ceaseth for to singe
' And mournes, because her libertie is harde.'

GEFFREY WHITNEY'S EMBLEMES, 1586.

The nightingale is seldom heard to sing before the second week in April, and towards the end of May its song gets weaker and weaker.

The cuckoo is now heard in every direction about me. I see him sometimes mobbed by the wagtail, and some of the other fly-catcher tribe, not because he feeds upon them, but because he invades their retreats. I have often watched the cuckoo, but never yet saw it in the act of procuring its food, a circumstance which almost makes me think that he feeds late at night only, or very early in the morning, when moths are most abundant. That it is insectivorous there can, I think, be no doubt, though some naturalists have thought otherwise. The very circumstance of its depositing its egg in the nest only of those birds who

feed their young with insects, is a strong proof of this. There is still a great mystery attached to the natural history of the cuckoo, and one would willingly, if possible, rescue it from the charge of a want of that natural affection which has been alledged against it. It has been stated that what has been said by a very antient and sublime writer, concerning the defect of natural affection in the ostrich, may be applied to the cuckoo. It is now, however, pretty well ascertained that the ostrich only quits her eggs when the sun is so powerful that the additional warmth from her body would be detrimental to them. She, therefore, returns to them in the cool of the evening. I am persuaded that the more we enquire and search into the economy of nature, so far from finding any defects, we shall have more and more reason to be convinced that not only every bird, but every animal from the highest to the lowest in the scale of creation, is equally well adapted for the purpose for which it was intended. The chief object of a naturalist should be always to 'look through nature up to Nature's God,' and if we do so with a sincere desire to be benefited by the survey, we shall have fresh cause for wonder and admiration, and find our minds more fitted to receive the good impressions which such a study must produce.

The cuckoo probably lays more than one egg,

as I believe there is no known instance of any species of bird laying only one. Nature is too provident in the preservation of the different species to run any risks of their being exterminated, which might be the case if only one egg was deposited. Colonel Montagu dissected a cuckoo which had in her four or five eggs. Mr. Rennie thinks it lays a second time. Blumenbach says she lays six eggs in the spring from *time to time*. The cuckoo probably has the power of retarding its egg till it can find a proper nest to deposit it in. The egg, though larger than the egg of those birds in whose nest it is placed, does not stand in need of a longer period of incubation. One of the keepers in Richmond Park lately shewed me a robin's nest very artfully concealed in the thatch of a shed close to his lodge. The thatch projected over the nest, which was in so confined a space that it seemed almost impossible for a cuckoo either to have discovered it, or to have got at it for the purpose of placing an egg in it. Yet the keeper assured me that he had frequently seen a cuckoo attempting to do so, and that he had as frequently driven it away, not liking to have the robin disturbed. I have often tried to account for this intrusion of the cuckoo into the nests of other birds. Its peculiar formation is not a sufficient reason. It is however the largest of insectivorous birds, and naturally requires a great

quantity of food. Like the swallow, therefore, one would think it would be constantly on the feed. If the hen, however, sat on her own eggs, how could this large supply of food be obtained? While she was in search of it her eggs would be spoiled. Mr. White observes that cuckoos cannot be birds of prey as they have a weak bill and no talons.

Colonel Montagu states that this bird comes to us early in the spring, and almost invariably leaves us by the first of July. On the 18th of August, however, of this year (1832) a young cuckoo was caught in the green-house of the Stud-House in Hampton Court Park, which had just escaped from the nest of a wag-tail built in some ivy against a wall adjoining the green-house. A few days before I had observed a cuckoo on the wing in Windsor Great Park, apparently in search of food.

I was amused this morning in watching some magpies catching butterflies, on my way homewards. There was a considerable length of wall, on the top of which five or six of these birds had perched, and from which they darted at the butterflies as they came near them, making a short and elegant circle, and alighting on the wall again to feed on their prey. As I approached them they got to a little further distance from me, still

catching the butterflies as they fled from one place to another. I had not before been aware that magpies would feed on this description of insect.

Magpies are perhaps possessed of a degree of cunning not to be found in any other birds. I remember, when I was a boy, being much struck with an instance of this. I was constantly in the habit of firing at the birds who came to devour the berries of some mountain-ash trees standing on the lawn of the house where I was then residing. On the days in which I did this some magpies who had nests near the house were never seen on the lawn, but they were observed to hop fearlessly about it on Sundays when no reports of guns were ever heard at, or near, the place. They seemed in fact to be aware that, on that day, no danger need be apprehended. A friend of mine assured me that he had observed nearly the same circumstance in regard to some rooks, which built near his house, as they came to spots on a Sunday* which they never frequented on any other day, a proof I think that animals are capable of *measuring* time, if I may call it so.

In order to corroborate this supposition still further, I will mention the following facts. A farmer had a favourite dog which accompanied

* There is an old saying in Kent—'As happy as a Rook on a Sunday.'

him wherever he went except on a Sunday. On that day he never could be prevailed upon to leave the house. It happened, however, that there was a fast day, and on that occasion the farmer put on his best clothes and set off for church. The dog followed him, as usual, for a short distance, but seemed aware that something unusual in his master's former habits had taken place. He looked up in his face with considerable anxiety and distrust, and then slowly walked back to the house. The farmer called him, and the dog returned, but the village bells just then happening to ring for church, the dog seemed all at once to comprehend what was going forward, and returned to his home with the utmost expedition.

I also was a witness of the fact of four horses which had been regularly driven together six days in each week, shewing considerable restiveness and dislike to start on the day in which they had been accustomed to rest. On their usual days they shewed no such symptoms.

It is a fact well known to those officers who have been quartered at Gibraltar, that every Sunday, and only on that day, a large assemblage of monkeys may be seen at a certain spot which overlooks the ground on which the Church parade is held, and from which they can see all that is going forward. I may also add that, although I have made many enquiries on the subject, I have

never yet been able to ascertain that the monkies on the rock of Gibraltar have any means of procuring water during the dry and hot weather which prevails there, and it is supposed that the food upon which they subsist is of a dry nature.

Affection sublimes the passions, quickens the invention, and sharpens the sagacity of the brute creation.—Dams will throw themselves in the way of the greatest danger in order to avert it from their progeny.—GILBERT WHITE.

I ALWAYS remark with peculiar interest the manner in which animals shew their affection for their young, and this in a variety of ways, the most timid of animals sometimes displaying the greatest courage. In riding about the King's Parks I have frequently observed a doe come up to a dog, who has approached the lair where her fawn was concealed, and putting her feet together she has made a spring and alighted upon the dog, frequently either maiming or killing it. A friend of mine observed an instance of this courage in a doe. He was walking in Hagley Park, Worcestershire, with a party of friends, when the discharge of a game-keeper's gun reverberated through the trees and hills of that lovely scene. Soon afterwards a bleeding fawn bounded by, followed by the keeper's hound, and, in close pursuit of the hound, came a doe, the dam of the wounded fawn. Loss of blood, (which, trickling down copiously, marked the course of the poor alarmed creature) so weakened it that the dog soon brought it to

the ground near the spot where the party stood observing the incident. The parent-doe, losing all her natural timidity in affection for her offspring, attacked the hound with the utmost ferocity, nor did the interference of the keeper intimidate her. Having terminated the sufferings of her young one with his knife, he carried it from the place: and when the dam, as if agitated by excessive grief, had surveyed the pool of blood, she followed the dead fawn and its destroyers, uttering a tremulous cry of maternal distress. This cry I often hear during the season for killing fawns, and it is one of peculiar agony.

An instance of this affection of beasts for their young recently occurred in Bushy Park. A cow, for some reason or other, was driven from that place and sold in Smithfield market, her calf being left at the head keeper's yard in the park. Early the next morning she was found at the gate of the yard, having made her way through all the intricacies and impediments of London and traversed twelve miles of road in order to get to her calf again. She must also have watched the opportunity when the park gates were opened to get through them.

A gentleman who had resided for several years in New South Wales related the following circumstance which he assured me he had frequently witnessed while hunting the kangaroo. It furnishes

a strong proof of the affection of that animal for her young, while her own life has been placed in the most imminent danger. He informed me that when a female kangaroo has been hard pressed by dogs, he has seen her, while she has been making her bounds, put her fore-paws into her pouch, take a young one from it, and then throw it as far on one side as she possibly could out of the way of the dogs. But for this manœuvre her own life and that of her young one would have been sacrificed. By getting rid of the latter, she has frequently effected her escape and probably returned afterwards to seek for her young.

Such is the jealous care which a cat shews for her kittens that I have known one to remove a whole litter to the leads at the top of a house after they had been handled by a stranger, though she had previously allowed every inmate of the house to touch them.

It has been most beautifully and providentially ordered that the process of suckling their young is as pleasurable to the parent animal as it is essential to the support of the young. It is probably from a deficiency in the flow of milk that we now and then hear of animals destroying their infant progeny. Where there is a redundancy of it, and a painful sensation is produced, animals will allow the young of almost any other species to suck them. Thus a panther has been nourished

by a bitch, and a puppy by a cat which had been deprived of her kittens. As the mammæ of animals thus become painful when over distended with milk, they are reminded of their helpless young, and visit them periodically at those times when sustenance is necessary for them.

The following fact connected with this subject is too curious to be omitted. It may excite a doubt in the minds of many persons, but it was so frequently witnessed by those on whose veracity I can depend, that I have no hesitation in relating it.

A cat belonging to Mr. Smith, the respectable bailiff and agent of the Earl of Lucan, at Laleham, is in the constant habit of taking her place on the rug before the parlour fire. She had been deprived of all her litter of kittens but one, and her milk probably incommoded her. I mention this in order to account in some degree for the following circumstance. One evening as the family were seated round the fire they observed a mouse make its way from the cupboard which was near the fire-place, and lay itself down on the stomach of the cat, as a kitten would do when she is going to suck. Surprised at what they saw and afraid of disturbing the mouse, which appeared to be full grown, they did not immediately ascertain whether it was in the act of sucking or not. After remaining with the cat a considerable length of time it

returned to the cupboard. These visits were repeated on several other occasions and were witnessed by many persons. The cat not only appeared to expect the mouse, but uttered that sort of greeting purr which the animal is so well known to make use of when she is visited by her kitten. The mouse had every appearance of being in the act of sucking the cat, but such was its vigilance that it retreated as soon as a hand was put out to take it up. When the cat, after being absent, returned to the room, her greeting call was made, and the mouse came to her. The attachment which existed between these two incongruous animals could not be mistaken, and it lasted some time. The fate of the mouse, like that of most pets, was a melancholy one. During the absence of its nurse, a strange cat came into the room. The poor mouse, mistaking her for its old friend and protectress, ran out to meet her, and was immediately seized and slain before it could be rescued from her clutches. The grief of the foster-mother was extreme. On returning to the parlour she made her usual call, but no mouse came to meet her. She was restless and uneasy, went mewing about the house, and shewed her distress in the most marked manner. What rendered the anecdote I have been relating the more extraordinary is the fact of the cat being an excellent mouser and that during the time she was shewing so much

fondness for the mouse, she was preying upon others with the utmost avidity. She is still alive.

A gentleman, now residing in Sussex, had a cat which shewed the greatest attachment for a young black-bird, which was given to her by a stable boy for food, a day or two after she had been deprived of her kittens. As she tended it with the greatest care, they became inseparable companions, and no mother could shew a greater fondness for her own offspring than she did for the bird. I could relate many instances of the same incongruity of attachment in animals: it will generally be found to arise either from those feelings of natural affection which every mother is possessed of, or else from that love of sociability, and dislike of being alone, which is possessed more or less by every created being.

With prescient glance, protectors of their brood,
Each kens the coming peril.

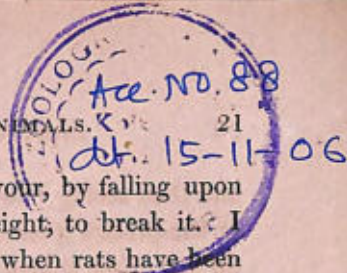
ANON.

THE movements, or motions, of some birds are very peculiar—those of the wag-tail, red-start and starling for instance. The cock-robin has a very ‘gallant bearing’ and shews much courage. The hedge-sparrow is very timid and peaceable. The wren is *fidgetty* and constantly on the move. The goldfinch always appears to be in a state of restlessness. The black-bird and song-thrush shew much attachment to their mates. The latter sometimes takes a rapid run on my lawn, and then stops and seems to consider what she should do next, holding her head a little on one side. The sparrow has a bold familiarity which destroys the interest we might otherwise feel for him. I have observed that the young ones which have been reared amidst the smoke of London, will hop about the streets before they can well fly, collecting crumbs of bread, or other food, and appearing to have imbibed so early that boldness, and carelessness of danger, which are so conspicuous to any one who has watched the character of a London sparrow. I am always amused in looking at this apparent recklessness of the bird,

and then seeing how it secures itself from danger at the precise moment in which it is necessary to do so. Few things indeed can shew more forcibly the powerful instinct which is implanted in animals for their self-preservation, than the means which they take to avoid danger. I saw an instance of this lately in a stag. It had been turned out before a pack of hounds, and when somewhat pressed by them, I observed it twice to go amongst a flock of sheep, and in both cases to double back, evidently, I should imagine, with the intention of baffling the pursuit of the dogs. It would thus seem that the animal was aware of its being followed by the scent, and not by sight, and if this was the case, it affords another proof that animals are possessed of something more than common instinct.

In riding over the Brighton Downs I disturbed one of the horned owls. The sun was shining brightly, which probably caused the bird to alight again at a short distance from me. On going up to it, it cowered or rather squatted, like a hare in its seat, but always turned its eye towards me which ever way I moved. I disturbed it several times, and remarked that the bird not only made itself as flat as possible, but alighted on those places which assimilated most to its own colour. Both salmon and trout when they are hooked, will frequently throw themselves

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out of the water and endeavour, by falling upon the line with their whole weight, to break it. I have also been assured that when rats have been caught by the foot or leg in a trap, they will sometimes, in order to disengage themselves, gnaw off the limb. This puts me in mind of an anecdote related to me by a friend on whose veracity I can place the strictest reliance, and who himself witnessed the circumstance. It occurred while he was on a visit, last autumn to a gentleman who resides near Southampton. This gentleman had a retriever, a large half-bred Newfoundland dog, who had formed a friendship with a horse, which, at the time I am referring to, was turned out in a paddock near the house. The dog, hunting one day by himself, was caught in a snare by the leg, and after struggling some time, during which its cries were heard, he disengaged himself so far from his confinement as to break the string of the snare, the wire being still attached to the limb. In this situation he was observed, by my friend and his host, to go to the horse in the paddock, and seemed at once to make them aware of his distress. The horse gently put his nose down to the dog, and the dog having licked it, lifted up the leg to which the snare was attached in a manner which could not be mistaken. The horse immediately began to try to disengage the snare by applying his

teeth to it in a gentle and cautious manner, although he was unable to succeed in removing it. This is by no means a solitary instance of the sympathy which animals shew for each other when in distress, and is another proof how much man, if he were so disposed, might learn from the brute creation to regulate his own conduct.

‘ The mole
 ‘ Rising, the crumbled earth above it threw
 ‘ In hillocks.’

MILTON.

I lose no opportunities of conversing with mole catchers whenever I meet with them in my walks and rides. They are a singular class of men—what one would call *characters*—with a considerable share of low wit and a sly cunning look, slow and deliberate in all their movements and parts of speech. They are silent and stealthy in their walk, as if the very success of their operations depended on their not giving the alarm to the little animal they want to entrap. I also observe that they are generally much bent, from the constant habit they have of stooping to look for the runs of the mole. They are, however, possessed of much acuteness, and by means of a small fee now and then are tolerably communicative. The rat-catcher is a very different kind of person. There is frequently an impudent saucy kind of look about him, which seems to partake of the character of the animal he destroys. His very dogs are afraid of him, and they appear sulky and half starved. His conversation is generally in praise of his dogs and ferrets, and the number of rats he has destroyed with them. He is a

great frequenter of the ale house, and conveys scandal from one village to another during the progress of his calling. My friends the mole catchers, on the contrary, are a quiet and sober race of men, fond of accumulating money, and are seldom to be met with in an ale house. Their cottages are generally neat and clean, and the implements of their calling tidily bestowed in them, such as two or three spades, a bundle of tough hazels and some wooden traps. In an evening they may be seen twisting their horse hair nooses, or cutting an hazel stick to its proper length. One of these men shewed me, a short time since, a white or rather a cream coloured mole, which he had caught near the Robin Hood Gate in Richmond Park. He told me "there were five of them, but that some *young chaps* had stolen the others." He had it stuffed, as a little interesting incident in his calling worth preserving, and he seemed to set much store upon it. He has since brought me a grey mole (a young one) with an orange coloured belly, and he assures me that he once caught one that was perfectly orange, except the head, but it was too much decayed before he took it out of the trap, to be fit for preserving. This playfulness in the colour of the mole is extraordinary, and I have never yet seen it noticed by any one who has published remarks on this animal. There is a great variety of soil in Richmond Park, but the

moles are most abundant in those parts of it which are loamy. Here the moles which are caught are invariably black, but others of a different colour have been taken in the wetter and more boggy parts, where there is a substratum of white sand. Whether this circumstance, or the difference in the sort of food found in these places, may influence the colour of the mole I know not, but one of these is possibly the case.

I observe that when a mole has its run up to the side of a hard gravelled road, it carries it a considerable depth under the road, and then comes nearer the surface immediately on the other side of it. This instinctive property of finding the exact spot where to begin again its usual depth of run is curious, and saves the animal much trouble.

During a particular season the male mole makes what mole catchers call the rutting-angles. These are much larger than the usual runs and must cause the animal considerable labour. They are about five inches wide and four inches deep, and are as near the surface as possible. The female goes a month with young and has never more than six or less than two at a birth. The young moles begin to run in about five weeks and when they first start are about three parts grown. They follow their mother for some time during their search for food, and it would appear that they are not easily induced to quit her. A mole catcher

informed me that he was once taking a female mole out of a trap, in which she had been caught some time, and found five young ones clinging about her, all of which he destroyed, though they might have made their escape. One of these men told me that previous to the setting in of winter the mole prepares a sort of basin, forming it in a bed of clay which will hold about a quart. In this basin a great quantity of worms are deposited, and in order to prevent their escape they are partly mutilated, but not so much so as to kill them. On these worms the moles feed during the winter months.* He also informed me that he finds the basins in much fewer numbers some years than others, and when this is the case he always knows that the winter will be a mild one. This circumstance, and the deposit of mutilated worms, shews the powerful instinct which the mole possesses. They are very pugnacious, and at particular seasons four or five males may be seen fighting together on the surface of the earth, having quitted their runs for that purpose. When this is the case one or two are generally left dead.

That moles were intended to be beneficial to mankind, there can, I think, be no doubt. I have been assured that where old mole-hills are most abun-

* This fact seems to disprove the assertion of Linnæus that the mole passes the winter in a state of torpidity.

dant on sheep pastures, the latter animal is generally in a healthy state, as it feeds on the wild thyme, and other salubrious herbs, which grow on these heaps of earth. Where these have been levelled and cleared away, sheep are not found to thrive as well as they did previously. This fact was confirmed to me by Mr. Hogg, the Ettrick Shepherd, who deprecated the practice of removing mole-hills. In Leicestershire, where old mole-hills are extremely abundant in the fine and extensive pastures which are to be found in that county, sheep thrive well, and are generally healthy. In further confirmation also of what has been stated, I have been assured that in consequence of the mole-hills having been destroyed in a park which formerly belonged to the present Earl of Essex, in Herefordshire, the deer in it never afterwards throve well.

I have never yet met with any account of the mole having intermixed with any other animal until this summer, when the gardener of Dr. Borland at Teddington, informed me that he had caught a *sort of mole* in the ground which partook very much of the appearance of a rat. It was somewhat larger than the common mole, had the same sort of feet, snout and fur, but its tail was much longer, it had the ears of a rat and its eyes very apparent which is not the case with those of the mole: the teeth also were like those of the rat. On questioning the gardener I pro-

cured the above description from him, and I afterwards found that the animal had been seen by many persons in the village, who gave the same account of it. Dr. Borland also assured me that I might depend on the accuracy of the description, and he regretted with me that his absence from home at the time prevented his having the animal properly preserved.

I have remarked elsewhere, that in consequence of the mole working along its runs early in the morning and late in the afternoon, when birds are most on their feed, they have by this means a supply of food afforded them. An observant person has assured me, that so great is the punctuality of the mole in commencing its morning and evening movements during the summer months, that he never knew them vary in their time.

It is a curious and extraordinary fact that moles are no where to be found in Ireland. One would think that the soil was particularly well suited for their operations, as I have frequently observed them to be most numerous in boggy soils, at least this was the case in some peat-earth in Staffordshire, where moles were exceedingly numerous, and made larger hillocks than I have seen in any other place. Dead birds and mice have sometimes been found in the nest of the mole.

In Herefordshire, moles are called munts, from

their raising perhaps little mounts or hills; and, in Nottinghamshire, &c. *mouldiwarps*,* from the manner in which they use their hand-like fins, warping, or throwing off the mould on each side of them.

* Mouldiwarp is evidently the German word Maulwurf.

The Raven, like the miser, senseless thrift,
Hoards what he ne'er can use.

ANON.

THERE is a great variety of character amongst birds; some appear moping and melancholy, and others full of fun and hilarity. One variety of bird (the titmouse) is always restless and on the move, while another, the heron for instance, seems grave and thoughtful in its habits and slow and methodical in his movements. The bird however which amuses me the most, is the starling. There is an oddity, if I may use the word, in all he does; he appears curious and observant; in short, a sort of Paul Pry amongst his species. He has a great deal of sociability and amusing fun in his disposition, accompanied by great restlessness, and yet apparent good fellowship and good humour. The jackdaw comes next to him in these respects, but I know of no bird whose character is more strongly marked than that of the starling. He is easily tamed, and when in a state of confinement his good spirits do not forsake him, and he appears to reconcile himself to his situation with great philosophy. I had one of these birds brought to me which had been taught to whistle a tune very prettily. He was so tame as to be allowed to hop

about the room, and he would sometimes come upon the table after dinner.

Some birds have a kindly feeling towards others not of their own species, an instance of which was witnessed by a respectable clergyman to whom I am indebted for some other remarks. Happening to be in a meadow near Worcester, he observed a carrion crow, a magpie, and a smaller bird fighting together very furiously. He stopped at a short distance from them to endeavour to ascertain the cause, and to watch the result of the quarrel. After a short time he perceived that the crow was determined on the destruction of the smaller bird, and that the magpie was generously endeavouring to prevent it, not only by getting between the crow and his victim, but by fighting magnanimously in the defence of the latter. Several severe rounds had passed before he interposed, which was not till he saw that, notwithstanding the generous valour of the magpie, the crow would kill the smaller bird if he remained neuter any longer. He therefore advanced towards the scene of conflict, but so fiercely were the two chief combatants engaged, that he could have secured them both before they were aware of his presence. The smaller bird proved to be a jackdaw from the neighbouring cathedral. It lay upon its back, gasping, and one of its wings was broken at the first joint by the crow. It was carefully taken

up and delivered to a market-woman, who had witnessed the battle, and who promised to nurse it till it was recovered. In the mean time the two antagonists had separated, the magpie "loud clamouring at the wrong," and abusing the crow in terms which it was impossible not to understand.

The carrion crow is no favourite of mine, and is in fact a decided thief and pilferer. He has been seen to steal an egg from a hen's nest near a farm-yard, and, having perforated it with his beak, carry it to his own nest at a considerable distance. The rook on the contrary is a friend to agriculturists, and no farmer, who considers his own interest will destroy a rookery. I once knew this done, in compliance with the request of many farmers, who, two years afterwards were desirous that it should be restored; the wire-worms, cockchaffer, grubs, and other destructive insects, having greatly increased within that period. In order to be convinced that these birds are beneficial to the farmer, let him observe the same field in which his ploughman and his sower are at work. He will see the former followed by a train of rooks, while the sower will be unattended, and his grain remain untouched.

I had an opportunity of witnessing an instance of affection in birds of the same species this summer (1832), in Richmond Park. The person

who keeps the lodge leading into the grounds of the Earl of Erroll in Richmond Park, had put a very young black-bird into a cage which was hung up under the porch of the lodge. After the bird had become reconciled to its confinement, and had begun to feed itself, an older black-bird was caught and put into the same cage with the other. This bird moped and refused to feed itself, and would probably have died, had not the younger bird brought it food in its bill, and in every respect treated it as if it had been its mother, nourishing it with the greatest perseverance for some time. Both birds are still companions in the same cage, and I also heard them both inwardly singing, or recording, about six weeks after their having been confined together.

The propensity which the raven has to hide things, is one of the peculiarities of its character. Many persons must recollect a raven, which used to hop about amongst the workmen employed in the construction of the bridge, at the top of the Serpentine river in Hyde Park. This bird, from its familiarity and odd habits, attracted at the time the notice of many persons, and amongst others that of a friend of mine. He constantly noticed and made many enquiries respecting it. It was taken from a nest on the top of an elm tree in Hyde Park, with

two or three others, all of which died. The one in question, however, survived, and became perfectly tame and sociable. It haunted the spot I have mentioned, and would sometimes take long flights and be absent some days, but always returned to the bridge. One day a lady was passing over it, and dropped a valuable bracelet. She turned round to pick it up, but before she could do so, the raven had seized and immediately flew away with it out of sight. It was conjectured that he had a hiding place in some distant tree, where probably, at some future time, the bracelet and other things may be found. The fate of this raven was a melancholy one. He was stolen, and was not heard of for a long time. At last, however, he returned, and one of his wings was cut. He was unable therefore to resume his former habits, and moped about, and one morning he was found dead in the Serpentine river, to the great regret of many of his admirers.

The raven is supposed to be a very long-lived bird. Horace notices this, and also its augury of rain;

‘*aquæ nisi fallit augur,*

‘*Annosa Cornix.*’

Perhaps one of the signs it gave was the shaking its wings in some peculiar manner,

‘*Corvi—quantientes alas frequenter—*’

or by its voice—

—'guttur corvi.' VIRGIL.

The raven has been considered with a superstitious feeling both by antients and moderns.

Mr. White says that ravens, in their common mode of flying, have a peculiarity attending them not unworthy of notice. They turn over in the air quite on their backs, and that not now and then, but frequently, often two or three hundred yards. When this odd attitude betimes them, they fall down several fathoms, uttering a loud croak, and then right themselves again. This strange vacillation seems to be owing to their scratching when bitten by venom; the thrusting out their leg to do this destroys their equipoise, and throws their wings out of the true centre of gravity. Ravens spend their leisure time over some hanging wood in a sort of mock fight, dashing and diving at each other continually, while their loud croakings make the woody steeps re-echo again.

In a very mild season, magpies will begin building in December, but cease their process of nidification as soon as the weather becomes severe. If the ovarium is so far advanced as to remind the bird that it is time to prepare a place in which to deposit its eggs, it seems to have the power of retarding the further growth of the egg, until the

proper season for laying is arrived. This appears to me a curious and interesting subject for investigation. Mr. White has remarked the fact of magpies perching on the backs of sheep in order to pick out the maggots and ticks from their wool. He adds, that they even mount on their very heads, while the meek quadrupeds seem pleased, and stand perfectly still, little aware that their eyes are in no small danger, and that their assiduous friends would be glad of an opportunity of picking their bones.

The breeding of woodcocks in this country was formerly considered as a circumstance that seldom happened, and indeed by some was altogether denied. So far, however, from its being a rare occurrence, they breed in some places very freely, of which I have been able to collect a few particulars. A gentleman, whose veracity cannot be disputed, assured me that several woodcocks bred every year in his woods, some of which adjoin Woolmer Forest in Hampshire. On my expressing some surprize at this, he said that he had offered a considerable bet that there should not be a day named in the course of the year, in which he would not produce a couple of woodcocks at his table, on receiving a short previous notice. He informed me that he always makes a point of having some on the

30th of June in every year. In walking about his woods, he frequently finds the nests of these birds, and so common are they, that they are no longer considered rarities. He added, that the woodcock has *invariably* four eggs, a larger or a fewer number never having yet been found by him or his keepers. The hen bird sits very close, and is not easily induced to leave her nest, allowing a person to approach very near to it. Addled eggs have never been found in it. The hen lays early in the spring, and the nest is very rude, being composed only of a few bents of grass. The young leave it as soon as they are hatched. Should the old bird apprehend her brood to be in any danger, she flutters her wings, and endeavours to attract notice to herself in the same way the partridge is known to do. On mentioning the circumstance of the woodcock breeding in this country, to a gentleman residing in Alice Holt Forest, he informed me that their nests are frequently found in that forest.

In the proceedings of the Committee of the Zoological Society, there is an interesting letter from Sir F. Mackenzie, relative to the breeding of woodcocks at Corran, on the eastern coast of Rosshire. From this letter it appears that last summer, (1832) Sir F. Mackenzie's keeper found four woodcocks' nests, one having four, and the others three eggs each, all of which were hatched

and ran. The young birds he repeatedly saw before they took wing, and now five or six couple may every evening, towards dusk, be observed flying about the lodge as they pass to their feeding grounds. The old birds give notice of their approach by a sharp cry of *twit-twit-twit*, repeated as rapidly as possible, and heard at three or four hundred yards distance; while the young ones are less noisy, and more flagging in the motion of their wings. Sir F. Mackenzie states that he knows nothing more rapid than the flight of the woodcock before and after incubation, as, for an hour or two about dusk, he (probably the male, though two have been seen together pursuing each other) flies in large circles over the tops of the trees, uttering his sharp and piercing cry, a whistle which sportsmen may have occasionally heard weakly, when cocks are first flushed in the back flight in March. Sometimes his sudden flight will be arrested, and changed into a sailing slowly, like a pouter pigeon, his cry being at the time varied to a purr or a bleat resembling that of the Ptarmigan: then he will dart away with greater swiftness than a pigeon in full flight, moving his wings, however, with a different action from that of the pigeon, and with inconceivable rapidity.

The soil where the nests were found is gravelly and rather dry; the grass tolerably long, without underwood; and the trees, oak, birch, and larch,

not exceeding thirty year's growth. The situation is warm, and not far distant from a river. The woods are kept quiet. It is probable that the parent birds sought this spot for the purpose of breeding, as they must have arrived in the spring from other localities, for persons who shot in the covers as late as February, declare that they did not know of a single woodcock being then left in them; and had there been only two or three, the keeper must have been aware of it.

The circumstance which Sir F. Maekensie mentions, of as few as three eggs having been found in the nests of three different woodcocks, is at variance with the account sent me from Hampshire, where four appears to be the invariable number found in each nest, and this in many instances during a succession of years. Colonel Montagu also mentions four eggs having been found in a nest near Battle, in Sussex, and that a similar number were hatched in a wood at Shucoaks near Worksop.

Four eggs also were found in a woodcock's nest in Chicksand Wood, near Shefford in Bedfordshire.

The eggs are stated to be about the size of those of a bantam hen, of a bluish white, with brown spots. The young birds are hatched in the beginning of May.

‘ Among the external characters by which Man is distinguished from the Apes, which most closely resemble him, are the power of walking erect, the facility with which he uses two perfect hands, and the prominence of his chin.’

BLUMENBACH.

My fondness for observing the habits and manners of animals, led me frequently a few years ago, to Exeter Change, to look at the ourang, which was brought to this country in a ship commanded by Sir Murray Maxwell. The docility of this animal, its good temper, and civilized manners, interested me extremely. I remember once seeing it turn over the leaves of a book in which were some prints, and this he did with great propriety and decorum. Had he lived, I have no doubt that he would have become still more humanized, but he died after he had been in this country a short time. On mentioning this ourang, and the interest I took in it, to a gentleman connected with the Zoological Society, he very obligingly sent me the following account of one which was for a short time in the possession of a gentleman residing in the Regent's Park, and which died at the Zoological Museum in Bruton Street. I give the account as I received it.

‘ On its return from India, the vessel which

‘ conveyed the poor little ourang to a climate
‘ always fatal to its race, stopped some time at the
‘ Isle of France to take in fresh provisions. The
‘ ourang accompanied the sailors in their daily
‘ visits to the shore, and their calls upon the keepers
‘ of taverns, and places of a like description. To
‘ one of these, kept by an old woman who sold
‘ coffee, &c. for breakfast, the ourang was accus-
‘ tomed to go, unattended, every morning; and by
‘ signs, easily interpreted, demand his usual break-
‘ fast, which was duly delivered. The charge was
‘ scored up to the captain’s account, which he
‘ paid before his departure.

‘ There was but one person on-board the ship
‘ of whom the poor ourang seemed at all afraid.
‘ This man was the butcher. The ourang had
‘ seen him kill sheep and oxen in the exercise of
‘ his duty, and most probably anticipated from
‘ his hands a fate similar to that of his equally
‘ dumb, but not so intelligent companions. How-
‘ ever in order to conciliate the friendship of this
‘ dreaded dispenser of death, he made every ad-
‘ vance, although it must be owned in a very
‘ singular manner. He would, for instance, ap-
‘ proach him with great caution, examine his hands
‘ minutely, finger by finger, and finding no weapon,
‘ proceed by every little artifice to attract his
‘ notice. With the rest of the sailors he was on
‘ terms of intimate friendship, and no doubt felt

‘ himself entitled to all the attendant privileges,
‘ not unfrequently to the annoyance of his com-
‘ panions from whose hammocks he took such
‘ portions of bedding as he deemed necessary for
‘ his own comfort, and which he would by no
‘ means give up without a hard contest.

‘ His conduct at table, to which he was fami-
‘ liarly admitted, was decorous and polite. He
‘ soon comprehended the use of knives and forks,
‘ but preferred a spoon, which he handled with as
‘ much ease as any child of seven or eight years
‘ old.

‘ On his arrival in England, he soon began to
‘ sicken. During his illness he was removed to
‘ Bruton Street, where one of his favourites, I
‘ believe the cook, attended as his nurse. He
‘ would raise his head from his pillow, turn his
‘ eyes on his attendant, with an expression as if
‘ entreating him to do something for his relief.
‘ He would at the same time utter a plaintive cry,
‘ but he evinced nothing like impatience or ill
‘ temper, and was compassionated by all who
‘ saw him.

‘ He lingered on a few days, and gradually grew
‘ worse and worse till he died, not without the
‘ regret of his nurse, and the sympathy of us all.’

' I have seen in the beginning of July, in a river not far from Canterbury, some parts of it covered over with *young eels*, about the thickness of a straw; and these eels did lie on the top of that water, as thick as motes are said to be in the sun.'

ISAAC WALTON.

THERE are few things which have puzzled naturalists more than the way in which eels propagate their young. From the time of Pliny, till the present moment, curiosity has been excited on this subject, and but little light has been thrown upon it. When I published the first Series of my "Gleanings," I frankly confess that I derived some small gratification from thinking, as I then did, that I had solved this interesting problem in Natural History. When, however, an error has been made, I have always found it the best way to acknowledge it at once, and therefore I now admit that I have had reason to alter the opinion I then gave of eels being viviparous. In my paper on that subject, I mentioned that my kind and ingenious friend, Mr. Yarrell, (to whose acute and able researches every naturalist is so greatly indebted) was of opinion that eels were oviparous, and that he had promised to endeavour to clear up the point. In consequence of that paper, I have had frequent conversations with him on the subject, and it was

agreed that I should endeavour to supply him with a large eel for dissection, about once a fortnight throughout that portion of the year in which it was considered that eels matured their roe. This I have accordingly done, having procured one either from the river Thames, or the Longford River which runs through Bushy Park, but generally from the latter, the eels having been taken in a trap at the mill on Hampton Common. Some of these, on one occasion, were dissected by Mr. Yarrell at my house in the presence of several scientific gentlemen, and no doubt remained on the minds of any of those present that what have been called the "fringes" of eels, are in fact roe, each grain or particle being very minute, but quite apparent when seen through a magnifying glass. Mr. Yarrell has been kind enough to write me a paper on the subject, which will be found at the conclusion of this notice, and which I am sure will be read with great interest, and I now beg to offer him my acknowledgement, not only for the assistance he has afforded me on this occasion, but for having directed my attention to other interesting subjects in Natural History.

In order to corroborate as much as possible the fact of eels being oviparous, I will mention the following circumstance. A respectable gardener, and also an old angler, in this neighbourhood,

of the name of Sylvester, lately informed me, that as he heard I had been making enquiries respecting eels, he had called to tell me all he knew respecting them. He told me, that fishing one day in the month of March, he caught an eel, about three quarters of a pound in weight, whose stomach was so much distended that he thought it must have swallowed a roach or gudgeon. On returning home he opened it and found it full of roe. On asking him to mention the position and size of the roe, he described it as about the length and almost the size of his finger, running down to the vent on each side of the back bone of the fish, and on describing the fringes to him, which I find our Thames fishermen call the *fat* of eels, he immediately said that the roe was only an enlargement of them. He described the vent of the eel as appearing much inflamed, and the particles of roe as being extremely small, observing that he thought it would have been discharged in the course of a day or two. The eel was caught on a mild day, otherwise he thought it would have *gone to bed*, as he expressed it; and that it got into the mud, where, as he supposes, they bring forth their spawn. Sylvester offered, if I entertained any doubt of the accuracy of his statement, to make an affidavit of the truth of it before a magistrate.

That eels migrate towards brackish water in order to deposit their roe, I have but little

doubt, and for the following reasons. From the month of November until the end of January, provided the frost is not very severe, eels migrate towards the sea. The Thames fishermen are so aware of this fact, that they invariably set their pots or baskets with their mouths *up* stream during those months, while later in the spring and summer they are set down stream. The best time, however, for taking eels is during their passage towards the sea. The eel traps also which are set in three different streams near Hampton Court (the contents of which, at different times, I have had opportunities of examining,) have invariably been supplied with eels, sufficiently large to be breeders, during the months I have mentioned. This migratory disposition is not shewn by small eels, and it may therefore be assumed that they remain nearly stationary till they are old enough to have spawn. I have also ascertained that eels are taken in greater or lesser numbers during the months of November or December, all the way down the river to the brackish water. From thence the young eels migrate, as soon as they are sufficiently large and strong to encounter the several currents of the river, and make their way to the different contributory streams. I have also been able to trace the procession of young eels, or as it is called here, the *eel fair*, from the neighbourhood of Blackfriars

Bridge, as far up the river as Chertsey, although they probably make their way as far, or further, than Oxford. So strong indeed is their migratory disposition that it is well known few things will prevent their progress, as even at the locks at Teddington and Hampton the young eels have been seen to ascend the large posts of the flood gates, in order to make their way when the gates have been shut longer than usual. Those which die, stick to the posts; others, which get a little higher, meet with the same fate, until at last a sufficient layer of them is formed to enable the rest to overcome the difficulty of the passage. A curious instance of the means which young eels will have recourse to, in order to perform their migrations, is annually proved in the neighbourhood of Bristol. Near that city there is a large pond, immediately adjoining which is a stream. On the bank between these two waters a large tree grows, the branches of which hang into the pond. By means of these branches, the young eels ascend into the tree and from thence let themselves drop into the stream below, thus migrating to far distant waters, where they increase in size, and become useful and beneficial to man. A friend of mine who was a casual witness of this circumstance, informed me that the tree appeared to be quite alive with these little animals. The rapid and unsteady motion of the boughs, did not appear to impede their progress.

When we consider how tenacious eels are of life, and how long they will live out of water, it need not create surprize at their being able to exist during their passage over the tree. The following fact will indeed prove how long a time eels will not only exist, but thrive out of their native element.

A fisherman of the name of Brown, who resides at Kingston on Thames, told me that one evening he brought into his small garden, which was walled round, a pot containing eels. On visiting it the next morning all the eels were gone, and he concluded that they had been stolen. At least a month afterwards, however, he found the eels hidden amongst the turf in a small grass plot in his garden, all perfectly healthy and in good condition. This was in the autumn when there was much dew on the grass. The eels had probably fed on earth worms.

Before I conclude my notice of eels, I wish to mention that there appears to be an hitherto unnoticed species of them found in the river Avon, in Hampshire, where they are called *snigs*. They seldom exceed half a pound in weight, are remarkably good eating, and differ materially in flavour from the common eel. I sent some of them to Mr. Yarrell, who has been kind enough to give me the description of them which will be found in his interesting letter. He is quite of opinion that it is a new species, nor does it appear to have been hitherto noticed. I have been since assured that

these fish have invariably made their movements in the river in a contrary manner to those of the common eel. If eel-pots are set with their mouths down stream for instance, snigs may be caught, but no eels—if up stream, the contrary is the case. This fact alone would appear to show them to be a distinct species.

The eel fair of the year 1832 was particularly abundant, and my kind and intelligent friend Dr. William Roots, who resides on the banks of the Thames at Kingston, has sent me the following notes of observations, which he made at my request, on the appearance and passage of the young eels. These eels are generally about three inches in length, and in order to give some idea of their prodigious numbers, Dr. Roots calculated that eighteen hundred of them passed in the course of a minute when they were at their thickest. Another person whom I employed to make the calculation, informed me that by counting them, while they passed a particular object in the river, he thought there were about sixteen hundred which made their way at the same minute. When one considers the length of time which the column of eels takes in passing, some idea may be formed of their prodigious numbers.

NOTES OF OBSERVATIONS ON THE EEL FAIR,
OR FARE, OF 1832.

Monday, April 30th.—In the afternoon of this day Eel Fair became visible at Kingston Bridge, and in about two hours after the young eels appeared at my boat-place and continued to increase in numbers until it was too dark to observe them, they ran up during the whole night, and were very numerous on the next morning.

Tuesday, May 1st.—They continued their line of march in great strength till about four in the afternoon of this day, when they suddenly stopped short, and a few stragglers only were seen till six.

Wednesday, May 2nd.—In the morning of this day they were again seen in considerable quantities pursuing their course which continued till noon, when the wind shifting and getting very high they disappeared altogether for the day.

Thursday, May 3rd.—Several were again seen going up this day also, but for a shorter time and fewer in number.

Friday, May 4th.—A very few stragglers were visible at intervals to day.

GENERAL REMARKS.

It should be observed that some few stragglers (as I call them) had been seen at Twickenham three weeks before, which fact Mr. Kent of Chesnut Grove, related to me when it occurred; but not one of them, even on close observation, was seen to pass the Lock at Teddington at this period. On the first day I saw them (viz. on the 30th of April) the wind was at north-east, high, cold, and rendering the water very rough; the progress of the young eels was slower than usual, and their appearance was quite unexpected, on account of the cold rough weather without any sunshine.

On the Monday evening, April 30th, I observed some of them endeavouring to bury themselves in the grayelly soil at the margin of the river, but on finding that there was not depth enough for this purpose, the same individuals withdrew their bodies, and continued to make upwards till they came to some soft mud deposited at the mouth of a drain opening into the Thames close to my boat-place. Here many of them buried themselves

entirely, and appeared to be thus seeking shelter for a time as the wind was blowing strong, and the current rapid.

Upon my stirring up the mud, hundreds of them in a small space crawled from the slimy soil, and with great alacrity pursued in every instance their upward course, none of them turning to the right, left, or backwards.

At this time they had hardly moved at the rate of half a mile in the hour, but on the next day at noon, they passed much quicker on account of there being less wind.

I put some of them into spirit, and I found that water heated to one hundred and twenty degrees killed them much sooner than proof spirit; indeed even in this early period of the existence of the eel, the tenacity of life is equally conspicuous as in the more adult state, for even after having plunged them into a basin of pure alcohol, they bounded out, and upon being replaced in water, they lived and appeared to have undergone little or no inconvenience; but water at the temperature of one hundred and twenty degrees speedily annihilated the vital spark.*

* In a humane point of view, this experiment points out the best and quickest way of putting these creatures out of pain; namely, immersion in water of 120 degrees.

After the first day of their passing, I could never discover any of them in the slime or mud, as I had observed them on the first evening.

There was by far a larger portion this year, than I had witnessed for a long time before, indeed I may say since the building of the Lock at Teddington, or certainly since the year 1824.

I preserved some of them in spirit, and a large quantity in wire cages in my well boat, for the purpose of future investigation, but these soon died. I gave notice also to several of my friends, who stocked their ponds from this valuable source of supply.

I endeavoured several times this year to calculate what number passed in a given time, and I took advantage of quiet periods when they were far from being the thickest in the throng, and when of course I could more readily ascertain the number of their ranks in column. I came to the conclusion more than once, and at different places, that there passed under a thread line I extended over the margin of the river more than six hundred young eels in the minute, but in an hour afterwards there must have been more than three times this number, as the wind had fallen, and they moved much more rapidly than when I first

averaged their passage : in short, at some periods the quantity was so great, that all calculation was baffled, and the impression on my mind is, that they do not travel more than a mile and a quarter in the hour, even in smooth and shallow water.

I could not detect one instance this year of a single eel leaving or deviating from his up-stream intent. The water being very clear, I had ample opportunities of observing that when I interrupted their course, and turned them for a moment, their main object was evidently bent upon regaining the margin, and continuing their upward course ; in proportion also to the agitation of the water, and the roughness of the wind, so was the depth of their swimming medium determined, coming always nearer to the surface, when the surface was undisturbed, and less impediments offered to their tranquil voyage. In some instances I saw them make their way over some SLIGHT OBSTACLES, as pieces of rush adhering to, or floating close to the shore ; but they always appeared aware of any great impeding body, without running at once against it ; indeed they universally avoided it when within a few inches of it, and if it protruded so as to make their doubling the promontory of some extent, and thus driving them into more rapid water, they constantly sank lower in proportion as they reached the point, and cutting

close to the obtruding end, they again rose to the surface, and having recovered the shore, they made once more for their steady purpose. I observed this instinctive movement from the end of an old punt, half under water, close to my house.

The undulating motion of the eel in swimming is beautifully seen in watching these young creatures;—indeed the whole process of their natural history is well worth much and patient observation.

May 5, 1832.

Wm. Roots.

As the term *eel-fair* may not generally be understood as applied to the vernal movement of these fish, I may mention that an old custom formerly existed amongst the Thames fishermen of keeping a sort of holiday on the occasion of the first appearance of the young eels in the river. Indeed the eel was a fish of no small value and importance to them, as they chiefly got their living by catching them in their traps, weirs, and eel-pots, and therefore the annual migration of the young eels was looked upon probably as a fair, or public festivity. On looking, however, into Rees' Cyclopædia, under the article *eel*, it is mentioned cursorily that 'EEL FARES is used for the fry or brood of eels.' A *fare* of pigs is a common mode, in the country, of men-

tioning the number of pigs a sow has recently produced, and is perhaps the origin of the word farrow. It is not improbable, therefore, that this mention of eel-fares in Rees, may be one and the same thing with our eel-fair^o of the Thames. I should, however, add that the verb to *fare*, signifies to travel or to voyage, and as the annual performance of the eel is an undoubted act of this nature, *fare* may be a proper term to apply to their migration in this sense of the word.

Having given this little explanation, I must leave it to my readers to decide the question as they may think proper, and will now introduce Mr. Yarrell's very curious and interesting letter to me already referred to.

Dear Sir,

I now send you my promised account of observations on eels, and although it is not, by far, so complete as I could wish, I trust you will excuse its defects. A London residence is not a favourable position for following up particular parts of the investigation, though I am willing to admit that in some respects it is not without its advantages. Your own observations on eels will, I hope, be in^o unison with those here detailed, and will serve to illustrate many points in their history, which I have failed to ascertain. Whatever may ultimately prove to be the result

of this investigation, it will always be a gratification to me to have been thus joined with you in prosecuting an enquiry into one of the most interesting problems in Natural History.

When I first began to examine eels in the hope of ascertaining their mode of reproduction, so vaguely and differently stated in zoological works, I was induced to believe that their viviparous nature had been inferred, from the circumstance of my finding occasionally one or other of three different sorts of parasitic worms in their intestines, which had probably been mistaken for the young of the eel. One of these species of intestinal worms* is constantly attached to the inner surface of the intestine, as described by you, or rather I should say they have their head imbedded in the substance of the intestine, and can scarcely be withdrawn without the loss of this enlarged and rounded extremity, the neck being very slender. The second species† is uniform in size throughout its length, not unlike an eel in shape, and is occasionally found in considerable number in various internal cavities. The third is a species of tænia or tapeworm. Aristotle, though unable to satisfy himself of the existence of the sexes in eels, did not consider them viviparous. One passage in his work may be freely rendered thus,

* *Echinorhynchus tereticollis* of Rudolphi.

† A species of *Filaria*.

‘ eels have been considered viviparous, because
 ‘ worms have been found in their bodies, which
 ‘ did not belong to them.’ Lewenhoeck searched
 eels during every month of spring and summer, and
 found at last in August, in one eel, one example,
 and in another eel, two examples, of an eel-shaped
 animal, about the thickness of a horse-hair and
 an inch in length. On this point Bloch observes
 ‘ il est aisé de voir que ces expériences pénibles
 ‘ n’ont pas répandu assez de lumière sur la généra-
 ‘ tion des anguilles; car une multiplication si mo-
 ‘ dique ne seroit pas, à beaucoup près, suffisante
 ‘ pour réparer la destruction que les hommes et
 ‘ les animaux font chaque année parmi les an-
 ‘ guilles.’

It may be considered singular that an opinion
 of the viviparous nature of the eel should have
 found supporters among Ichthyologists, since the
 decidedly oviparous mode of reproduction in the
 wolf-fish, sandlaunce, ling, and burbot has been
 constantly stated and never questioned: four well
 known species bearing considerable resemblance
 to the eel in the elongated form of their bodies,
 and not far removed from them in the classifica-
 tions of systematic authors.

To this I may add that the enormous number
 of young known to be produced by eels is one of
 the best negative proofs that they are oviparous;
 viviparous fishes producing, on the contrary, but

few young at a time, and these being of considerable size when first excluded.

Since the commencement of my observations on this subject I have had several opportunities of examining large conger eels, the roes of which, towards the latter part of the year, are so conspicuous as to leave no doubt of the oviparous nature of that species of sea-eel, and although analogy is not always a safe guide in Natural History, it is difficult to suppose that in two fishes so nearly allied as the conger and fresh-water eels, any decided difference would be found to exist in the mode of producing their young. Examination of fresh-water eels of considerable size, at the same period of the year, confirmed this opinion, both sexes were obtained, the females most numerous, the ova distinctly visible in some instances to the unassisted eye, and with the additional power obtained by a lens every successive examination afforded new proof that our fresh-water eels were also in their nature truly oviparous.

Pliny denied sexual distinction to eels, but, says Bloch, 'il dit avec un ton d'assurance, que les anguilles, en se frottant contre des corps durs, font sortir de leur corps de petites parties, qui s'animent et deviennent des anguilles.' This it will be allowed is the mode pursued by the truly oviparous fishes.

Bloch says also, that, 'Rondelet soutient qu'elles

‘ se reproduisoient comme les autres poissons
 ‘ pourvus de laites et d’œufs. Il° disoit que la
 ‘ grande quantité de graisse dont la laite et les
 ‘ œufs étoient entourés dans les anguilles, empe-
 ‘ choit de les apercevoir;’ and Lacepede tells us,
 that Muller, ‘ et peut-être Mondini, ont vu les
 ‘ ovaires ainsi que les œufs de la femelle; et la
 ‘ laite du male a été également reconnue.’

It is gratifying to be able also to refer to the recorded testimony of other observers of the present day, in corroboration of particular views, which but for such coinciding statements might be considered as resting on too slight an authority. During the last year, two writers, one of them a gentleman, who has for many years paid particular and unceasing attention to the fishes of the Cornish coast; the other evidently detailing in his account the result of much patient investigation, have both published their observations on this subject, and also their decided conviction of the oviparous nature of the eel. The statements referred to will be found in the fifth volume of the Magazine of Natural History, pages 313 and 744, and will be considered good evidence, if not conclusive, on this part of the subject.

I have now, from your most liberal and constant supply, for which I beg you will accept my best thanks, had an opportunity of examining a series of fine fresh eels once every ten days, from

the beginning of November last to the present time.

Up to this date, however, the ovaria have not shown any augmentation or other appearance sufficient to induce me to consider that any decided change was about to take place. Occasionally a specimen has occurred in which the ova were larger than usual, as the numerous preserved portions of the roe of each will exhibit; but in no single instance has the roe been shed. You have noticed the ascent of the eel fry in the Thames as taking place about the middle of May; Dr. Anderson in his 'Recreations' describes the same thing as occurring in the Dee, in June, and it was witnessed by the author of 'Salmonia' in Ireland as late as the end of July, and the young eels were then very small. From these circumstances, and the almost torpid state in which eels pass the winter imbedded in mud, of which proof will be adduced, I think it will be found that they do not spawn during the cold months, and I look with more interest to the results of examinations to be made during the next six weeks, when the power of returning spring shall have begun to extend its genial influence to all the living objects by which we are surrounded.

The sexual organ consists of two long narrow sacs extending one on each side of the air-bladder throughout the whole length of the abdominal

cavity, and continued for two inches posterior to the vent. The membranes forming this tubular sac, secreting on its inner surface the milt of the male, and affording points of attachment for the ova in the female, is puckered or gathered along the line of its junction to the peritoneal covering of the spine, and its free or loose edge is therefore thrown into creases or plaits like a frill. It is probably from this folded or convoluted appearance the sexual organs of the eel have frequently been called fringes. By the kindness of my friends Mr. Clift and Mr. Owen, of the Royal College of Surgeons, I had lately the pleasure of seeing some drawings belonging to the collection of the celebrated John Hunter, in which these peculiarities of the sexual organs in the eel are beautifully exhibited in various magnified representations.

Most of the writers on the habits of the eel have described them as making two migrations in each year, one in the autumn *to* the sea, the other in spring, or at the beginning of summer, *from* the sea. The autumn migration is performed by adult eels, and it is said to be for the purpose of depositing their spawn; it is also said that these parent fish never return up the rivers. The spring migration is, commonly supposed to be confined to very small eels, not more than two inches in length, and in reference to the fry alone, is too well known, and too often recorded, to be matter

of doubt. This passage of countless hundreds of young eels has been seen and described in this country by yourself, as occurring in the Thames, and by others in the Dee, the Severn, and the Parret. I am however of opinion that the passage of adult eels to the sea, or rather to that part of the river within the tide-way, is an exercise of choice, and not a matter of necessity; and that the parent eels return up the river as well as the fry.

All authors agree that eels are extremely averse to cold. There are no eels in the arctic regions, none in the rivers of Siberia, the Wolga, the Danube, or any of its tributary streams. It is said there are no eels in the Caspian or Black Seas; but they abound in the Mediterranean, and M. Risso has described eight species in his work on the Natural History of the environs of Nice. There is no doubt also that fishes in general, and eels more particularly, are able to appreciate even minute alterations of temperature in the water they inhabit. The brackish water they seek to remain in during the colder months of the year is of a higher temperature than that of the pure fresh water of the river, or that of the sea. It is a well known law in chemistry, that when two fluids of different densities come in contact, the temperature of the mixture is elevated for a time in proportion to the difference in density of the

two fluids, from the mutual penetration and condensation. Such a mixture is constantly taking place in rivers that run into the sea, and the temperature of the mixed water is accordingly elevated. I took the opportunity afforded by a visit to Ramsgate in a steam-boat, to ascertain the extent of this difference of temperature on the passage in September last. The tide was ebbing at London Bridge at 9 A. M. and the temperature of the air was 62° , that of the water 59° . As soon as the influence of salt water was perceptible to the taste the temperature increased, and before we reached Gravesend it was elevated two degrees, namely 61° , ascertained by a delicate thermometer placed for a time in buckets full of the water drawn up at short intervals. We met the first of the flood tide when approaching the Nore, and from thence the temperature of the water again declined, though that of the air had advanced considerably. When rounding the North Foreland at 4 o'clock, we met the strong flood-tide from the open channel; the temperature of the pure sea water was precisely the same as that of the pure fresh water, viz. 59° , though the temperature of the air had advanced 9° , and the thermometer in the shade stood at 71° . The mixed water it appeared therefore maintained a temperature 2° higher than that of the river or the sea. This elevation of temperature in the water of estuaries, and the mouths of rivers, is,

I have no doubt one reason why they abound in young fish generally; and in reference to its effect on eels, I may mention, that the large congers frequently sent to the London market during the winter months I have repeatedly ascertained by enquiry were caught near Gravesend.

There is some difficulty in the supposition that the eel *alone* of all our river fish should be under the necessity of proceeding beyond the brackish water to deposit its spawn, while from fifteen to twenty species of our marine fishes leave the sea for a time to perform the same function in rivers; but the reason for this latter migration appears obvious. Sir H. Davy, in a note to one of his agricultural lectures, furnishes some interesting information connected with this subject. All animals, says he, from the most to the least perfect classes, require a supply of oxygen. The impregnated eggs of insects and even of fishes do not produce young ones unless they are supplied with air. He found that the eggs of moths did not produce larvæ when confined in pure carbonic acid; and when they were exposed in common air the oxygen partly disappeared, and carbonic acid was formed. The fish in the egg or spawn gains its oxygen from the air dissolved in water; and those fishes that spawn in spring and summer in still water, such as the pike, carp, perch, and bream, deposit their eggs upon sub-aquatic plants, the leaves of which

in performing their healthy functions, supply oxygen to the water. The fish that spawn in winter, such as the salmon and trout, seek parts where there is a constant supply of fresh water, as near the sources of streams as possible, and in the most rapid currents, where all stagnation is prevented, and where the water is saturated with air, to which it has been exposed during its deposition from clouds. It is the instinct leading these fish to seek a supply of air for their eggs, which carries them from seas or lakes into the mountain country; which induces them to move against the stream, and to endeavour to overleap weirs, milldams, and eataracts.

To this I may add that Dr. Marcet's analysis of one pint of sea water gives upwards of 200 grains as the weight of its solid contents, a pint of fresh water would not afford 20 grains, and the power of water to retain air in combination is inversely as to its other contents. Even the truly marine oviparous fishes seek the shore in their breeding season, that the spawn may have the benefit of the higher temperature of the shallow water of the coast, where the ova are deposited near the sources of oxygen, and within the vivifying influence of the sun's rays.

Dr. Fleming in his 'Philosophy of Zoology,' vol. ii. page 360, has observed that 'when a salt water fish is put into fresh water, its motions

‘ speedily become irregular, its respiration appears
‘ to be affected, and unless released it soon dies.’
The same consequences follow when a fresh
water fish is suddenly immersed in salt water.
These experiments have been tried on eels, and
with the same results, and in reference to fishes
generally, receive further confirmation from the
following short account of the destruction of fresh
water fish by the admission of the sea into a
lake.

The particulars of the phænomena attending
the opening of Lake Lothing at Lowestoft to the
sea, when sea-borne vessels were first received
into the new harbour at that place, on the 3rd of
June 1831, are extracted from the East Anglian
newspaper of the 7th.

‘ Some of the circumstances attending the junc-
‘ tion of the salt and fresh waters, in the first in-
‘ stance, are remarkable. The salt water entered
‘ the lake with a strong under-current, the fresh
‘ water running out at the same time to the sea
‘ upon the surface. The fresh water of the lake
‘ was raised to the top by the irruption of the
‘ salt water beneath, and an immense quantity of
‘ yeast-like scum rose to the surface of the lake.
‘ The entire body of the water in the lake was
‘ elevated above its former level; and on putting
‘ a pole down, a strong under current could be
‘ felt bearing it from the sea; and at a short

‘ distance from the lock next the lake, there was a
‘ perceptible and clearly defined line where the
‘ salt water and the fresh met, the former rushing
‘ under the latter; and upon this line salt water
‘ might have been taken up in one hand and fresh
‘ water in the other.

‘ The consequence of the admission of the
‘ briny waters has been fatal to thousands of the
‘ former inhabitants of the peaceful lake. On
‘ wednesday and thursday last its surface was
‘ thickly studded with the bodies of pike, carp,
‘ perch, bream, roach, and dace, multitudes of
‘ which were carried into the ocean, and thrown
‘ afterwards upon the beach; most of them hav-
‘ ing been bitten in two by the dog-fish, which
‘ abound in the bay. It is a singular fact that a
‘ pike of about 20 pounds weight was taken up
‘ dead near the Mutford end of the lake; and on
‘ opening the stomach, a herring was found in it
‘ entire. The waters of the lake exhibited the
‘ phosphorescent light peculiar to sea water on
‘ the second or third night after the opening.’

This will go far to account for the dead eels de-
scribed by you as seen near the Nore, and at
the mouth of the river which runs into the sea
near Harwich; I have also known dead eels occur
elsewhere, but always at that particular distance
from the river, where, with some reference to the
existing state of the tide, the fresh water is known

to lose entirely its diluting influence. In such a situation by some action of currents or tide, they have probably been suddenly surrounded with pure salt water, and being unable to extricate themselves, or resist its effects, their destruction has followed. Salmon are well known to remain for weeks about the mouths of rivers before they finally ascend. It appears, therefore, that fishes are unable *suddenly* to accommodate their respiratory organs to fluids of such different density as that of pure sea and fresh water: the blood is imperfectly aerated, the brain suffers, convulsions ensue, and as Dr. Fleming has observed, if not released, they soon die.

The notion entertained by some, that river eels on going to the sea, remain there, and become congers, scarcely requires a serious remark. No person who is accustomed to look for specific distinctions in animals, can fail to observe them when comparing either of our fresh water eels with the conger. These differences, which extend to colour, form of body, and situation of fins, as detailed in works on Natural History, receive further confirmation on examining their internal structure: independent of comparative difference of relative position in some of the most important viscera, the greatest number of vertebræ found in our fresh water eels is 116, those of the conger amount to 156.

That all eels do not quit the rivers during the winter months, your constant supply to me since November last to the present time will sufficiently prove, and I have also ascertained that several large provincial inland towns have had their markets regularly supplied with eels every week during the whole of last winter from the rivers and various waters in their own immediate vicinity. Eels are much more difficult to catch during the winter months, only because they move much less, and remain for the most part imbedded in mud, as will be more particularly referred to hereafter. The period for quitting their winter quarters, the time of their spawning, and the vivification of the ova, are most probably influenced by the temperature of the season, and that also of the water which they happen to inhabit.

That eels can and do breed in the fresh water of rivers and large ponds is proved by various circumstances. Your own experience and details of the Richmond Park ponds may be quoted in confirmation, and I have been assured by the present keeper of his conviction, that eels constantly breed in those ponds now under his care, and that he has frequently also during summer found quantities of young eels in the smaller ponds and ditches to which they had no access from the Thames.

Dr. Anderson in his recreations in Natural History, vol. vi. page 421, says, 'eels, we know,

‘ can live and breed in stagnant ponds from which there is no outlet, as carp and tench, and several other fishes do; but whether they ever there attain the same perfection as under other circumstances, may perhaps admit of a doubt.’

In the course of my own enquiries on this part of the subject, I have learned that in a large piece of water between Cambridge and Newmarket on the breaking up of a severe frost some winters since, great quantities of eels of all sizes were found dead. No doubt was entertained that these eels had been bred in the water where they were found, as no outlet existed, by which they could either gain access or egress; and many park and game-keepers with whom I have had opportunities of conversing, were satisfied that eels bred in the canals, lakes, and ponds, under their charge, from which they were able at all seasons of the year to obtain the supplies required for use.

The accounts published of the experiments made by Mr. J. B. Arnold of Guernsey, on the naturalization of sea-fishes in a lake chiefly supplied with fresh water, may be quoted as a further proof of this fact. The area of this lake is about five acres; its depth various, and its bottom also various, being muddy, gravelly, and rocky. The water is during nine months of the year drinkable for cattle, but in consequence of a supply which it receives through a tunnel communicating with the

sea, is rather salt in summer, at which season the freshes do not come down so plentifully as at other times. Of the fishes generally, retained in this lake, it is not to my present purpose to speak; of the eels it is stated they have multiplied a thousand fold, so as themselves to produce a considerable revenue; it is easy now to take a cart load at once, where formerly a dozen or two was a large capture.

That eels in great number pass the cold months of the year imbedded in mud, in a state of torpidity, with little or no necessity for food, may be inferred from various circumstances. I have now before me letters from a friend in the country, from which the following are extracts. 'The season when the greatest quantity of eels are taken in this harbour, and its rivers, is in winter, when they congregate in immense masses in the mud. I have seen half a cwt. of eels of various sizes from one pound weight to six, taken with a spear, in January, from a space not exceeding six feet by twelve.' From another letter, dated January 20th, 'three men with spears took three cwt. of eels on the same spot yesterday in half an hour, not one of which was less than two pounds weight, and many of five: the space in which this mass of eels lay was not more than about a square rod.' The mud here referred to is in a large harbour on our southern coast into which run

two rivers. The mud, of great extent, lies bare, uncovered by water for several hours during each tide. The eels bury themselves about sixteen or eighteen inches deep, near the edge of the navigable channel, and generally underneath, or close to, some of the many small land drains, the water of which runs over the mud into the channel during the whole time the tide is out. This state of life indicates a low degree of respiration. Dr. Marshall Hall has shown that the quantity of respiration is inversely as the degree of irritability. With a high degree of irritability and a low respiration, co-exist; 1st. The power of sustaining the privation of air, and of food; 2nd. A low animal temperature; 3rd. Little activity; 4th. Great tenacity of life. All these peculiarities eels are well known to possess. Fishes that swim and take their food near the surface, die soon when taken from the water; trout, dace, mackarel, and herrings, are instances that may be named; on the contrary, those fishes that swim and feed near the bottom, are all tenacious of life, and continue to exist in air for many hours, of which carp, tench, eels, and all the flat fish are familiar examples. One experiment by Dr. Marshall Hall bears particularly on this part of the subject. Some frogs and some eels, were placed in the same vessel of water, through which was passed a very slight galvanic discharge. The frogs were but little

affected, the eels were violently agitated. This high degree of irritability of the muscular fibre explains the restless motions of eels during thunder storms, and helps to account for the enormous captures made in some rivers by the use of weirs, gratings, boxes, and pots, which imprison all that enter. The low degree of respiration thus shewn to prevail in eels, also assists them in their occasional progress over land, and the various obstacles that sometimes interfere with their passage, which has been witnessed and recorded by many. I have been assured by fishermen who had no object or interest in deceiving me, that eels frequently leave the Thames, cross the towing path, and have been tracked through the grass of the adjoining water meadows over which they had wandered in search of food. Eels placed in ponds, the water of which is not to their liking, are constantly known to make their escape, and your own observations and enquiries have probably furnished you with other proofs on these points.

It now only remains for me to add a few words on the subject of species.

When I published, in the Zoological Journal, a short description of the differential characters which distinguish our two most common species of fresh water eels: the one as remarkable for having the nose and head sharp and narrow, as that of the other is broad and flat; I was not

aware that the circumstance of our having two distinct species had been previously noticed. I ought to have recollected that White in his History of Selborne, (chap. 40) has the following remark, 'there are supposed to be two sorts of eels in the island of Ely;' and having since been referred to Dr. J. Mac Culloch's valuable papers on fishes in different numbers of the Journal of Science, edited at the Royal Institution, I find in No. 38, page 238, the following passage; 'I have also distinctly ascertained, and to the satisfaction of Baron Cuvier, who had been unwilling to admit it, that there are two species of fresh water eels, distinguished by the comparative acuteness and breadth of the nose;' and the difference that appears under the article *Anguille* in the first and second editions of the *Regne Animal*, was probably produced by the communication of Dr. Mac Culloch.

Besides these two species, which are at once distinguished by the difference in the breadth of the nose, the eel you have sent me obtained from the river Avon in Hampshire, is also distinct from either. In the comparative breadth of the nose it most resembles the sharp nosed silver eel, and has an elongated depression extending from the anterior edge of the upper jaw to the forehead; the tubular openings of the nostrils are much longer, and the mucous pores about the lips larger

and much more conspicuous; the pectoral fins, the commencement of the dorsal fin, and the vent, are each placed nearer the head than in either of our fresh water eels. The general colour, olive green above, inclining to yellow on the sides, and passing into silvery white beneath. Having prepared skeletons of the eels, I find the bones of this new species differ from those of the other eels in one very remarkable particular. The first five cervical vertebræ are smooth and round, entirely destitute of superior or lateral spinous processes, both of which are possessed by the other fresh water eels; with this exception the skeleton most resembles that of the sharp nosed eel, but is somewhat stronger, and particularly so in the processes of the other vertebræ generally. This Hampshire eel differs also from the other eels in its habit of roving and feeding during the day, which the other eels do not, seldom moving or taking food except during the night, and even then refusing a bait if the moon shines bright. The new species is considered excellent as an article of food, and of a superior flavour to other eels; they do not however attain a large size, seldom exceeding half a pound in weight, and are known by the term *snigs*.

The largest broad nosed eel I have ever seen weighed five pounds. I have ascertained that this species exists in the Surrey canal, the Thames,

Lea river, and Stortford navigation canal, and also in Cambridgeshire, and Dorsetshire.

They are usually called *grigs* by fishermen and dealers in fish; the former distinguish them readily when fishing at night, by their more soft and unctuous feel under the hand.

The sharp nosed silver eel sometimes attains a very large size. I saw at Cambridge the preserved skins of two which weighed together fifty pounds, the heaviest twenty-seven pounds, the second twenty-three pounds. They were taken on draining a fen-dyke near that place.

From these detailed observations, I think we are entitled to conclude that eels are oviparous, and that their descent to the brackish water, however general, is not absolutely necessary either for the preservation of old eels, or the production of young ones.

I am, dear Sir,

very sincerely yours,

WM. YARRELL.

Ryder Street, St. James's,

March 13th, 1833.

Dear Sir,

Since the date of my last communication to you I have continued the examinations of eels sent me from various localities by your instructions, and find that in the fresh water the spawn is deposited during the month of April and the beginning of May, with some differences probably depending on soil and temperature. A copy of the dates and notes of these examinations will furnish you with all the particulars that have been observed by me since the middle of March last.

March 28th.—An eel received from Longford river, the roe very much advanced since the date of the last examination. Part preserved.

April 15th.—An eel from Richmond, Park, the roe not shed, but the ova are ready to separate, the connecting membrane had in some places given way, and small detached portions of the spawn were loose in the cavity of the abdomen. The vent enlarged and red. Part of this eel saved as a preparation.

April 17th.—A broad nosed eel from Godalming, Surrey, from the river Wey, all the roe shed.

April 19th.—Two eels from the Mole and Longford rivers, the roes not shed, but very nearly ready to be discharged, both females, parts preserved.

April 26th.—A second eel from the Wey, (sharp nosed species) the roe shed.

May 3rd.—Four eels from a large pond in Surrey, sent by the same hand as those from the Wey. All the roes were shed.

May 5th.—Two eels from the Wey, roes shed.

May 7th.—Eel from Hampton, roe shed.

May 18th.—Eels from Sheerness, the roes of which had as far as I could judge from appearances been passed some time.

From this date I made no more examinations, and the several portions of the various eels referred to, as preserved in spirit, are now in my possession, for inspection.

When the ova have acquired their greatest size, the belly of the fish, though large and firm to the touch, is not so much distended as I expected to have found it, probably on account of the very elongated form of the ovarium as compared with

the same part in other fishes, but the loose and wrinkled state of the skin of the belly in an eel that has shed its roe was most obvious, and the parietes of the abdomen when cut through were wasted and thin, and had lost all the firmness at other times so remarkable. I have saved some portions to show this state.

I have now only again to thank you for your bountiful supply of objects for examination, and remain,

Dear Sir,

Yours very truly,

WM. YARRELL.

June 12th, 1833,

' Here let me, careless and unthoughtful lying,
 ' Hear the soft winds above me flying,
 ' With all the wanton boughs dispute,
 ' And the more tuneful birds to both replying ;
 ' Nor be myself too mute.

' A silver stream still rolls his waters near,
 ' Gilt with the sun-beams here and there,
 ' On whose enamell'd bank I'll walk,
 ' And see how prettily they smile, and hear
 ' How prettily they talk.'

COWLEY.

WHILE writing the following remarks, I am seated by the side of a narrow but deep brook, which slowly runs in a most irregular manner through some fine meadows. I am sheltered from the sun by an old oak tree, some of whose branches almost touch the stream. The little bank on which I am reclining, has formerly slipped from the higher ground, and forms a resting place equally commodious and pleasant. The meadow-sweet and other plants, are growing in the greatest luxuriance close around; the air is soft and the day delightful; birds are singing in all directions about me, and fish are every instant rising at flies on the water. It is in moments such as these that we enjoy, and feel grateful for what is beautiful in nature. The calm serenity of the

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morning, the absence of care, the solitude in which I find myself, all these have for me inexpressible charms. The mixture of light and air which is diffused around us, influences the whole system of nature, and thus produces the beauty of some things and the magnificence of others, affording inexhaustible matter for devotion and contemplation both to the Christian and the naturalist.

The hurried and what have been called 'imitative' notes, which I hear near me, are those of the reed-warbler or sedge bird.* It may be heard nearly all night long in the willow aytes on the Thames. The nest is curious, and well adapted to the situation in which it is placed, which is amongst reeds and sedges or very young and pliable willow shoots. Three stems, forming a triangle, are generally selected for the support of the nest, which is formed of dry grass, strengthened with the fibres of plants; these are twisted and bent in such a manner round the stems which support it, as to acquire considerable strength; and yet are so entwined with the sedges and willows, as to yield to every breath of wind, or any unusual current of water. The nest being thus liable to be agitated, the eggs would roll out if the bird had not the precaution to make it of a more than common depth. I have one of these nests now by me, and it is impossible not to admire its structure and

* *Motacilla Salicaria.*

wonderful adaptation to the situation in which it is found. 'The bird has a fine variety of notes, but I do not think that they are imitative, as is supposed by Mr. White.

' The white-throat (*Motacilla Sylvia*), is a bird of the same genus, although its habits are very dissimilar. Its note has been designated as harsh and unpleasing, but I cannot help thinking it forms a pleasing variety amongst our songsters. This bird imitates, as I have frequently observed, the notes of the swallow and sparrow;—*

' The sporting white-throat on some twig's end borne,
' Pours hymns to freedom and the rising morn.'

Amongst the variety of birds, however, which I hear around me, there is not one which gives me so much pleasure as the black cap (*Motacilla Atricapilla*). It is now singing in good earnest, and nothing can be sweeter than its melody. Its notes, previous to the arrival of the female (for the male is the first to migrate), are very different from what they are after she has paired with him. Before that period, the male exerts all the powers of his song as if to invite her to join him. This has been called the 'love laboured song.' After the pairing has taken place, the male does not sing as before, nor is his voice heard so frequently or so loud. While the female is searching for a

* I have also remarked that the imitative notes are always the commencement of the song.

place in which to build her nest, the notes of the male are peculiarly soft. When the young are hatched, his song entirely ceases, as, if it were continued, it might expose them to the danger of being discovered; and besides his time is employed in procuring food for them. If, however, there should be a second brood, his notes are again heard. It has been supposed, that if a bird which had been confined, and had learned the song of another, without retaining any of his original notes, were to be set at liberty, he would not be able to find a mate; in short, that it would not be possible for him to make himself understood, although paying his addresses to one of his own species. Colonel Montagu says, that he has never been able to discover the parent birds giving their young a musical lesson; and he questions, whether the late brood of many species, ever heard the song of their parents till the ensuing spring. I once, however, took a very young sky-lark from the nest, and reared it, and it never heard but one tune, which I whistled to it several times a day. This tune, when I listened attentively, I could distinctly hear it inwardly whistle, or, in the language of bird-fanciers, record it. It seems difficult, therefore, to suppose that birds in a wild state do not imitate the notes they hear. If a bird heard none, he would not, I think, be able to sing at all. While, reclining in

perfect stillness, I am listening to the various notes around me, the red-breast, another of the *Motacilla* tribe, influenced apparently by curiosity, comes closer to me than any other bird. The cock red-breast is very gallant, and feeds his hen as they hop about together, the latter receiving his bounty with great pleasure, shivering her wings and expressing much complacency.

Though I cannot say that

‘The twittering swallow skims the dimpled lake,’

yet it is continually flitting past me as it hawks for flies, sometimes lightly touching the water, and then, describing one of its rapid and elegant circles on its banks. I delight in the swallow. Its appearance tells me that fine weather is approaching, and there is an apparent hilarity and independence in its motions which I always admire:—

‘The swallow for a moment seen,

‘Skims in haste the village green.’

Sir Humphrey Davy has recorded his admiration of this bird in language almost poetical. ‘The swallow,’ he says, ‘is one of my favourite birds, and a rival of the nightingale, for he cheers my sense of seeing as much as the other does my sense of hearing. He is the glad prophet of the year—the harbinger of the best season—he lives a life of enjoyment amongst the loveliest forms of nature—winter is unknown to him; and he leaves the green meadows of England in autumn for the

‘myrtle and orange groves of Italy, and for the
‘palms of Africa; he has always objects of pur-
‘suit, and his success is secure. Even the beings
‘selected for his prey are poetical, beautiful and
‘transient. The ephemerae are saved by his
‘means from a slow and lingering death in the
‘evening, and killed in a moment when they have
‘known nothing but pleasure. He is the constant
‘destroyer of insects, the friend of man, and may
‘be regarded as a sacred bird. His instinct, which
‘gives him his appointed season, and teaches him
‘when and where to move, may be regarded as
‘flowing from a divine source; and he belongs to
‘the oracles of nature, which speak the awful and
‘intelligible language of a present deity.’

The swallow tribe appear full as soon in the midland counties as in the maritime, a circumstance which Mr. White thinks is more favourable to hiding than migration. They fly, however, with so much rapidity, and probably in so unerring a line, that the small space which intervenes between a midland and maritime situation in this island can make but little perceptible difference in the times of their appearance.

Martins, in addition to the nests in which they lay their eggs, build near them the apparent foundations of several others. On one of these the male roosts while the female is sitting, and they both sometimes rest on them in the day time.

Mr. White, however, thinks that these super-numerary constructions are the effect of caprice. Martins are the least agile and shortest winged of all the swallow tribe. They take their prey in a middle region, not so high as the swift, nor do they usually sweep the ground so low as the swallow. They breed the latest of all the swallow genus, and usually stay with us latest; like red-breasts, they are seldom seen at any distance from the habitations of man. They repair and inhabit nests of many years standing, to effect which they gather moss and grasses from the roofs of houses. I observe that when swifts unite flying they raise their wings over their backs. When swallows bring out their broods, they place them on rails that go across a stream, and so take their food up and down the river, feeding their young in exact rotation. These generally keep in a row, close, or nearly so, to each other. If a hawk is in the air above them, the young swallows may be seen turning their eyes 'towards it. It is extraordinary how soon instinct teaches animals to discover and avoid what may be hurtful to them. The reason of young swallows being often found dead under the nests is, from their throwing themselves out in consequence of the nests being so full of insects as to become insupportable.

When swallows are preparing to migrate, I observe that they take two or three flights to some

height in the air, returning each time to settle on the aytes* or banks of the Thames. When about to take their final departure, they wheel round and round in the air, mounting higher and higher till they can be seen no longer, and but few stragglers are left behind. Swallows fly low on the approach of rain, as probably flies, and other insects, on which they feed, do not rise at such times above the surface of the land or water.

At a dinner party, a short time since, in London, the conversation turned upon Natural History, and I was much amused with a curious idea

* As the word Ait or Ayte has been mentioned, the following derivation of it may not be unacceptable to my readers. I am indebted to my friend Mr. Nicol for it.

Ait, or Eyght; supposed by SKINNER to be corrupted from islet.

Ey, Ea, Ee, from the Saxon ȝ , an island, &c. Hence comes *eyet* or islet, sometimes written *Eight*.

Eyot, a little island; used by BLACKSTONE.

Eight, ȝ ȝ a ȝ , an island in a river. EVELYN.

In White Kennett's *Parochial Antiquities of Ambrosden and Burcester*, Oxford, 1695, page 295, may be found the following early use of the word.

An. 1280. 8. 9, Edw. I.

Noveriat Universi Fideles quod Edmundus Comes Cornubiæ dedit concessit et hoc præsentis scripto suo confirmavit dilecto servienti suo Johanni de la Russe duas placias prati quæ jacent prope Thamisiã quæ vocatur (sic) Portires-Eytes, &c. reddendo inde annuatim prædicto Edmundo Comiti et hæredibus suis unam *Rosam* [the Earl has punned in his grant] in Festo Nativitatis Beati Johannes (sic.) Baptistæ in Castro de Walingford pro omni servitio exactione et demanda. In his Glossary, Kennett says, 'so the low mershy tract that lies by the river in *Blackthorn* within the parish of *Ambrosden*, is now called *Blackthorn-Eyte*.'

respecting swallows and martins, which proceeded from a gentleman who sat next me. He told me that he had devoted much time and attention to the habits of these birds, having excellent opportunities of doing so, in consequence of their frequenting a particular spot opposite the window of a room in which he usually sat. His idea was, and he appeared to entertain but little doubt of its accuracy, that before swallows and martins migrate, they make a small deposit of flies in a vacuum which may be found under each of the wings of these birds; and that these flies are fixed there by means of the same sort of glue which is used in working up the mud for their nests. These flies, he supposes, serve the birds for food during their long passage from this country to another.

Many persons imagine that swallows arrive in this country in the night, as I believe is the case with most migrating birds. I fancied, however, the other day, that I saw the first arrival of some of them. I was riding in the meadows, attached to Kew Gardens, and not far from the Thames, when I saw about 200 settle on the ground. On approaching them, I found them so much exhausted, that they allowed me to come close up to them. They then took a very short flight and settled again almost immediately. I had no means at the time of having one killed, or I should have taken the opportunity of examining its crop.

I have said that house-martins repair and inhabit nests of many years standing. This is not the case with the sand-martin, who undergoes the labour of excavating a new nest every year. The bank*, which they fix upon, is generally perpendicular. The extremity of the hole of a sand-martin is formed like the bowl of a spoon, and in this the nest is placed. Mr. White observes, that the bills and claws of this bird are soft and tender. Colonel Montagu, however, says, that so far from this being the case, they are more than commonly hard and sharp, and admirably adapted for digging. The bill is small, but its very shortness adds to its strength, as it suddenly tapers to a point like the end of a pair of fine compasses when shut.

In looking over Mr. White's various published and unpublished remarks on the martin, I find that he never abandons the idea of the probability of the late house-martins finding a ready and obvious retreat in a neighbouring church, ruin, cliff, sand-bank, lake or pool, where they may pass the winter in a torpid state. The fact of their migration, however, is undoubted; and that, not only to a short distance from this country, but across the Bay of Bengal, where ships have been literally covered with them; indeed, the captain of an East Indiaman assured me that they had once entered

* *Steeche*, in Saxon, signifies *ripa*, a perpendicular bank; hence *Steeche swaleve*, *riparia hirundo*, bank swallow.

his cabin, the windows of which he had left open during the hot weather. The migration of these birds from this country is probably occasioned, not so much by cold, since we find them in the spring, amidst frost and snow, as by a want of food. In the cold autumn of 1829, we had a sharp frost before the swallows had taken their departure, at which time, instead of migrating, they were seen clustering together like a swarm of bees, under the eaves of a house at Kingston on Thames. In clustering they spread out their wings, and clung one upon the other.* The later house-martins, which are sometimes seen as late as December, may either be in a weakly state, or possessed of a less powerful migratory instinct; or they may have fallen in with some warm sheltered spot, where flies were sufficiently abundant to induce them to delay their departure. Mr. White hints that a few martins may occasionally be seen in the spring, long before the generality of them arrive. Nothing, I think, can be assumed from this circumstance, since the same happens in the case of all migratory birds; the woodcock, nightingale, &c. and a want of food in certain parts of a northern tropic may have driven them to this

* I find a similar circumstance mentioned, in Mr. White's manuscripts. He says, 'April 30, 1787, this day was cold and sharp at Rolle, when a number of martins formed two thick clusters, in the front of an house, in one of the streets of that town. They descended gently as they arrived on one another.'

country before others, who were able to obtain a supply; or, indeed, their ovaria may have been in a more advanced state than those of their companions.

SOME large flights of swallows left the aytes, in the Thames, the first week in the September of last year, (1831), some a week afterwards, and the last flight I observed was on the 16th of the same month. Young house-martins, however, have been found just ready to fly from the nest as late as the 21st of October. Sand-martins bring out their brood earlier than any of the other species of swallows. I should not omit to mention that, when young swallows are able to hawk for flies for themselves, the old birds, nevertheless, continue to feed them, when on the wing, for some time afterwards.

‘ ——— This guest of summer
‘ The temple-haunting martlet.’

SHAKSPEARE. °

I love to hear the screams of the restless swift, on one of our calm delightful summer evenings. I love to watch its flight, its various evolutions, and the boldness with which it ūrfexpectedly passes close to me; secure in the strength of its wings and the rapidity of its motions.

It is impossible not to admire its rapid whirls, and long continued flight, dashing as it does, sometimes under the arch of a bridge, and at other times round and round a neighbouring building, ‘squeaking as it goes in a very clamorous manner.’ This is supposed to be the mode in which the male serenades the hen when sitting, and I think there can bē little doubt but that such is the case. The squeak is repeated every time the bird passes the entrance of the nest; and I have observed that at such time its flight perceptibly slackens. The swift keeps on the wing longer, perhaps, than any other bird, never going to roost in the longer days till about a quarter before nine. Just before they retire for the night, their squeak may be heard, and they then dash and shoot about with wonderful rapidity. They are on the wing at least

seventeen hours, when the days are at their greatest length.

Mr. White remarks that the house, or chimney-swallow is, undoubtedly, the first comer of all the British hirundines, and that it in general makes its appearance on or about the thirteenth of April. This year, however, (1832), it was observed by a friend of mine, in Sussex, on the 3d of April; and not long afterwards was seen in the neighbourhood of Hampton. Although this has been a backward spring with us, it does not seem to have affected the appearance of the swallow, whose arrival, this year, was unusually early. Late or early, however, I am always glad to see it, forming, as it does, an essential part in the *hilarity* of nature:—

‘Gentle bird! we find thee here,
 ‘When nature wears her summer vest,
 ‘Thou com’st to weave thy simple nest;
 ‘And when the chilling winter lowers,
 ‘Again thou seek’st the genial bowers.’

MOORE.

Open as my eyes are, and I trust ever will be, to the charms of nature, and every circumstance attending her beautiful economy, I must not omit to mention the graceful and elegant manner with which my favourite, the swallow, touches the surface of the water in her flight:—

‘Arguta lacus circum volitavit hirundo.’—VIRGIL.

Her motive for doing this I know not; probably,

she sometimes sips of the element over which she is flying, or moistens a piece of clay for her nest. Swallows, like swifts, will hawk for flies from three o'clock in the long summer mornings until nine at night, so earnest are they in pursuit of food. Unlike the swift, however, they occasionally stop to rest themselves, and they then sing very prettily.

I often think how much we should miss the swallow tribe, if they were no longer to make their appearance in this country. One of the consequences of the late hurricane in some of the West India Islands, was to sweep off the whole of the humming birds; and I can fancy how desolate would be the face of this country should an occurrence of a similar nature deprive us of our friends the swallows. Moreover, they are of real consequence to us, as the destroyers of myriads of gnats and troublesome insects. They do not confine themselves to districts, but follow insects wherever they are most abundant, thus keeping them within proper bounds, and rendering us a most essential service. I have watched them hawking for flies over some fine meadows in Oxfordshire, where the latter are very abundant; and then, as if with one consent, settle on the tops of some high elms for a few minutes; the whole quitting them, however, at the same instant. There is an apparent glee and sportiveness amongst

swallows on a fine summer's evening, which I have much pleasure in watching.—

' So when the earth smiles with a summer's ray,
 ' The wanton swallows o'er the valleys play ;
 ' In sport each other they so swiftly chase,
 ' Sweeping with easy wings the meadow's face,
 ' They seem upon the ground to fly a race.'

BLACKMORE.

Swallows seem to entertain the recollection of injury and to resent it when an opportunity offers. A pair of swallows this summer (1832) built their nest under the ledge of a house at Hampton Court. It was no sooner completed, than a couple of sparrows drove them from it, notwithstanding the swallows kept up a good resistance, and even brought others to assist them. The sparrows were left in peaceable possession of the nest, till the old birds were obliged to quit it at the same time to provide food for their young. They had no sooner departed, than several swallows came and broke down the nest; and I saw the young sparrows lying dead on the ground. As soon as the nest was demolished the swallows began to rebuild it, and while I am writing this, they are busily engaged in their work. The whole transaction was witnessed by a gentleman who resided close to the spot.

A remarkable instance of the sense and reflection of the swallow (I must not call it reason), was lately related to me by a nobleman, whose

accuracy and good sense are only equalled by his kindness and benevolence. He informed me, that a pair of swallows built their nest under the arch of a lime kiln at its extreme point, and from which three chimneys or flues branched off. At the time the nest was constructing, the heat of the kiln was so great, that only keeping the hand for a short time within the arch, produced a painful sensation. In this spot, however, the nest was nearly completed, when the heat caused it to crumble, and fall to the ground. A second nest was built in the same spot, and afterwards a third, both of which shared the same fate. A fourth nest was then built, which stood perfectly well, although the heat of the kiln had by no means abated; and in this nest the swallows hatched and brought up their young. The following year another nest was begun and finished in the same spot, and with the same heat in the kiln, which stood the influence of the fire, and in which the swallows hatched and reared their brood; and this was done in the same manner on the third year. The fourth year the swallows did not appear, which the lime burner considered as very ominous of the future success of his kiln. They had probably been destroyed.

In reading the above account, of the accuracy of which no doubt need be entertained, as the most satisfactory proof of it can at any time be

brought forward, it is impossible not to be struck with the following facts.

1st. The swallows must have discovered and worked up a sort of clay or earth which would stand heat.

2d. Instinct alone would not have taught them to do this.

3d. On returning to the kiln the second and third years, they must have kept in their recollection not only the fact, that the earth they commonly used to build their nests with would not stand heat, but must also have remembered the sort of earth or clay which was requisite, and the necessity of their making use of it in that particular place.

Those persons, who are inclined to agree that mere instinct could have taught swallows to perform what has been here related, are not, I think, doing justice to the sense and intelligence of these interesting birds. If reason did not influence their operations, it was something very nearly allied to it; but where that alliance begins and ends, is a question which it is not easy to answer. Mr. White says, that philosophers have defined *instinct*, to be that secret influence by which every species is impelled naturally to pursue, *at all times, the same way or tract*, without any teaching or example; whereas *reason*, without instruction, would often vary, and do that by

many methods, which instinct effects by one alone. If this definition of the difference between instinct and reason is correct, the instance which I have just related respecting the swallows, would seem to entitle them to be called reasoning animals.

Let me here introduce a little anecdote, corroborative of what I have been saying of the superior intellect of the swallow. I received it from a person on whose veracity I can place the most perfect reliance, and who himself witnessed the whole of the proceedings. I have heard a similar story, but never before from such good authority.

A pair of swallows built their nest against one of the first floor windows of an uninhabited house in Merrion Square, Dublin. A sparrow, however, took possession of it, and the swallows were repeatedly seen clinging to the nest, and endeavouring to gain an entrance to the abode they had erected with so much labour. All their efforts, however, were defeated by the sparrow, who never once quitted the nest. The perseverance of the swallows was at length exhausted: they took flight, but shortly afterwards returned, accompanied by a number of their congeners, each of them having a piece of dirt in its bill. By this means they succeeded in stopping up the hole, and the intruder was immured in total darkness. Soon afterwards the nest was taken down and exhibited to several persons, with the dead sparrow in

it. In this case, there appears to have been not only a reasoning faculty, but the birds must have been possessed of the power of communicating their wishes, or rather, their resentments, to their fellow species; without whose aid they could not thus have avenged the injury they had sustained. This anecdote may appear to many persons marvellous and improbable, but I am as much convinced of its truth, as if it had been witnessed by all the world. It is Grotius, I think, who styles this faculty in animals, '*extranea ratio*;' and the swallow, certainly, appears to possess it in a great degree.

Swallows delight in warm and sunny situations, probably because flies are more abundant there than in other places. That accurate observer of nature, Shakespear, speaking of martins and swallows, says,—

—' Where they do bide and build,
' The air is temperate.'

That swallows are of vast use in keeping down an undue proportion of insects, there can be no doubt; and the following which I received from an amiable and observant clergyman, will prove it. He informed me, that while he held the Living of Tedstone Delamere, in Herefordshire, he was fond of encouraging swallows to build about his residence; in the first instance this arose from no other motive than a desire to see them

unmolested; but he afterwards found his advantage in it. The beautiful parish of Tedstone contains many hop-gardens, one of which was attached to the rectory, and rendered unusually picturesque and pleasing, by having winding walks formed amidst the plantation. These walks were of great beauty while the festoons of amber blossoms were overhanging them on every side. To some of the detached houses in the parish, martins and swallows seemed as partial as they did to the rectory, but the birds were shot at by the farmers, to 'keep their hands in for the first of September,' while their nests were demolished as fast as they were built. The consequence was, that the colony at the rectory was considerably increased by the persecuted birds resorting to it, and the advantage derived from them was this:—one season when there was a general failure of crops in the hop-gardens throughout the parish, the one belonging to the rectory blossomed in abundant beauty. This was attributed to the numerous little willing labourers, who from morning to night were winging their way among the poles, devouring myriads of flies, and conveying still greater numbers to their young. So convinced were the farmers of the error they had committed in destroying these birds, that they ceased to persecute them any longer. It has, however, always been accounted unlucky to destroy swallows. We read in Ælian,

that these birds were sacred to the *penates*, or household gods. They were honoured anciently as the nuncios of the spring, and the Rhodians are said to have had a solemn anniversary song to welcome in these charming heralds of summer.

‘ Tu cara Rondinella
 ‘ Dall Africano lido
 ‘ Ogni stagion novella
 ‘ A far qui vieni il nido ;
 ‘ E poi ne’ freddi giorni
 ‘ Sul Nilo o a Menfi torni :
 ‘ Ma in petto ognor mi stanno
 ‘ Gli amori, e nidi fanno,’ &c.

Anacreon, however, does not always appear to be in such good humour with them, though his very threats seem to shew his fondness for these harbingers of spring. Who is not acquainted with his beautiful ode, in which he reproaches the swallow for disturbing his repose ; or the beautiful translation of it by the bard of Ireland ?

‘ Silly swallow ! prating thing,
 ‘ Shall I clip that wheeling wing ;
 ‘ Or, as Tereus did of old,
 ‘ (So the fabled tale is told,)
 ‘ Shall I tear that tongue away—
 ‘ Tongue that uttered such a lay !’

So little was known of the emigration of the swallow fifty years ago, that Dr. Johnson in one of his conversations with Boswell, makes the following observation, ‘ Swallows certainly sleep all the winter. A number of them *conglobulate* together,

' by flying round and round, and then all in a heap
' throw themselves under water, and lie in the bed of
' a river.' This idea is still prevalent amongst many
persons who reside on the banks of the Thames.
They see swallows settling and roosting by hun-
dreds and thousands on the willows growing on
the aytes of the river, which are bent down to the
edge of the water by the weight of the birds, and
the next day, perhaps, not one is to be seen. It
is therefore concluded, that they have immersed
themselves. It is a common trick amongst the
Thames fishermen in this neighbourhood, to send
a *new-comer* late in the evening, with the offer of
some small reward, to an ayte, which is covered
with swallows, one of which he is to catch with
his hand. I am assured that such is the vigilance
and activity of these birds, that however dark the
night, and however great the caution used, no one
instance has occurred of a bird being taken in the
manner I have mentioned.

It is an interesting sight to watch the young
chimney swallows after they have quitted their
nest, sitting quietly on the top of a chimney and
receiving, one after another, the food brought to
them by the parent bird. During the period of
incubation, the male shews the greatest affection
for, and attention to, his mate, and serenades her
from the chimney top as soon as the first gleam
of light appears.

Kalm, in his travels in America, tells a pretty anecdote of the swallow, which, he says, was related to him by a lady of great respectability, who was a witness of the fact.

‘A couple of swallows built their nest in a stable belonging to the lady in question, and the female laid eggs in the nest, and was about to sit upon them. Some days after, the male was seen flying about the nest, sometimes sitting on a nail near it, and uttering a very plaintive note, which betrayed his uneasiness. On a nearer examination, the female was found dead in the nest, from which she was removed, and her body was thrown away. The male then went to sit upon the eggs, but after being about two hours on them, and perhaps finding the business too troublesome, he went out, and returned in the afternoon with another female, who sat upon the nest, and afterwards fed the young ones, till they were able to provide for themselves.’

I have frequently noticed how apt swallows are to settle on the ground, in a row, or perfect line. I have no doubt but that many persons must have observed this, while they have been walking near the Serpentine River in Hyde Park, during a fine autumnal day. The birds, after hawking for flies upon the surface of the water, will all at once settle on the path which extends across the head of the river in so perfect a line,

that one looks at it with astonishment as the simultaneous act of the birds. Their flight is equally sudden and regular on the approach of an intruder. I have also noticed this regularity of line in young birds, while waiting for food from their parents.

I observed a curious departure from the usual mode of building, in the martin during this summer. The circumstance occurred at the Virginia Water, in Windsor Great Park. Near the fishing temple on that beautiful lake, there is a cottage, part of which is covered with a *trelliage*, against which a pair of swallows had endeavoured to build their clayey nest, the spot they had chosen being protected from the weather by the large and projecting wooden eaves of the cottage. Whether they found any difficulty in fixing the earth for their nest, in the peculiar spot they had selected, or from some other cause, the vacancy only between the wall and the trelliage was filled up with a small deposit of clay, but the nest itself was built of grass and straw, and was fixed alike in the trelliage and the deposit of clay. Here I saw the swallow sitting on her eggs, the depth of the nest being very inconsiderable.

I trust that I have now made my readers sufficiently acquainted with these interesting 'guests of summer,' but, before I conclude this notice of them, I would plead in their behalf, for the pur-

pose of endeavouring to put a stop to the cruel custom of wantonly shooting at them. Independent of the cruelty of starving whole nests of young ones by killing the old birds, they may be scared from a neighbourhood by being frequently disturbed; but then comes a redundancy of insects, producing blight, mildew, and other disorders on our corn and plants. We are also deprived of their hilarity, their thousand meanderings in the air, their pretty twitterings, and all the agreeable associations which their presence gives rise to. The swallow-shooter is, moreover, guilty of a breach of hospitality, by destroying a bird which has voluntarily placed itself under his protection, and which has always been considered as a privileged guest.

‘The swallow, privileged above the rest
 ‘Of all the birds as man’s familiar guest,
 ‘Pursues the sun, in summer brisk and bold,
 ‘And wisely shuns the persecuting cold;
 ‘When frowning skies begin to change their cheer,
 ‘And time turns up the wrong side of the year,
 ‘It seeks a better heav’n and warmer climes.’

DRYDEN.

Since writing the above, I have had another opportunity of witnessing a peculiarity in the habits of the swallow. Residing near the River Thames, and having a window opening close to its banks, I frequently amuse myself with watching the vast congregations of them as they skim along the

surface of the water. But a few moments since, I heard a swallow, apparently at some height in the air, utter two shrill notes; on hearing which I observed the whole of the flock quit the water, and rise into the air, so as almost to disappear from the sight. After a short time they returned to hawk for flies, and dip their bodies on the surface of the river at the place they had just before quitted. If the notes were not intended as a warning of approaching danger, I could almost fancy that it was a call for them to partake of a banquet of insects which had suddenly made their appearance elsewhere. The immediate attention paid by the birds to this call struck me as curious; it is not the first time that I have observed it.

On mentioning this circumstance to an observant friend, with whom I have had many agreeable conversations on Natural History, he informed me that when he was lately at Malvern, he had an opportunity of observing the effect which the two notes I have just described had on a large assemblage of swallows. They had congregated in great numbers on the roof of a house at that place. The preceding evening had been cold and somewhat frosty, so that early in the morning the swallows were so torpid that he caught two or three of them in his hand, as they rested on the roof near the window of the room in which he slept. While they were in this state

he heard two shrill notes from a swallow, and in an instant the whole of them took wing simultaneously, and having made two or three circuits in the air, disappeared altogether. He fancied that these circuits were preparatory to their migration, but they were more probably a notice that food was at hand. At all events it seems clear to me that there is a master or leading swallow, who guides the movements of the rest while they are as usual congregating previous to their migration. Having mentioned this circumstance, I trust that it will engage the attention of others, so that further light may be thrown on this curious fact in the economy of the swallow.

I have already mentioned that Mr. White never abandoned the idea of swallows hiding themselves during the winter months. I find the following lines composed by him on this subject amongst his unpublished manuscripts.

THE SWALLOW.

Lyre-like attunes the sultry, summer hours ;
When chilling winter comes, she torpid feels,
And fabricates her house amidst a tree,
Envelop'd warm within the hollow stem :
Moulting she here puts off her feathery garb ;
Yet still again renews her youthful coat,
As when the dead arise from out the tomb ;
For spring again brings round her resurrection ;
She twitters much, and talks the whole day long ;
(If birds may be allow'd the powers of speech)

O man! learn to revere the resurrection,
When twittering swallows rise as from their tomb.

G. W.

The last swallow I observed this year (1832), was on the 25th of October. A pair of them were hawking for flies over the river Thames in the neighbourhood of Old Windsor.

- ‘ The monarch Oak, the patriarch of trees,
 ‘ Shoots rising up, and spreads by slow degrees ;
 ‘ Three centuries he grows, and three he stays
 ‘ Supreme in state ; and in three more decays.’

DRYDEN.

AMIDST ‘ the crowd, the hum, the shock of
 ‘ men,’ I frequently long to ‘ converse with Na-
 ‘ ture’s charms, and view her stores unrolled ;’ I
 have, however, little opportunity of doing this,
 except that now and then I am enabled to visit
 some of the more secluded parts of Windsor Great
 Park. Here there is that ‘ prodigality of shade’
 which I delight in, and which is afforded by some
 of the most beautiful beech trees in England. The
 venerable old pollards however, interest me more
 than any thing else in the park. In looking at
 them my mind is imperceptibly carried back to
 the many interesting historical facts which have
 happened, since they first sprung from the earth.
 I can fancy that our Edwards and Henrys might
 have ridden under their branches,—that they had
 been admired by Shakespear, and that Pope, whose
 early youth was passed in the neighbourhood, had
 reposed under their shade. At all events it is
 impossible to view some of these ‘ Sires of the

‘Forest,’ without feeling a mixture of admiration and wonder. • The size of some of them is enormous; one beech tree near Sawyer’s Lodge in Windsor Great Park, measuring, at six feet from the ground, thirty-six feet round. It is now protected from injury, and nature seems to be doing her best towards repairing the damage which its exposure to the attacks of man and beast have produced. It must once have been almost hol-



low, but the vacuum, (as may be seen by the foregoing sketch), has been nearly filled up. One might almost fancy that liquid wood, which had afterwards hardened, had been poured into the tree. The twistings and distortions of this huge substance have a curious and striking effect, and one might almost imagine them to have been produced by a convulsive throe of nature. There is no bark on this extraneous substance, but the surface is smooth, hard, and without any appearance of decay.

There are two magnificent old oaks near Cranbourne Lodge in Windsor Great Park,—one of them is just within the park paling and about 300 yards from the Lodge, and the other stands at the point of the road leading up to it. The former, at six feet from the ground, measures 38 feet round. An old man, who was working near it, told me that it was *talked of* in the History of England, but I have not been able to ascertain that any historical facts are connected with it. The venerable appearance of this fine old oak, ‘his high top ‘bald with dry antiquity,’—the size and expanse of its branches—the gnarled and rugged appearance of its portly trunk, and the large projecting roots which emanate from it, fill the mind at once with admiration and astonishment. By the good taste of Lord Duncannon this beautiful and venerable tree is now properly protected.



The other tree, nearer to Cranbourne Lodge, is thirty-six feet in circumference at four feet from the ground, and may be considered as almost coeval with the one I have just been attempting to describe. Departing from her usual practice, Nature, in this instance, seems only in some respects to have resumed her vigour. This may be seen by a number of little feathering branches

which have been thrown out of the stem. Another old pollard, not far from it, has only one live branch left—a branch which seems to flourish amidst decay. Hollies, thorns, and here and there a stunted hornbeam, look as if they might have been placed there for the purpose of keeping off any unhallowed intruders on the retirement of these venerable patriarchs, who, in return, seem to stretch forth the horizontal twistings of their large extended branches to afford protection and shelter to their more humble brethren of the forest.

The most interesting tree, however, at Windsor, for there can be little doubt of its identity, is the celebrated Herne's oak. There is indeed a story prevalent in the neighbourhood respecting its destruction. It was stated to have been felled by command of his late Majesty George III. about fifty years ago, under peculiar circumstances. The whole story, the details of which it is unnecessary to enter upon, appeared so improbable, that I have taken some pains to ascertain the inaccuracy of it, and have now every reason to believe that it is perfectly unfounded. Herne's oak is probably still standing, at least there is a tree which some old inhabitants of Windsor, consider as such, and which their fathers did before them—the best proof perhaps of its identity. In following the footpath which leads from the Windsor road to Queen Adelaide's Lodge, in the Little Park, about half way on the right, a dead tree may be seen

close to an avenue of elms. This is what is pointed out as Herne's Oak. I can almost fancy it the very picture of death. Not a leaf—not a particle of vitality appears about it. 'The hunter must 'have blasted it.' It stretches out its bare and sapless branches, like the skeleton arms of some enormous giant, and is almost fearful in its decay.



None of the delightful associations connected with it have however vanished, nor is it difficult to

fancy it as the scene of Falstaff's distress, and the pranks of the 'Merry Wives.' Among many appropriate passages which it brought to my recollection was the following :—

———— ' there want not many that do fear
' In deep of night to walk by this Herne's Oak.'

Its spectral branches might indeed deter many from coming near it 'twixt twelve and one.'

The footpath which leads across the park is stated to have passed in former times close to Herne's oak. The path is now at a little distance from it, and was probably altered in order to protect the tree from injury. I was glad to find 'a pit hard by,' where 'Nan and her troop of fairies, and the Welch Devil Evans,' might all have 'couch'd,' without being perceived by the 'fat Windsor stag' when he spake like 'Herne the hunter.' The pit above alluded to has recently had a few thorns planted in it, and the circumstance of its being near the oak, with the diversion of the footpath, seem to prove the identity of the tree, in addition to the traditions respecting it :—

' There is an old tale goes, that Herne the hunter,
' Sometime a keeper here in Windsor forest,
' Doth all the winter time, at still midnight,
' Walk round about an oak, with great ragg'd horns,
' And there he blasts the tree.'

• The last acorn I believe which was found on Herne's Oak was given to the late Sir David Dundas of Richmond, and was planted by him on his estate in Wales where it now flourishes, and

has a suitable inscription near it. I have reason to think that Sir David Dundas never entertained a doubt of the tree I have referred to, being Herne's Oak, and he had the best opportunities of ascertaining it. In digging holes near the tree lately, for the purpose of fixing the present fence round it, several old coins were found, as if they had been deposited there as future memorials of the interest this tree had excited.

A little further on, to the left, where the ground somewhat rises, is a fine old pollard, which still flourishes; there being only one dead branch, which projects from the centre of the foliage. It is a fine specimen of old age in a tree. It measures twenty-seven feet round the middle of the trunk.

Not a great way from this tree stands Queen Adelaide's Cottage, a charming and peaceable retreat. It is impossible to view the grounds which are attached to the Cottage, without perceiving that Her Majesty has a great fondness for what is beautiful in Nature. Every thing has been done here with perfect good taste and strict propriety, and the most critical Landscape Gardener would have found it difficult to have altered any thing for the better. Every thing in the cottage or about the grounds is in character. Here is no attempt at splendour, but the place altogether has a smiling and cheerful appearance.

Nothing of the Castle is to be seen from the Cottage. On leaving the grounds, however, and getting again into the open part of the park, that noble edifice presents itself—a fit place for the residence of Kings. The avenue, or long walk, as it is called, in Windsor Great Park, is very striking. I trust, however, that I shall be excused in venturing an opinion, that the Lodges now building (with perfect good taste as to their style) have not been kept sufficiently out of sight, or rather have been intruded too much on the vista from the Castle to the end of the avenue. I know of few sights more beautiful than the view from the top of the long walk, and the beech trees which flourish in that part of the park are equalled by few in the kingdom; indeed I have never seen any trees grow in a more picturesque manner. I never see the fine arches produced by an avenue of beeches, without thinking of what Dr. Warburton has said on the subject, in his notes on Pope's Epistles. He remarks that no attentive observer ever viewed a regular avenue of well-grown trees, intermixing their branches over head, but it presently put him in mind of the long vista through a Gothic Cathedral; or ever entered one of the larger and more elegant edifices of this kind, but it presented to his imagination an avenue of trees. Cowper has delightfully adopted this idea in his Task:—

' How airy and how light the graceful arch,
 ' Yet awful as the consecrated roof
 ' Re-echoing pious anthems ! while beneath
 ' The chequered earth seems restless as a flood
 ' Brushed by the wind. So sportive is the light
 ' Shot through the boughs, it dances as they dance,
 ' Shadow and sunshine intermingling quick,
 ' And darkening and enlightening, as the leaves
 ' Play wanton every moment, every spot."

The fern in the Park has a beautiful appearance at this time of the year (the end of September) and at a little distance looks like furze, or gorse, in full blossom. This yellow tint, which is greatly heightened towards the evening, contrasts finely with the first slight autumnal colouring of the beech trees, whose white trunks and pendant branches add not a little to the landscape. The still lighter brown of the grass, after so much dry weather, forms another contrast, covered as it sometimes is with a fine herd of deer; while the thorns, blushing, as they appear to do with their load of crimson berries, glow with an increase of lustre as the beams of a setting sun rest upon them.

The drive from this part of the park to Virginia Water, and from thence through the Blackness gate, is exceedingly beautiful. The clumps of beech trees, the oak wood, the whole of the scenery, form together a charming picture. The Lodge occupied by His late Majesty has been

pulled down, with the exception of the banquetting room and the conservatory.

On the descent of the hill, leading to the Virginia Water, stands a fine old beech tree, which might serve as a study to a painter. Its roots appear above the soil with curious contortions, and add very much to the picturesque effect of the tree.

The first view of the Virginia Water is very striking. The fishing temple—the tents—the lake and the cottage, all produce a good effect, and the banks of the water are particularly well planted. The Belvidere and the Obelisk are happily placed, and a pretty frigate in miniature adds to the charm of the scene. The fishing boats are fitted up with every comfort and convenience, and are exceedingly well kept. The only regret I felt on visiting this charming spot, was not being allowed to bring my trolling rod with me.

His Majesty's magnificent present to the Zoological Society, of the beasts lately kept in this park, has deprived visitors of one of the objects of curiosity which brings them to Windsor. The animals however are more accessible in the Regent's Park than they were at the Sandpit Gate. I was informed that the person who had the care of them once very nearly lost his life. The circumstance was as follows. He not unfrequently allowed the boa constrictor to enjoy a certain

degree of liberty by turning it loose in his sitting room. On one of these occasions, the animal wound himself round the body of the keeper, and would probably have crushed him to death in a few moments, had not his cries brought some one to his assistance, when the animal was disengaged. The snake, I believe, cannot apply the whole force of its body till the tail is firmly attached to some object, and then, having obtained a purchase, as it were, the *crush* is instantaneous.

I must now bid adieu to

‘Thy forests Windsor, and thy green retreats.’

But the Forest is now, alas! no more. The hundred miles of green drive which were kept up for the convenience of his late Majesty George the Third at a trifling expence, and where he followed his stag hounds, have all disappeared. Perhaps no monarch in Europe could have boasted of such an appanage to the seat of royalty. The Forest has been divided and subdivided, and scarce a vestige of it is left, except what has been apportioned to the crown, adjoining the Great Park.

—————' Nature, wild above all rule or art,
' Wantons as in her prime, and plays at will
' Her virgin fancies.'

ANIMALS have much more sense than we give them credit for. In travelling, I have found that though my horse refused to finish his corn while he had no expectation of being taken out of the stable, yet as soon as the groom has begun to put on his harness, he has resumed his meal with considerable satisfaction, evidently shewing he was aware that if he did not eat his corn then, he could not have it at all.

A shooting pony, the property of a gentleman in Kent, shewed very great sagacity under the following circumstances. Several bullocks having been put up for fattening, a boy was employed to carry oil-cakes to the place where they were confined. In doing this he had to cross a field where the pony was at grass, and one day, by accident dropped a cake. On his way back he intended to pick it up but it was not to be found. The next day, as he was passing through the field, he was alarmed by the pony galloping furiously up to him, making at the same time some unusual neighings. The boy ran away and

got over a hedge when the pony shewed evident symptoms of anger, though he had been up to that time uncommonly gentle. Some days afterwards the pony got the boy into a corner of the field, darting his head at him and kicking out, but not doing him any harm. The lad was, however, so frightened, that he dropped the oil-cakes, one of which was picked up by the pony, who galloped off with it. He afterwards made so many attempts of the same kind, in order to indulge his fondness for the oil cakes, that they were obliged to be conveyed in another direction.

The effects which the parent's habits have on their unborn offspring is very extraordinary. In breaking in a mare, which was afterwards found to be in foal, it was necessary to lunge her frequently in a circle. When the foal was born and was strong enough to do so, it began to move round and round incessantly, and continued the practice for a considerable length of time.

A lady, with child, was thrown out of an open carriage and much hurt. The child, when quite an infant, and for many years afterwards, shewed great terror whenever it was put into a carriage. That the habits and minds of beings should be thus early operated upon, is not a little to be wondered at.

The following curious fact in Natural History

was lately communicated to me. A nobleman in Scotland had a foal from a thorough-bred mare, the sire of which was a Zebra or Quagga; this foal was as regularly striped as the father. The mare was afterwards given to Sir Gore Ouseley and sent into Essex, where she produced three foals by a thorough-bred horse, all of which had evident stripes upon them like the father of her first offspring. I am also assured that a similar circumstance has been known to take place amongst dogs.

While upon this subject I may mention the following fact. It is well known that all sheep-dogs have their tails cut quite short, and a shepherd assured me that his bitch had seldom a litter of puppies, without one of them being born with what he called a "bob" tail. He also informed me that these whelps are generally more sagacious than the others. It seems probable, although no reason can perhaps be assigned for it, that the constant practice of cutting the tails of a peculiar breed of dogs quite short for a great length of time, has produced the effect upon some of the offspring which has just been mentioned. This is, I think, a subject worth the attention of Naturalists, as is also that of the variation in the colour of birds.

Within a very short period of time, three perfectly white sparrows have either been killed or

taken in the neighbourhood of Hampton Court, and another has been seen near Ham Common. Two pied linnets have also been shot near the former place, and a hen blackbird lately in Bushy Park which was pied black and white like a magpie. There is a stuffed cock bird at the head-keeper's Lodge in Richmond Park exactly similar to it. I have sometimes speculated on the possibility that the colour of birds may be altered in consequence of some of the pores of the shell having been stopped during the period of incubation.

- ‘ Hail old patrician trees ! so great and good !
 ‘ Hail ye plebeian underwood,
 ‘ Where the poetic birds rejoice
 ‘ And for their quiet nests and plenteous food
 ‘ Pay with their grateful voice.”

COWLEY.

WHEN I see a beautiful and magnificent tree flourishing in a verdant meadow and partaking of the moisture from some neighbouring stream—with cattle enjoying the protection of its shade, and birds sporting amongst its branches, I have in an instant a delightful picture presented to my mind’s eye. It puts me in mind of the emblem of a good man.—‘ He shall be like a tree planted by the rivers of water, that bringeth forth his fruit in his season ; his leaf shall not wither.’ He will indeed hereafter ‘ flourish in immortal youth, and bloom for ever in unfading beauty.’

It is from reflections of this sort that I am the more able to appreciate the charms of a country life, and enjoy the various little scenes and objects which are constantly presenting themselves to my view. From some one or other of them the highest feelings of devotion towards God, and consequently of kindness towards our fellow-creatures, may be awakened ; some lesson may be

learnt, or some information derived, to be added to our store of remarks on Natural History, and increase our admiration of the ways of Providence in the economy of Nature—

‘ Thus my life, exempt from public haunt,
‘ Finds tongues in trees, books in the running brooks,
‘ Sermons in stones, and good in every thing.’

Nature indeed is a great economist, and I perceive this to be the case every day more and more. The farina of flowers—the decay of a leaf—the dead bark of a tree—all in their turn answer some useful purpose. A piece of rush which sinks to the bottom of a river becomes the abode of an insect, and the deserted web of a spider forms part of the building materials of some of our pretty songsters. I have elsewhere remarked that when cattle are cooling themselves in the water, the flies they whisk off with their tails become the food of numerous small fish which surround them; indeed when the former are grazing, they are frequently followed by water wag-tails who procure their food by the same means. The fern owl and the bat prevent too great an increase of nocturnal insects. Though the latter have no apparent enemies to contend with, they are not permitted to become so numerous as to be an annoyance to man. Mice which conceal themselves in the day time and seek their food at night, are also kept within due limits by the owl, whose soft

feathers and silent motions enable it to approach its prey without creating any alarm.

The attention which a beneficent Providence has shewn to the wellbeing of its creatures is beautifully illustrated by the following fact. When a bird *sits* on its perch at roost, the action of doing so, from the peculiar formation of the muscles of the legs and thighs, draws the claws of the feet together, so that they hold tightly to the perch as long as the bird is in a sitting posture. But for this circumstance, the comfort and security of the bird would be endangered by every gale of wind while it reposed.

I have observed that very young fish keep almost entirely in shallow water. If it were not for this precaution they would soon fall an easy prey to those of a larger size. As long however as the fry keep in shoal water they cannot readily be got at. As they increase in size and strength they go into deeper water and are then better able to protect themselves. I like to see them dart away as I approach their haunts, and stop as soon as they imagine themselves to be out of danger. Fish seem capable of enjoyment and are at times very playful.

“Each creek and bay

‘ With fry innumerable swarms, and shoals

‘ Of fish, that with their fins and shining scales

‘ Glide under the green wave.’ MILTON.

All fish *head* in the spring, as fishermen term it—that is, they go with the head against the stream, and fall with the leaf in autumn—that is, they go down stream.

A curious fact has been related to me respecting Bleak. These little fish are very much infested with a parasitical worm, and many hundreds of them have been seen on the surface of the water near Battersea bridge, swimming about in an odd, uneasy manner. On examining these bleak every one of them will be found infested with the worms I have mentioned. This however is seldom or never the case with the bleak found in the river *above* Putney-bridge. Why this difference of situation should produce disease in a peculiar class of fish is a question which I cannot answer, except by supposing that the great quantity of mud which is to be found in the river nearer London, prevents the fish rubbing off any noxious insects which may adhere to them, and which they are able to do in more gravelly bottoms.

Chad sometimes are found in great numbers in the Thames, but are seldom to be met with much above Kew Bridge. Wandsworth and Battersea seem to be their favourite haunts. The fishermen float their nets with the tide, and the chad, trying to make their way through them, are caught. Their scales are sold to the Jews for making imi-

tation pearls. At night Chad thrash the water with their tails, and when it is calm the noise they make may be heard at some distance.

In dry seasons what are called *freshes* are let down the Thames twice a week, in order to allow a sufficient depth of water for large barges to navigate the river. The fish brought down to the deep holes at these times are readily known as soon as they are taken, by the great quantity of green food in their stomachs.

There is a smaller kind of eel sometimes found in the river Thames, which the fishermen about us call *Sand-pride*. It is found in the sand, and is about the thickness of a straw, and near three inches in length. It is supposed to be blind. The common eel feeds greedily on it.

Barbel appear to be almost in a perfectly torpid state in very cold weather. They make their hybernaculum amidst tufts of weeds at the bottom of the Thames, apparently either asleep or insensible. Indeed so torpid are they, that they may be taken up by the hand. In very cold weather, the fishermen provide themselves with a net fastened to an iron-hoop, having an handle to it, and which they place near the fish, and with a pole push it into the net, so perfectly inanimate are they at this season. Barbel are never seen to feed in winter.

I observe in trolling, that when pike seize a

bait they turn their belly upwards. This seems unnecessary as the lower jaw is longer, or rather projects more than the upper one.

Food is seldom found in the stomach of salmon, and I am assured that none has been ever found in the stomach of a herring, though many have been opened the moment they were taken out of the nets. Their stomach so far from being muscular, like that of the trout where food may almost at all times be found, is, on the contrary, like the finest gauze. The herring is a rich-oily fish and most probably feeds by suction.

It is a general opinion amongst the Thames fishermen, and I have also heard it stated in other quarters, that craw-fish are only to be found in the smaller rivers which flow towards the East. I should be glad to have it ascertained whether or not this idea is correct, and if so, how it is to be accounted for.

There is no doubt, I think, but that fish migrate from the upper waters of the Thames in order to deposit their spawn in the brackish oozes of the river. It is in these situations that fishermen capture them in the greatest numbers, and here they probably undergo that change in their respiration which enables them afterwards to exist either in salt or fresh water. It is well known that a sudden change from one of these to the other is fatal to fish. In order to avoid it, there-

fore, fish which migrate from the sea to fresh water, and vice versâ remain for some time in that which is brackish.

I have at different times had some pike sent to me which had been caught amongst a shoal of smelts in the river Medway. These fish were to all appearance like our common pike, except that their heads were smaller and more pointed, and the shape of their bodies more tapering. On dressing them however, their flesh was firm and of a most delicate flavour, totally unlike that of a pond pike. This was not improbably either owing to their having fed on smelts, or to their living in brackish water.* Few of them are to be met with and they appear to have escaped the notice of naturalists.

— ' All your temples strow
With laurel green and sacred mistletoe.' •

GAY.

I HAVE lately heard a curious idea advanced that all mucilaginous seeds must undergo the process of passing through the stomach of birds before they will vegetate. This was applied principally, however, to the seeds of the mistletoe and ivy. The former is supposed to be propagated by birds, but I cannot think that this is the case, since a young mistletoe may be frequently seen forcing its way out of a hawthorn, where the bark is perfectly smooth; and from a place least likely to have a seed dropped upon it by a bird, namely the underside. Five or six of these embryo plants may be seen in a straight line near each other, peeping out of bark which had no crack whatever in it. These primary eruptions from the bark may be compared to a pustule on the skin. As they increase in size a pair of leaves appear, which are soon followed by others, and in the first season the growth of the plant will vary from two to three inches. The leaves always come out in pairs. The roots or whatever they may be called insinuate themselves between the rind and the

fore, fish which migrate from the sea to fresh water, and vice versâ remain for some time in that which is brackish.

I have at different times had some pike sent to me which had been caught amongst a shoal of smelts in the river Medway. These fish were to all appearance like our common pike, except that their heads were smaller and more pointed, and the shape of their bodies more tapering. On dressing them however, their flesh was firm and of a most delicate flavour, totally unlike that of a pond pike. This was not improbably either owing to their having fed on smelts, or to their living in brackish water. Few of them are to be met with and they appear to have escaped the notice of naturalists.

— ' All your temples strow
With laurel green and sacred mistletoe.'
GAY.

I HAVE lately heard a curious idea advanced that all mucilaginous seeds must undergo the process of passing through the stomach of birds before they will vegetate. This was applied principally, however, to the seeds of the mistletoe and ivy. The former is supposed to be propagated by birds, but I cannot think that this is the case, since a young mistletoe may be frequently seen forcing its way out of a hawthorn, where the bark is perfectly smooth; and from a place least likely to have a seed dropped upon it by a bird, namely the underside. Five or six of these embryo plants may be seen in a straight line near each other, peeping out of bark which had no crack whatever in it. These primary eruptions from the bark may be compared to a pustule on the skin. As they increase in size a pair of leaves appear, which are soon followed by others, and in the first season the growth of the plant will vary from two to three inches. The leaves always come out in pairs. The roots or whatever they may be called insinuate themselves between the rind and the

wood of the tree, being that part which is called the *alburnum*, and run into it in a way which I can only compare to the worsted introduced into a stocking in darning it. As the mistletoe becomes older, all that might be considered as forming the root in its earlier stages disappears. The variation in colour in the now blended wood (according to the respective varieties of the parent stock) being the only distinguishing mark of the former place and existence of the root. Its adhesion now presents the same appearance as that of a graff, the union of the scion and stock being perfect.

The first introduction, and the subsequent growth of this parasitical plant, are wrapt at present in much mystery. Many persons suppose that birds are natural planters of the mistletoe, by rubbing or cleaning their beaks, after they have been partaking of its mucilaginous seeds, against the branch of a tree. There is one circumstance which might tend to confirm this supposition; which is the fact that the missel thrush, or thrice cock as I have heard it called in Staffordshire (*Turdus viscivorus*) is found in great numbers in Herefordshire and Monmouthshire where mistletoe abounds. It migrates thither in flocks, with the field-fare every winter. In Wiltshire, mistletoe is less abundant, and that species of thrush is not so numerous; while in Devonshire both the plant and

the bird are rarely to be seen, yet both these latter counties are cider counties, abounding in apple-trees, the mistletoe's favourite stock. It is however found on the lime trees in the avenues of Hampton Court and Bushy Park, and also on the hawthorn and the oak. Mistletoe, that is found in the former tree, is prized by farmers as a supposed cure for some diseases in their cattle.

Various attempts have been made by persons with whom I am acquainted to propagate the mistletoe, by depositing the seed between the forks of trees, and by inserting it in the bark, but the attempt has hitherto failed as far as I can speak from my own observation. The seeds also of the ivy seldom grow though planted with the greatest care, even under walls; yet if dropped by birds either upon or even in the crevices of walls, they will grow spontaneously and thrive luxuriantly. It is this circumstance which has led a friend of mine to suppose, and with some reason, that the seeds of the mistletoe and ivy must undergo some process, favourable to their germination, in passing through the stomach of birds.

What I have said in my 'Gleanings' of seeds lying dormant in the ground through a succession of ages has been confirmed in several instances.*

* In still further confirmation of this fact, it had long been observed, that in some meadows at Kingston upon Thames, con-

A portion of a marshy meadow in Herefordshire, produced the beautiful white silky rush, called I believe the cotton grass (*erriophorum angustifolium*), and in so great abundance, that, seen at a distance, it resembled a partial fall of snow. The proprietor caused that portion to be deeply trenched and drained, spreading the soil from the drains over the contiguous ground. The ensuing autumn instead of a white, a blue surface was

tiguous to the middle Mill in that Town, there had constantly appeared in these grounds for the last thirty years, a vast quantity of young and very small tendril shoots having all the appearance and characteristics of the vine in miniature.

This fact excited the notice and attention of my friend Dr. W. R. who at first was greatly disposed to attribute their existence to the probability of the fields having been, in former ages, the site of the vineyards, so well and generally known to have abounded in the neighbourhood of every town and place of repute in this country, and whose climate appears to have undergone so great a change in these latter days; this opinion was still strengthened for a time, by my friend taking up one of the tendrils and carefully planting it in a good soil against a wall of genial aspect, and rearing a flourishing vine bearing the true *Claret grape* with its deep red juice, so little cultivated or adapted to the present state of our colder clime. On prosecuting, however, this interesting enquiry, it was ultimately discovered that the owner of these lands had for a number of years been in the constant habit of making *Raisin wine*, and that after the usual fermenting process of the fruit had been brought to a termination, the husks, SEEDS, and stalks, were thrown en masse upon the dung-heap, which at length found its way as a coating of manure to the fields in question; thus depositing the germ of these foreign vines, whose vital principles had not been destroyed by the several stages they had undergone, not even by that last and most fearful action, the process of fermentation.

presented, the whole space being adorned with the wild campanula (*campanula rotundifolia*) not one of which previously grew near the spot, and the beautiful rush disappeared. The tree mignonette (*reseda luteola*) grows abundantly near Dudley Castle in soil thrown up from a great depth among the lime rocks. This plant also, as well as colt's foot, soon covers the coal-pit banks in that part of the country,* the soil being brought from 100 to 150 yards below the surface, the white Dutch clover being found mixed amongst them. When we thus find in plants a vital power which enables them to vegetate after having been buried for numerous ages, and which proves that they are imperishable, 'why,' with respect to the far nobler work of creation, *man*, 'should it be thought 'a thing incredible that God should raise the 'dead?'

* While I am referring to the Staffordshire coal-pits, I may mention, in confirmation of what I have said in my 'Gleanings' of live eels being found in a block of coal, the following fact communicated to me by a most respectable clergyman and magistrate in that neighbourhood. He informed me that two respectable men came before him and requested to make an affidavit of their having discovered in a large block of coal, about 60 yards below the surface of the earth, a snake or adder, which was found alive on breaking the piece of coal. The men wished to make the affidavit, because the truth of their assertion had been doubted.

'Tis merry, 'tis merry, in the good green wood,
 ' When the mavis and merle are singing,
 ' When the deer sweep by, and the hounds are in cry,
 ' And the hunter's horn is ringing.'

SIR W. SCOTT.

I AM writing this surrounded by all the charms of a delicious spring morning. The early buds are beginning to open—the choir of nature hymns its song of joy and hope, and every thing is various, gay and smiling, as if looking forward to the prospect of a delightful summer. Indeed the wild singing of the birds, 'rejoicing in the return of brightness to the earth,' and making the whole air vocal with the bursting happiness of their new enjoyments—the busy hum of animated beings rising up from hill—and dale—and wood, and joining with their song upon the breeze—'all these speak of refreshed, of renovated existence.' Flowers begin to paint the fields—blossoms hang upon the trees, and I can fancy Flora shaking her light tresses in the morning air, and sprinkling it with sweet odours.

' The morn is up again, the dewy morn,
 ' With breath all incense, and with cheek all bloom ;
 ' Laughing the clouds away with playful scorn,
 ' And living as if earth contained no tomb.'

CHILDE HAROLD.

Amongst the agreeable sounds we hear in the country, particularly on a fine still evening in the spring, the cry of the Corn-crake or Land Rail (*Ortygometra crex*) is one which I always listen to with peculiar pleasure. The nest of this bird is rarely found, and I have never yet been able to procure one, though the bird is far from being scarce in this neighbourhood. It is said to lay from fifteen to twenty eggs, and yet it is seldom that we find more than two of the birds in the same field in the autumn. They probably congregate before they migrate, as I am assured that a considerable number were on one occasion seen together near the sea shore in the neighbourhood of Swansea at the latter end of October, that being the time they usually take their departure from this country. I have met with an incident in the Natural History of the Corn-crake which I believe is perfectly accurate, having been informed that the bird will put on the semblance of death when exposed to danger from which it is unable to escape. The incident was this—a gentleman had a Corn-crake brought to him by his dog, to all appearance quite dead. As it lay on the ground, he turned it over with his foot and was convinced that it was dead. Standing by, however, in silence, he suddenly saw it open an eye. He then took it up—its head fell—its legs hung loose, and it appeared again quite dead. He then put it

in his pocket, and before long he felt it all alive, and struggling to escape. He then took it out—it was as lifeless as before. Having laid it again upon the ground and retired to some distance, the bird in about five minutes warily raised its head, looked round, and decamped at full speed. I have seen a similar circumstance take place with a partridge, and it is well known that many insects will practise the same deception. I have also observed it in that curious marine insect the sea-mouse, (*Aphrodita Aculeata*?)

I delight to hear, on a quiet still evening, the Nuthatch (*Sitta europæa*) as it taps upon the trunk or branch of a tree. I like to watch this bird during its restless operations as it moves round the branch, sometimes above, and sometimes under it, its strong claws enabling it to perform its evolutions with perfect ease: the noise it makes may be heard at some distance. These birds are very impatient in a state of confinement, hammering with their bills, and using every means to make their escape. An agreeable account of one of them is given by a correspondent in the Magazine of Natural History, and it is to be regretted that similar remarks are not more frequently communicated to the public, by those who may have opportunities of observing the manners and habits of animals. I need not, perhaps, add that I should be very grateful for any

information on the subject which may be sent to me.

In the account of the Nuthatch above referred to, it is stated that on putting it into a cage, he produced a knocking sound with his beak which made the room re-echo, and continued it till nine or ten o'clock at night. He attacked a lark which was in the same cage with so much violence, that they were obliged to be separated. He eat and drank with the most perfect impudence, and having satisfied himself, turned again to his work of battering the frame of the cage, the sound from which, both in loudness and prolongation of noise could only be compared to a footman's knocking at a door. He had a particular fancy for the extremities of the corner pillars of the cage; on these he spent his most elaborate taps, so that the wood was pierced and worn like a piece of worm-eaten timber. His hammering was peculiarly laborious, for he did not peck as other birds do, but grasping his hold with his immense feet, he turned upon them as with a pivot, and struck with the whole weight of his body, thus assuming the appearance with his entire form of the head of a hammer. His labour was incessant, and he eat as largely as he worked, the united effects of which probably killed him. The apparent intelligence of this bird's character, the speculation in his eye, the assiduity of his labour, and his most extraor-

dinary fearlessness and familiarity, though coupled with fierceness, caused his death to be much regretted by his kind-hearted owner and his family.

Mr. White states that the knocking of a Nuthatch may be heard at the distance of a furlong. Its beak is peculiarly well formed for penetrating nuts in order to extract the kernels. It is stated that after death this bird emits a smell like that of exploded gunpowder.* Its tongue is not capable of extension, as is the case with woodpeckers.*

During my walks in Bushy Park in a spring evening, I hear a strange noise, occasioned by the croaking of frogs in a pond. This noise is different from any I have yet heard produced by that animal, and I was some time in ascertaining from whence it proceeded. On walking round the pond, I have seen a few frogs in the act of croaking, but not a sufficient number to enable me to account for the noise I heard at a greater distance, and which diminished as I approached the water. There is a strong echo in that part of the Park, which may possibly account for the different variations of sound.

I have remarked that frogs generally begin their croak about the time of the setting of the

* The Nuthatch like the Mouse, probably lays up a winter store of food, as Mr. White mentions having seen them bring out and crack their nuts on the 17th of March.

sun, and I am persuaded that this is done, not to call each other, but as producing a pleasurable sensation, as I have never known frogs croak while in a state of confinement. In the day time they are differently employed, and it is perhaps not generally known that when they are seen, in fine weather, with their heads only out of water, it is for the purpose of feeding on flies. When they are in this situation, and perceive a fly or gnat near them, they dart at them with the greatest quickness, putting out their tongues at the same instant, when they seldom fail to secure their prey. An observant friend informed me that several frogs had taken possession of an old well in his garden, which had been nearly filled up, though there was water amongst the broken bricks in it. The frogs might be seen with their heads at the edge of the bricks waiting for flies to settle upon them. Three or four inches was the extreme distance at which the frogs ventured to make their darts. If the fly settled further than that, the frogs waited till it approached nearer, and then they generally secured it. Frogs during the winter cluster together like bees, at the bottom of ponds and deep ditches.

Of Gilbert White himself I could collect few personal reminiscences; and all that an old dame, who had nursed several of the family, could tell me of a philosophical old bachelor, was, that 'he was a still, quiet body, and that there was not a bit of 'harm in him.'

ANON. New Monthly.

My readers will not, I am sure, be displeas'd at my introducing in this place some extracts from Mr. White's unpublished papers. I should at the same time make them aware that these papers have been already pick'd and culled for the last edition of the Natural History of Selborne. Still, however, like the washings of sand where gold is known to exist, some particles of the precious metal may remain, which will amply reward the search. • Those who have had the pleasure of perusing the more valuable materials, will therefore, I trust, not object to a view of the lighter ones. I have made the selection without any regard to order. What interested me, may interest others, and this alone has guided my choice. • • •

I ought perhaps to apologize for having introduced some of Mr. White's remarks, not connected with Natural History, but referring to his domestic economy, and little incidents which had

a connection with his private habits and mode of life. It is, however, perhaps from these very circumstances that one is able to know him more intimately, and to judge more accurately of the excellence of his heart and the earnestness with which he followed his favourite pursuit. The Natural History of Selborne is now become a standard work and will be read as long as the English language lasts. Every little circumstance, therefore, relating to its author, must, I think, be interesting, especially to those, who, like myself, are amongst his enthusiastic admirers. Boswell made us acquainted with Dr. Johnson by trifling details and desultory remarks, and for the same reason I have not scrupled to introduce some of Mr. White's memoranda, which might otherwise appear too minute for notice. Mr. White, however, observed all the little occurrences of his neighbourhood, and it is from these remarks that we are indebted for his delightful work.* ' He was strongly attached to the charms of rural scenery, and early fixed his residence in his native village, where he spent the greater part of his life in literary occupations, and especially in the study of nature.

* It has been said of him that these remarks do him credit, not only as a Naturalist, but as a man and a philosopher, in the truest sense of the word, for were we enabled to trace the works of Nature, minutely and accurately, we should find not only that every bird, but every creature, was equally well adapted for the purpose for which it was intended. *

‘ This he followed with patient assiduity, and a
‘ mind ever open to the lessons of piety and bene-
‘ volence which such a study is so well calculated
‘ to afford. Thus his days past, tranquil and se-
‘ rene, with scarcely any other vicissitudes than
‘ those of the seasons, till they closed at a mature
‘ age.’

MISCELLANEOUS OBSERVATIONS,
 SELECTED FROM THE MANUSCRIPTS OF THE
 LATE GILBERT WHITE OF SELBORNE.

‘Sept. 15. Martins cling and cluster in a very particular manner against the wall of my stable and brew-house—also on the top of the may-pole. This clinging, at this time of year only, seems to me to carry somewhat significant with it.’

‘Dogs eat the gooseberries when they become ripe; and now they devour the plums as they fall. Last year they tore the apricots off the trees.’

‘The Cat gets on the roof of the house and catches young bats as they come forth from behind the sheet of lead at the bottom of the chimney.’

‘Colchicum is in flower.

‘Say what retards, amidst the Summer’s blaze,
 ‘Th’ autumnal bulb, ‘till pale, declining days?’

‘Kept a young Fern-owl in a cage for some days and fed it with bread and milk. It was moping and mute by day, but, being a night bird, began

‘ to be alert as soon as it was dusk, often repeating a little hissing note. Sent it back to the brakes among which it was first found.’

‘ About October 1, the weather was cold and wet at Vevey in Switzerland, when the Hirundines flew so near the ground as to be a prey to cats, which watched for them; and some entered men’s windows so tame and hungry as to sit on a finger, and take flies when offered to them, or which they saw on the glass and walls.’

Salt of Tartar

Oil of Vitriol

0 0 0 0 Tea Kettle 0 0 0 0

Sea Salt

Wood-ashes

Coal ashes

Nitre

‘ with the abovementioned articles brother Thomas has attempted to make a fairy-ring, circle within circle, and we are to take notice in the spring which circle and whether any, will produce grass of a deeper green than before. The tea kettle which has occasioned the dots was set out, time after time, full of boiling water. The circles made with oil of vitriol, with sea salt, and with saltpetre, have discoloured the grass. Those with salt of tartar, wood and coal ashes have no

‘ visible effect at present. The grass seems killed
 ‘ where the kettle stood.’*

‘ I have often observed many Titmice in beechen
 ‘ woods. By a heap of beech-mast now lying in
 ‘ my orchard I see that titmice feed on the ker-
 ‘ nels of the fruit of that tree, and that marsh
 ‘ titmice are employed all day in carrying them
 ‘ away.’

‘ I sent a woman up the hill with a peck of
 ‘ beech-mast which she tells me she has scattered
 ‘ all round the down amidst the bushes and brakes,
 ‘ where there were no beeches before. I also
 ‘ ordered Thomas to sow beech-mast in the hedges
 ‘ all round Baker’s Hill.†

‘ A Bittern was shot in Shrub wood. A dog
 ‘ hunted it on the foot and sprung it in the co-
 ‘ vert. On the same day Mr. Yalden shot one in
 ‘ a coppice in the parish of Emshot, and about
 ‘ the same time one was killed in the parish of

* The Fungi tribe from their circular shape shed their seed in a circle around them. This in time produces regular circles or segments. The freshness of the grass is probably produced by the moisture derived from the fungi. A man on the Brighton Downs, who was employed in digging for flints just below the surface of the turf, assured me that when he worked under a fairy ring he never could perceive any difference in the sub-soil.

† In recording this little instance of Mr. White’s fondness for Natural scenery, I should not omit to mention, that he was then so far advanced in life that he could not expect to see the result of his endeavours to improve the beauty of his neighbourhood.

‘ Greatham. These birds are very seldom seen in
‘ this district, and are probably driven from their
‘ watery haunts by the great floods, and obliged to
‘ betake themselves to the uplands. The wings
‘ expanded measured just four feet. The tail-
‘ feathers, shafts and all were just five inches long
‘ and ten in number. The neck feathers were
‘ very long and loose like those on the neck of a
‘ roost cock. These birds weighed undrawn and
‘ feathers and all, each 3 lbs. and 2 oz. The ser-
‘ rated claw on each middle toe is very curious.
‘ Though the colours on the bittern’s wings and
‘ back are no ways gaudy or radiant, yet are the
‘ dark and chestnut streaks so curiously blended
‘ and combined, as to give that fowl a surprizing
‘ beauty. Both the upper and lower mandible
‘ are serrated towards the point and the upper is
‘ emarginated. Two of these birds I dressed and
‘ found the flavour to be like that of a wild duck,
‘ or teal, but not so delicate. They were in good
‘ case and their intestines covered with fat. In
‘ the crop or gizzard I found nothing that could
‘ inform me on what they subsisted: both were
‘ quite empty. I found nothing like the flavour
‘ of a hare. The flesh of these birds was very
‘ brown. These bitterns were probably all of the
‘ same family.’

‘ The Red-breast sings throughout the whole
‘ year, except when in deep moult.’

‘ Swallows carry straws to mix with the dirt they collect for building their nests. The house-martins do not.’

‘ Swifts arrive in pairs.’

‘ The House-martin begins to build as early, as when it arrives early.’

‘ The Fern-owl is the last bird of passage but one; the Fly-catcher is the last and is punctual to the 20th of May. It begins building immediately on its arrival.’ . .

‘ Feb. 25. The Titmouse, which at this time of the year begins to make two quaint sharp notes, which some people compare to the whetting of a saw, is the marsh titmouse. It is the great titmouse which sings those three cheerful notes which the country people say sounds like ‘ sit ye down;’ they call the bird by that name.’

‘ The Hawk *proinith*, says the new glossary to Chaucer; that is picketh, or dresseth her feathers—from hence the word *preen*—a term in ornithology, when birds adjust, or *oil* their feathers.’ . .

‘ April 5. Searched the south-east end of the hanger for House-martins, but without any success, though many young men assisted. They examined the beechen shrubs, and holes in the steep hanger. Whilst the labourers were examining the shrubs and cavities, a house-martin came down the street and flew into a nest under

‘ Benham’s eaves. This appearance is rather
 ‘ early for that bird. *Quære*, whether it was dis-
 ‘ turbed by the men on the hill.’*

‘ July 2. About 8 in the evening, Swifts get to-
 ‘ gether in a large party, and course round the
 ‘ environs of the church, as if teaching their broods
 ‘ the art of flying. As yet they do not retire un-
 ‘ til three quarters after 8 o’the clock; and before
 ‘ they withdraw, the *bats* come forth: so that day
 ‘ and night animals, take each others places in a
 ‘ curious succession! All the swifts that play
 ‘ around the church do not seem to roost under
 ‘ its eaves. Some pairs, I know, reside under
 ‘ some of the cottages roofs. Swifts are sometimes
 ‘ so numerous that one might suspect they are
 ‘ joined by parties from other villages.’

‘ Black-birds and thrushes come in troops to
 ‘ plunder my garden. The white-throats are bold

* I doubt much whether Mr. White, with all his kindness of disposition, would have been pleased with any one for controverting his favourite theory of the annual hiding or submersion of swallows. From the beginning to the end of his eight volumes of observations, he never abandons the idea, and his friend Mr. Daines Barrington, confirmed him in it. One is pleased with his perseverance and activity in endeavouring to elucidate this curious subject, and I can picture to my fancy the amiable Naturalist, attended by the village Jabourers, ascending the *beecheen* hangers and pursuing their researches under his directions. They might wonder and smile at his curiosity on the occasion, but there can be no doubt of his having been respected and beloved by them.

‘ thieves, nor are the red-breasts at all honest
 ‘ with respect to currants. Birds are guided by
 ‘ colour, and do not touch any white fruits, till
 ‘ they have cleared all the red.’

‘ When I approach Bank-martins at their ca-
 ‘ verns, they seem anxious and utter a little wail-
 ‘ ing note.’

‘ I have known whole broods of Ducks killed by
 ‘ eating too freely of hairy caterpillars.’

‘ Red-breasts whistle agreeably on the tops of
 ‘ hop-poles, but are prognostic of autumn. They
 ‘ feed on elder-berries—enter rooms and spoil my
 ‘ furniture.’

‘ May 11. One of my neighbours, an intelli-
 ‘ gent and observing man informs me, that about
 ‘ ten minutes before 8 o’clock in the evening he
 ‘ discovered a great cluster of house Swallows,
 ‘ thirty at least he supposes, perching on a willow
 ‘ that hung over the verge of James Knight’s
 ‘ upper pond. His attention was first drawn by
 ‘ the twittering of these birds, which sat motion-
 ‘ less in a row on the bough, with their heads all
 ‘ one way, and by their weight pressing down the
 ‘ twig so that it nearly touched water. In this
 ‘ situation he watched them till he could see no
 ‘ longer. Repeated accounts of this sort, spring
 ‘ and fall, induce me greatly to suspect that *house*
 ‘ *swallows* have some strong attachment to water
 ‘ independent of the matter of food; and that, if

‘ they do not retire into that element, they conceal themselves in the banks of pools and rivers during the uncomfortable months of winter.’

‘ May 31. This evening Chafers begin to fly in great abundance. They suit their appearance to the coming out of the young foliage, which in kindly seasons would have been much earlier.’*

‘ The farmers say, that the chafers, which abound in some parts, fall off the hedges and trees on the sheep’s backs, where being entangled in the wool they die, and being blown by flies, fill the sheep with maggots.’

‘ June 25. The Sun at setting shines along the hanger just in these long days, and tinges the stems of the tall beeches of a golden colour in a most picturesque and amusing manner !!’

‘ Just at the summer solstice the sun at setting shines directly up my broad walk against the urn and tall fir.’

‘ The grass-hopper Lark *whispers*.’

‘ A pair of Partridges haunt Baker’s Hill and

* This has always appeared to me a curious fact in Natural History. In a very backward spring I have found Chafers just below the surface of the soil appearing perfect and brisk and ready to come forth, and yet they have not done so for a long time afterwards. In fact not till the leaves had appeared on the trees. It must have been an extraordinary instinct which kept these insects in the recesses of the earth till the trees were clothed with verdure. One or two fine hot days did not tempt them out, and as Mr. White remarks, they suited their appearance to the coming out of the young foliage.

‘dust themselves along the verge of the brick-walk.’

‘Quantity of rain from January 1, to August 1, is 36 inches 1 h.!!!’

‘A very intelligent clergyman assured me, that hearing, while he was a young student at the University of Oxford, of Toads being found alive in blocks of stone and solid bodies of trees, he one long vacation took a toad, and put it in a garden pot, and laying a tile over the mouth of the pot, buried it five feet deep in the ground in his father’s garden. In about thirteen months he dug up the imprisoned reptile and found it alive and well and considerably grown. He buried it again as at the first, and on a second visit at about the same period of time found it circumstanced as before. He then deposited the pot as formerly a third time, only laying the tile so as not quite to cover the whole of its mouth: but when he came to examine it again next year, the toad was gone. He each time trod the earth down very hard over the pot.’

‘I have seen no Fieldfares. If they come, as Ray says they do, ‘ventis vehementer spirantibus,’ they can have had no advantage of that kind, as the weather has been remarkable still.’

‘20th May. Nightingales have eggs. They build a very inartificial nest with dead leaves and dry stalks. Their eggs are of a dull olive colour.

‘ A boy took my nest with five eggs, but the cock
 ‘ continues to sing, so probably they will build
 ‘ again.’

‘ The sweet peal of bells at Farnham, heard up
 ‘ the vale of a still evening, is a pleasing circum-
 ‘ stance belonging to this situation, not only as
 ‘ occasioning agreeable associations in the mind,
 ‘ and remembrances of the days of my youth,
 ‘ when I once resided in the town, but also by
 ‘ bringing to one’s recollection many beautiful
 ‘ passages from the poets respecting this tunable
 ‘ and manly amusement, for which this island is
 ‘ so remarkable. Of these none are more distin-
 ‘ guished and masterly than the following :

————— ‘ let the village bells, as often wont,
 ‘ Come swelling on the breeze, and to the sun
 ‘ Half set, ring merrily their evening round.’

— — — — —
 ‘ It is enough for me to hear the sound
 ‘ Of the remote, exhilarating peal,
 ‘ Now dying all away, now faintly heard,
 ‘ And now with loud, and musical relapse
 ‘ In mellow changes pouring on the ear.’

THE VILLAGE CURATE.

‘ There is a glade cut through the covert of the
 ‘ Holt opposite my windows up towards the great
 ‘ lodge. To this opening a herd of deer often
 ‘ resorts, and contributes to enliven and diversify
 ‘ the prospect, in itself beautiful and engaging.’

‘ On the 6th of October I saw many Swallows
 ‘ hawking for flies round the Plestor, and a row

‘ of young ones, with square tails, sitting on a
 ‘ spar of the old ragged thatch of the empty house.
 ‘ This morning Dr. Chandler and I caused the
 ‘ roof to be examined, hoping to have found some
 ‘ of those birds in their winter retreat; but we
 ‘ did not meet with any success, though Benham
 ‘ (a labourer) searched every hole, and every breach
 ‘ in the decayed roof.’

‘ When Thomas (his old servant) got up to
 ‘ brew at 4 o’ the clock he heard some stone Cur-
 ‘ lews pass by over the house in their way to the
 ‘ uplands. In the evening they flie over the vil-
 ‘ lage downwards, towards the brook and mea-
 ‘ dows, where they seem to spend the night.’

‘ There is a bird of the black-bird kind, with
 ‘ white on the breast, that haunts my outlet, as if
 ‘ it had a nest there. Is this a Ring-ousel? If it is,
 ‘ it must be a great curiosity, because they have
 ‘ not been known to breed in these parts.’

‘ James Knight has observed two large Field-
 ‘ fares in the high wood lately, haunting the same
 ‘ part, as if they intended to breed there. They
 ‘ are not wild. A nest of this sort of bird would
 ‘ be a great curiosity!’

‘ Made Rhubarb tarts, and a rhubarb pudding,
 ‘ which was very good.’

‘ A Martin has built its nest against the glass
 ‘ of a window. It seems to stick firmly, and has
 ‘ no other support.’

' Mrs. Barker and her daughters, Mary and
 ' Elizabeth, and Mrs. Chandler and her infant
 ' daughter and nursemaid went this day (August
 ' 19), all in a cart to see the great Oak in the Hoit,
 ' which is deemed by Mr. Marsham of Stratton in
 ' Norfolk to be the biggest in this Island. Bro-
 ' ther Thomas and Dr. Chandler rode on horse-
 ' back. They all dined under the shade of this
 ' tree. At seven feet from the ground it measures
 ' in circumference 34 feet—has in old times lost
 ' several boughs, and is tending towards decay.
 ' Mr. Marsham computes that at 14 feet length
 ' this oak contains 1000 feet of timber.'

' I conclude that the Holiburne trufler finds
 ' encouragement in our woods and hangers, as he
 ' frequently passes along the village. He is a
 ' surly fellow and not communicative. He is at-
 ' tended by two little cur dogs, which he leads in
 ' a string.'

' Oct. 24th, a flock of 46 Ravens over the
 ' hanger.'

' Chif chafs are usually first heard about the
 ' 21st of March. These birds, no bigger than a
 ' man's thumb, fetch an echo out of the hanger at
 ' every note.'

' May 3. Set the old Bantam speckled hen with
 ' eleven eggs. My cookmaid desired there might
 ' be an odd egg for good luck,

————— ' numero Deus impare gaudet.'

‘ My brother’s Cow, when there is no extraordinary call for cream, produces three pounds of butter each week. The footman churns the butter over night, and puts it in water. In the morning one of my nieces beats it and makes it up and prints it.’ (*Tempora mutantur*).

‘ Aug. 5. Young Martins and Swallows cluster on the tower of the church and on trees for the first time. A pleasing circumstance mixed with some degree of regret for the decline of summer.’

‘ Received from Farnham, well packed in a box, a picture of a male Pheasant, painted by Mr. Elmer, and given me by Lord Stawell. I have fixed it in a gilt burnished frame and hung it in my great parlour, where it makes an elegant piece of furniture.’

‘ When the boys bring me Wasps’ nests, my bantam fowls fare deliciously, and when the combs are pulled to pieces, devour the young wasps in their maggot state with the highest glee and delight. * Any insect-eating bird would do the same, and therefore I have often wondered that the accurate Mr. Ray should call one species of buzzard *Buteo apivorus, sive vespivorus*, or the *Honey Buzzard*, because some combs of wasps happened to be found in one of their nests. The combs were conveyed thither doubtless for the sake of the maggots, or nymphs, and not for their honey, since none is to be found in the

‘ combs of wasps. Birds of prey occasionally feed
 ‘ on insects. Thus I have seen a tame kite pick-
 ‘ ing up the female ants, full of eggs, with much
 ‘ satisfaction.’

‘ The congregating flocks of Hirundines on the
 ‘ church and tower are very beautiful and amus-
 ‘ ing! When they fly off altogether from the roof
 ‘ on any alarm, they quite swarm in the air. But
 ‘ they soon settle in heaps, and preening their
 ‘ feathers and lifting up their wings to admit the
 ‘ sun, seem highly to enjoy the warm situation.
 ‘ Thus they spend the heat of the day, preparing
 ‘ for their emigration, and as it were consulting
 ‘ when and where they are to go, in order to avoid
 ‘ the coming winter.

—— ‘ In warmer climes,

‘ They twitter cheerful, till the vernal months

‘ Invite them welcome back.’

‘ Oct. 24. The dams continue to feed some poor
 ‘ little Martins in a nest at Burbey’s with great
 ‘ assiduity. Oct. 28. There are apparently three
 ‘ young martins in the nest nearly fledged. Nov.
 ‘ 1. The young martins are out, one was found
 ‘ dead this morning in the parsonage garden.
 ‘ Nov. 2. Snow covers the ground.’

‘ Saw lately a white and a yellow Wagtail about
 ‘ the Well head rivulet. No further north than
 ‘ Rutland, wagtails withdraw and are never seen
 ‘ in the winter.’

‘ March 17. Lord Stawell made me a visit on this day, and brought me a white Woodcock, its head, neck, belly and sides were milk-white, as were the under sides of the wings. On the back, and upper parts of the wings were a few spots of the natural colour. From the shortness of the bill I should suppose it to have been a male bird. It was plump and in good condition.’

‘ May 22. The Fly-catcher comes to my vines, where probably it was bred, or had a nest last year. It is the latest summer bird, and appears almost to a day!

‘ Amusive bird, say where your hid retreat!’

‘ Hung the nets over the cherry trees at the end of the house to keep off the Magpies, which come to our very windows between three and four in the morning. The Daws also from the church have invaded my neighbours cherries. Pies and daws are very impudent!’

‘ Mrs. Eveleigh says that the churring of the Fern owl is like the noise of a razor-grinder’s wheel.’

‘ Farmer Hoare’s son shot a hen Wood-chat or small butcher bird as it was washing at Well-head, attended by the cock. It is a rare bird in these parts. In its craw were insects.’

‘ The poet of Nature lets few moral incidents escape him. In his Summer he mentions the whetting of a scythe as a pleasing circumstance,

‘ not from the real sound, which is harsh, grating
 ‘ and unmusical; but from the train of summer
 ‘ ideas which it raises in the imagination. No
 ‘ one who loves his garden and lawn but rejoices
 ‘ to hear the sound of the mower on an early,
 ‘ dewy morning.

‘ Echo no more returns the *cheerful* sound
 ‘ Of sharpening scythe.’

‘ Milton also, as a pleasing summer morning
 ‘ occurrence, says,

‘ ——— ‘ the mower whets his scythe.’ L’ALLEGRO.

‘ July 24. The loud humming of bees, though
 ‘ none are to be seen, was very audible on the
 ‘ down, from the mossy-dells almost to Mr. White’s
 ‘ avenue.’

‘ Young Buzzards follow their dams with a
 ‘ piping, wailing noise.’

‘ Heard’s well is 250 feet to the bottom. Deep
 ‘ and tremendous as it is, John Gillman, an idiot,
 ‘ fell to the bottom of it twice in one morning,
 ‘ and was taken out alive, and survived the strange
 ‘ accident for many years.’

‘ Sept. 9. As most of the second brood of
 ‘ Hirundines are now out, the young on fine days
 ‘ congregate in considerable numbers on the church
 ‘ and tower: and it is remarkable that though the
 ‘ generality sit on the battlements and roof, yet
 ‘ many hang or cling for some time by their claws

‘ against the surface of the walls in a manner not
 ‘ practised at any other time of their remaining
 ‘ with us. Swallows congregate more on trees.’

‘ Thomas saw a Pole-cat run across the garden.’

‘ Saw a Squirrel in Baker’s Hill: it was very
 ‘ tame. This was probably what Thomas called a
 ‘ pole-cat.’

‘ Thomas started a Hare, which lay in her form
 ‘ under a cabbage in the midst of my garden. It
 ‘ had begun to eat my pinks.’

‘ My brother’s lambs frolick before the windows
 ‘ and run to a certain hillock, which is their goal,
 ‘ from whence they hurry back and put us in mind
 ‘ of the following passage,—

—— ‘ Now the sprightly race

‘ Invites them forth: then swift, the signal given,

‘ They start away, and sweep the mossy mound

‘ That runs around the hill.’

‘ Large Woodpecker *laughs* very loud.’

‘ I observe that the Nightingale comes as early
 ‘ in cold cutting springs as mild ones!’

‘ Jan. 6. Boys play at *taw* on the Plestor.’

‘ Brown Wood-owls come down from the hanger
 ‘ in the dusk of the evening, and sit hooting all
 ‘ night on my walnut trees. Their note is like a
 ‘ fine vox humana, and very tuneable. The owls
 ‘ probably watch for mice about the buildings.
 ‘ White owls haunt my barn, but do not seem to
 ‘ perch often on trees.’

‘ The cats brought in a dead House-martin from
‘ the stable. I was in hopes at first sight that it
‘ might have been in a torpid state, but it was
‘ decayed and dry.’

‘ Set *Gunnory* the Bantam hen on nine of her
‘ own eggs.’

‘ The Squirrel, the Field-mouse, and the bird
‘ called a Nuthatch, (*sitta europæa*) live much on
‘ nuts, which they open each in a very different
‘ manner. The first splits the shell in two with
‘ his long fore teeth, as a man does with his
‘ knife: the second drills a small round regular
‘ hole in the side of the nut: while the last picks
‘ an irregular hole with its bill. This bird fixes
‘ the nut in some chink or crevice, as it were in a
‘ vice, before he attempts to open it. The space
‘ behind my alcove is covered with the shells of
‘ nuts which the bird had bored after he had fixed
‘ them in the corners of the cornice of that
‘ edifice. While it is penetrating a nut, it makes
‘ a rapping noise with its bill which may be heard
‘ at some distance.’

‘ Nov. 17. Spent three hours of this day, viz.
‘ from one o’ the clock till four, in the midst of
‘ the Downs between Andover and Winton, where
‘ we should have suffered greatly from cold and
‘ hunger, had not the day proved very fine, and
‘ had not we been opposite to the house of Mr.
‘ Tredgold’s down farm, where we were hospitably

' entertained by the labourer's wife with cold spare-
 ' rib and good bread and cheese, and ale, while
 ' the driver went back to Andover to fetch a better
 ' horse. During our long conversation with the
 ' dame, we found that this lone farm-house and
 ' its buildings, though so sequestered from all
 ' neighbourhood, and so far removed from all
 ' streams, and water, are much annoyed with
 ' Norway rats. The carter also told us that
 ' about 12 years ago he had seen a flock of 18
 ' bustards at one time on that farm, and once
 ' since only two. This is the only habitation to
 ' be met with on these Downs between Whorwell
 ' and Winchester.'

' Dec. 27. A House-fly (*musca domestica*) by
 ' the warmth of my parlour has lengthened out
 ' his life and existence to this time. He usually
 ' basks on the jams of the chimney within the
 ' influence of the fire after dinner, and settles on
 ' the table, where he sips the wine and tastes the
 ' sugar and baked apples. If there comes a very
 ' severe day he withdraws and is not seen.*

* Let me here introduce an anecdote of a fly communicated to
 me by a friend to whom I am indebted for some other remarks.
 ' Many years since, I believe about forty, Slingsby, the celebrated
 ' opera dancer, with whom I was acquainted, resided in the
 ' large house in cross-deep, Twickenham, next to Sir Wathen
 ' Waller's, looking down the river. He was, like the author of
 ' the 'Gleanings,' fond of the study of Natural History, and
 ' particularly of insects, and he told me that he once tried to

‘ Mr. Ventris observed at Faringdon a little
 ‘ whirl-wind, which originated in the road before
 ‘ his house, taking up the dust and straws that
 ‘ came in its way. After mounting up through
 ‘ one of the elms before the yard, and carrying
 ‘ away two of the rooks’ nests in which were
 ‘ young squabs, it then went off, leaving the court
 ‘ yard strewed with dust and straws, and scraps
 ‘ of twigs, and the little naked rooks sprawling on
 ‘ the ground. A pair of rooks belonging to one
 ‘ of these nests built again and had a late brood.’

‘ Sheared my mongrel dog Rover, and made
 ‘ use of his white hair in plaster for ceilings. His

‘ tame some house-flies and preserve them in a state of activity
 ‘ through the winter. For this purpose, quite at the latter end
 ‘ of Autumn, and when they were becoming almost helpless, he
 ‘ selected four from off his breakfast table, put them upon a
 ‘ large handful of cotton, and placed it in one corner of the
 ‘ window nearest the fire-place. Not long afterwards the weather
 ‘ became so cold that all flies disappeared except these four,
 ‘ which constantly left their bed of cotton at his breakfast time,
 ‘ came and fed at the table, and then returned to their home.
 ‘ This continued for a short time, when three of them became
 ‘ lifeless in their shelter and only one came down. This, Slingsby
 ‘ said, he had trained to feed upon his thumb-nail, by placing on
 ‘ it some moist sugar mixed with a little butter. Although there
 ‘ had been at intervals several days of sharp frost, the fly never
 ‘ missed taking his daily meal in this way till after Christmas,
 ‘ when his kind preserver having invited a friend to dine and
 ‘ sleep at his house, the fly the next morning perched upon the
 ‘ thumb of the visitor, who being ignorant that it was a pet of his
 ‘ host’s, clapped his hand upon it, and thus put an end to
 ‘ Mr. Slingsby’s experiment.’

‘coat weighed 4 ounces. A Blackbird has made
 ‘a nest in my barn on some poles that lie on a
 ‘scaffold.’

‘A Cat gets down the pots of a neighbour’s
 ‘chimney after the swallows’ nests.’

‘The clatter and jingle of a violent hail storm
 ‘on glass, would put a man in mind of that beau-
 ‘tiful and expressive line in Virgil,

‘*Tam multa in tectis crepitans salit horrida grando.*’

‘July 27. We have had a few chilly mornings
 ‘and evenings which have sent off the Swifts. I
 ‘have remarked how early they are in their
 ‘retreats. Surely they must be influenced by the
 ‘failure of some particular insect which ceases to
 ‘fly thus early, being checked by the first cool
 ‘autumnal sensations, since their congeners will
 ‘not depart yet these 8 or 9 weeks.’

‘A Bat comes out many times in a day, even
 ‘in sunshine, to catch flies. It is probably a
 ‘female that has young, and is hungry from
 ‘giving suck. The Swallows strike at the bat.’

‘The prodigious crop of apples this year verified
 ‘in some measure the words of Virgil made use
 ‘of in the description of the Corycian garden;

‘*Quotque in flore novo pennis se fertilis arbor*

‘*Induerat, totidem autumnum natura tecebat.*’

‘Oct. 15. Vast quantities of Gossamer. The
 ‘fields are covered with it;—

— ‘ slow through the air

‘ The gossamer floats : or stretch’d from blade to blade

‘ The wavy net-work whitens all the fields.’

‘ The Mice have infested my garden much by
 ‘ nestling in my hot-beds, devouring my balsams,
 ‘ and burroughing under my cucumber-basins ;
 ‘ so that I may say with Martial—

‘ *Fines mus populatur, et colono*

‘ *Tanquam sus Calydonius timetur.*’

‘ Where old Beech trees are cleared away,
 ‘ the naked ground in a year or two becomes
 ‘ covered with Strawberry plants, the seeds of
 ‘ which must have lain in the ground for an age
 ‘ at least. One of the *Slidders* or trenches down
 ‘ the middle of the hanger, close covered over with
 ‘ lofty beeches near a century old, is still called
 ‘ *Strawberry Slidder*, though no Strawberries have
 ‘ grown there in the memory of man. That sort
 ‘ of fruit, no doubt, did once abound there, and
 ‘ will again when the obstruction is removed.’

‘ Dogs come into my garden at night and eat
 ‘ my gooseberries.’

‘ Wasps seize on butterflies, and shearing off
 ‘ their wings, carry their bodies home as food for
 ‘ their young. They prey much on flies.’

‘ Snake gorges a toad much larger than itself.
 ‘ When full it is very sluggish and helpless, and
 ‘ easily taken.’

‘ Barn-owls are out in the day, taking their prey
‘ in the sunshine about noon.’

‘ White Butterflies innumerable. Woe to the
‘ cabbages.’

‘ April 26. As a notion has prevailed that
‘ Hirundines on their first coming were lean and
‘ emaciated, I procured a house-martin to be
‘ shot as soon as it appeared, but the bird when
‘ it came to be opened, was fat and fleshy. Its
‘ stomach was full of the legs and wings of small
‘ coleoptera.’

‘ A day or two before any House-martins had
‘ been observed, Thomas Hoar distinctly heard
‘ pretty late one evening the twittering notes of
‘ those birds from under the eaves of my brew-
‘ house, between the ceiling and the thatch. Now
‘ the quere is, whether those birds had harboured
‘ there the winter through, and were just awaken-
‘ ing from their slumbers, or whether they had
‘ only just taken possession of that place unno-
‘ ticed, and were lately arrived from some distant
‘ district. If the former was the case, they went
‘ not far to seek for an hybernaculum, since
‘ they nestle every year along the eaves of that
‘ building.’

‘ Swifts always withdraw in wet and windy wea-
‘ ther.’

‘ My favourite old galloway, who is touched in
‘ his wind, was allowed to taste no water for

‘ 21 days, by which means his infirmity grew much less troublesome. He was turned to grass every night, and became fat and hearty, and moved with ease. After refraining a while he shewed little propensity for drink. A good lesson this to people, who by perpetually guzzling create a perpetual thirst. When permitted to drink he shewed no eagerness for water.’

‘ Titmice creep into the martin’s nests, and probably eat the pupæ of the hippoboscæ hirsutinis.’

‘ March 25. Picturesque, partial fogs, looking like seas, islands, rivers, harbours, hills, &c.!!’

‘ A pair of Creepers (*Certhia*) build at one end of the parsonage house at Greatham, behind some loose plaster. It is very amusing to see them run creeping up the walls with the agility of a mouse. They take great delight in climbing up steep surfaces, and support themselves in their progress with their tails, which are long and stiff and inclined downwards.’

‘ Sparrows take possession of the martin’s nests. When we shot the cock, the hen soon found another male, and when we killed the hen, the cock soon procured another mate; and so on for three or four times.’

‘ Round the eaves of the Priory farm-house are 40 Martins’ nests, which have sent forth their first brood in swarms. At four young to a nest

‘ only, the first brood will produce 160, and the
 ‘ second the same, which together make 320. Add
 ‘ to these the 40 pairs of old ones, which make
 ‘ in all 400, a vast flight for one house !! The first,
 ‘ when congregating on the tiles, covers one side
 ‘ of the roof.’

‘ July 30. Young Snipes were seen at the
 ‘ Bishop of Winchester’s table at Farnham Castle
 ‘ on this day. They had bred on all the moory
 ‘ heaths of this neighbourhood.’

‘ My pendent pantry, made of deal* and fine fly
 ‘ wire, and suspended in the great walnut tree,
 ‘ proves an incomparable preservative for meat
 ‘ against flesh flies. The flesh by hanging in a brisk
 ‘ current of air becomes dry on the surface, and
 ‘ keeps till it is tender without tainting.’

‘ January 20. Mr. Hool’s man, says, that he
 ‘ caught this day in a lane near Hackwood
 ‘ Park, many Rooks, which attempting to fly,
 ‘ fell from the trees with their wings frozen to-
 ‘ gether by the sleet that froze as it fell. There
 ‘ were, he affirms, many dozens so disabled. It
 ‘ is certain that Mr. Hool’s man did bring home
 ‘ many rooks and give them to the poor neigh-
 ‘ bours.’

‘ Sept. 3. One Swift was seen on this day at
 ‘ Lyndon, in the county of Rutland. In all our
 ‘ observations, Mr. Barker* and I never saw or

* His brother-in-law.

‘ heard of a Swift in September, though we have
‘ remarked them for more than forty years.’

‘ Fyfield, Oct. 23. My brother’s children and
‘ plantations are strangely grown in two years. The
‘ gold and silver fish lie sleeping all day in their
‘ glass bowl towards the surface of the water.
‘ People that have attended to them suppose this
‘ circumstance to be prognostic of rain.’

‘ Nov. 19. Several Martins were playing about
‘ over the chalk-bank at the east end of Whorwell
‘ village. Can any one suppose but that they came
‘ out of that bank that morning to enjoy the warm
‘ sunshine, and would retire into it again before
‘ night?’

‘ No Hogs have annoyed us this year in my out-
‘ let. They usually force in after the acorns, nuts,
‘ beach and maple mast, and occasion much
‘ trouble.’

‘ The country people look with a kind of super-
‘ stitious awe at the red lowering aspect of the
‘ sun through the fog—

‘ Cum caput obscurum nitidum ferrugineum textit.’

‘ July 7. Bees have thriven well this summer,
‘ being assisted by the honey dews, which have
‘ abounded this year. Some of the standard honey-
‘ suckles, which a month ago were so sweet and
‘ lovely, being covered with aphides, and viscous
‘ honey dews. These latter are probably occa-
‘ sioned by the effluvia of flowers being drawn up

‘ by a brisk evaporation in hot days, and then in
 ‘ the night falling down, with the dews.’*

‘ July 6, 1783. Some young Martins came out
 ‘ of the nest over the garden-door. This nest was
 ‘ built in 1777, and has been used ever since.’

‘ July 14. When the Owl comes out of an
 ‘ evening, the Swifts pursue her, but not with any
 ‘ vehemence.’

‘ Aug. 15. Took this morning by bird lime on
 ‘ the tips of the hazel-twigs, several hundred Wasps
 ‘ that were devouring my gooseberries. A little
 ‘ attention this way makes vast riddance and ha-
 ‘ vock among these plundering invaders.’

‘ Aug. 22. Caught about 100 Wasps in the
 ‘ fallen codlins, which were gnawn and scooped
 ‘ hollow.’

‘ Aug. 25. The boys broke up the arch of a
 ‘ bricked grave to get at a Wasp’s nest. Paid for
 ‘ one wasp’s nest full of young.’

‘ Oct. 3. The hanger is beautifully tinged. Leaves
 ‘ fall apace;

————— ‘ see, the fading many-coloured woods,

‘ Shade deepening over shade, the country round

‘ Imbrown —————’

THOMSON.

* Honey dew is the exuviae of insects. There are little green aphides which harbour in small colonies under the leaves and on the tender shoots of trees, from whence their dew is dropped on the leaves below. This is collected by Bees and Ants. The latter are very careful not to injure or disturb the

‘ Oct. 4. The Cat frolicks and plays with the
‘ fallen leaves.’

‘ March 21. My Goose sits, while the gander
‘ with vast assiduity keeps guard, and takes the
‘ fiercest sow by the ear, and leads her away
‘ crying.’

‘ July 27. The White Owl has young. It
‘ brings a mouse to its nest about every five mi-
‘ nutes, beginning at sun-set.’

‘ Blood worms appear in the water: they are
‘ gnats in one state.’

‘ March 20. The Peacock, (pavo,) exerts his
‘ gallantry when the hens appear,’—

——— ‘ whose gay train
‘ Adorns him coloured with the florid hue
‘ Of rain-bows, and starry eyes.’

MILTON.

‘ May 19. Black-cap sings sweetly, but rather
‘ inwardly; it is a songster of the first rate. Its
‘ notes are deep and sweet. Called in Norfolk the
‘ mock-nightingale.’

‘ Redwings whistle inwardly in this country—
‘ in their own they are good songsters.’

‘ The Green Wood-pecker seems to *laugh* at
‘ all the world.’

‘ Rooks will pursue and catch Cock-chaffers as
‘ they fly.’

insects, as I have frequently observed. It seems extraordinary
that so observant a naturalist as Mr. White should have been
ignorant of this circumstance.

‘The Peewit-gull or Black-cap (*larus ridibundus*) haunts inland pools, and sometimes breeds on them.’

‘The Titlark will wade up to its belly in wet meadows in pursuit of the pupæ of insects, and sometimes run along upon the floating grass and weeds.’*

‘In cold dry weather, all nature seems to stand still; birds do not sing, and the lambs do not frolic and play as usual.’

————— ‘acrior illos
‘Cura domat’—

VIRGIL.

‘Hen Chaffinches will congregate till late in February. Their separation from the males for so great a part of the year is a curious fact.’

‘Wrens whistle all the winter, except in severe frosts. They do this more than any other English bird in a wild state.’

‘The Yellow-hammer hatches later than most birds, and then feeds her young with *tibulæ*.’

‘The Green Plovers appear in small companies on uplands. They fly high and make a whistling.’

‘The Fly-catcher appears to be the most punctual of all the birds of passage, and begins build-

* The Titlark or Meadow-Pissit (*Alauda Pratensis*) is one of our earliest singing birds, if not the first: I like to see it spreading out its wings and taking short flights from one tree to another, singing as it descends on a branch.

‘ing as soon as it arrives, which is the 20th of
‘May.’

‘The Willow-wren has only two harsh, shrill
‘notes. It is an early bird of passage.’

‘Rooks and Crows destroy an immense number
‘of chaffers. Was it not for these birds the
‘chaffers would destroy every thing.’

‘The *Apis Longicornis* only works at boring
‘its nest in the ground in a morning while the
‘sun shines on the walk.’

‘Linnæus, says, that Hawks ‘*paciscuntur indu-*
‘*cias cum avibus, quamdiu cuculus cuculat,*’ but
‘during that period many little birds are taken
‘and destroyed by the birds of prey, as appears
‘by their feathers left under hedges.’

‘Nightingales are very jealous of their young,
‘and make a jarring harsh noise if you approach
‘them.’

‘A young cock Chaffinch before it moults re-
‘sembles much the hen.’

‘Spiders shoot their webs from clod to clod.’

‘Brother Harry’s strong beer, which was brewed
‘with the *Hordeum Nudum* (naked barley) is in-
‘comparably good.’

‘Sheep never touch the stalks of grasses, Rab-
‘bits do.’

‘In the dusk of the evening, when beetles be-
‘gin to buzz, Partridges immediately begin to call.
‘These two circumstances are exactly coincident.’

‘ When Horses, Cows, Sheep, Deer, &c. feed
 ‘ in wind and rain, they always keep their heads
 ‘ down the wind and their tails to the weather;
 ‘ but birds always perch and choose to fly with
 ‘ their heads to the weather, to prevent the wind
 ‘ from ruffling their feathers, and the cold and wet
 ‘ from penetrating to their skins.’

‘ The latest summer birds of passage generally
 ‘ retire the first. Birds are seldom joyous in dry
 ‘ springs. They are silent for the want of showers.’

‘ The year after a very dry summer, but few
 ‘ Shell-snails are to be seen. They are destroyed
 ‘ and eaten by Thrushes.’

‘ Tortoise is very fond of kidney beans.’

‘ Wagtails, which generally keep near the
 ‘ ground, will mount to a great height in order to
 ‘ mob a hawk.’ (They shew great command of
 ‘ wing on the occasion.)

‘ Wasps plunder weak hives, and sometimes
 ‘ kill the bees.’

——— ‘ *Asper crabro imparibus se emiscuit armis.*’

‘ Worms do not seem to inhabit beyond vege-
 ‘ table mould.’

‘ The Buzzard is a dastardly bird, and beaten
 ‘ not only by the raven, but even by the carrion
 ‘ crow.’

‘ Naked snails seem to be more hardy than
 ‘ those which have houses on their backs.’

‘The Nuthatch though so small a bird is able
‘to penetrate walnuts.’

‘Turkies are very fond of hazel-nuts, and
‘swallow them whole.’

‘Field-fares when pressed by hunger will feed
‘on sloes, the last food they resort to in autumn.’

‘Some labourers digging for stone, found in an
‘hole in the rock a red-breast’s nest containing
‘one young Cuckoo, half fledged. The wonder
‘was how the old cuckoo could discover a nest in
‘so secret and sequestered a place.’

‘Woolmer Forest produces young teals and
‘young large snipes; but no young jack snipes
‘are found.’

‘When the death’s head Moth (sphinx atropos)
‘is handled, it makes a little stridulous noise.’

‘Barn-owls will sometimes come out in the day,
‘taking their prey in the sunshine about noon.’

‘A Nightingale is sometimes heard to sing late
‘in July, but its notes are then short and inter-
‘rupted, and attended with a chur.’

‘Two young men killed a large male Otter
‘weighing 21 pounds, on the bank of our rivulet
‘below Priory long mead, on the Hartly wood
‘side.’ This is the first of the kind ever remem-
‘bered to have been found in this parish.’

‘When the hen Fly-catcher sits on her eggs,
‘the cock feeds her with great assiduity, even on
‘till past 9 in the evening.’

‘ As the great Walnut tree has no foliage this year, we have hung the meat safe on Miss White’s Sycamore, which she planted a nut. Here it will be much in the air, and be well sheltered from the sun by leaves.’

‘ June 4. Crickets sing much on the hearth this evening; they feel the influence of moist air and sing against rain.’

‘ A gentleman writes word from St. Mary’s, Scilly, that in the night between the 10th and 11th of this month, the wind being west, there fell such a flight of Woodcocks within the walls of the garrison, that he himself shot and conveyed home 26 couple, besides three couple which he wounded, but did not give himself the trouble to retrieve. On the following day, the 12th, the wind continuing west, he found but few.

‘ This person further observes, that easterly and northerly winds only have usually been remarked as propitious in bringing Woodcocks to those islands, viz. Scilly. So that he is totally at a loss to account for this western flight, unless they came from Ireland. As they took their departure in the night between the 11th and 12th, the wind still continuing west, he supposes they were gone to make a visit to the counties of Cornwall and Devonshire.

‘ From circumstances in the letter, it appears

‘ that the ground within the lines of the garrison
‘ abounds with furze. Some Woodcocks settled
‘ in the street of St. Mary’s, and ran into the
‘ houses and out-houses.’

‘ Wornils grow very large on the backs of
‘ cows. If they could be watched, so as to be
‘ taken when going into the pupa state, perhaps
‘ it might be discovered from what insect they are
‘ derived.’

‘ Starlings and Lapwings congregate early.
‘ The latter about the first week in October.’

‘ Birds in their flights are joined by others,
‘ and thus large flocks congregate. Their number
‘ is probably determined by the supply of food
‘ required.’

‘ Bustards when seen on the downs resemble
‘ Fallow Deer at a distance.’

‘ The Reed-sparrow forsakes the reeds and
‘ water side in the winter, and roves about amongst
‘ the fields and hedges.’

‘ Birds sing less in August than any other
‘ month.’

‘ Vast numbers of Spiders are sometimes seen on
‘ water in ponds, which dive and conceal themselves
‘ on the underside of plants lying on the water.
‘ Their motions on the water are extremely rapid.’

In concluding my extracts from Mr. White's Manuscripts, I have felt very desirous of giving some account of him, but I find little more to say of him than what is already before the public. As far as I can collect from his Diary (if I may call it so) which is now in my possession, he appears to have been of retired habits, with a mind constantly employed in his favourite study, and enjoying that cheerful and happy disposition which such pursuits invariably bring with them. His time was almost entirely passed in his favourite and secluded village. He notices the visits which were from time to time paid him, and these were chiefly by his own relations. He carefully notes down all his nephews and nieces as they respectively came into the world, amounting to about 63, when his diary closed. He chronicled his beer, and takes notice of the quantity of port wine which came to his share when he had a pipe of it with his neighbours. He appears to have made annual visits at Lambeth, Ringmeer, and Oxford, and during these absences his old servant, Thomas, kept his weather journal. Mr. White passed much of his time in his garden, and he makes frequent mention of his crops, his fine and early cucumbers, and the flavour of his Cardillac pears. He thought nothing too trifling to be recorded. The appearance of his neighbours' hops, the beginning and ending of their harvests, their bees, their pigs,

and poultry, are all noticed in succession, and appear to have added to the interest he took in rural life.

Insignificant as these little details may appear, they were not thought so by a man whose mind was stored with learning, possessing a cultivated and elegant taste for what is beautiful in nature, and who has left behind him one of the most delightful books in the English language—delightful not only for the agreeable information it contains, but also for its style and accuracy. *

The following account of Selborne will, I am sure, be perused with interest by many of my readers. It is extracted from an entertaining article on that village in the *New Monthly Magazine*. The writer appears to have visited it out of pure love for the memory of Mr. White, and in consequence of the pleasure he had derived from his writings. After describing the neighbouring country, which he mentions as not very prepossessing, he adds; “It is only after you pass the first ridge of hills that you have any promise of beauty. Selborne Hanger then begins gradually to raise its leafy head in front, while the bold promontory of Nore Hill meets the eye with its swelling uplands to the left, and the high Sussex and Surrey range of downs melting into the blue distance beyond, close the prospect with a noble and expansive outline.

“ But it is not until you reach the spot where the foot-path crosses the winding Atton Lane for the last time, about a quarter of a mile from the village, that the full beauty of the valley of Selborne itself suddenly breaks upon the view ; and a scene of more enchanting rural loveliness eye never beheld. A foot-bridge spans the deep-cleft ravine below, along which, at the depth of some twenty or thirty feet of precipitous rocky bank, a little torrent, though it was in the middle of summer, was brawling over the rugged track which forms both the channel of the stream and the only cart-way to the village. At my feet lay a foreground of corn fields, just ripening with the first golden tinge of autumn ; and at the other side of the valley rose abruptly, to the height of three hundred feet, the luxuriant beech wood of the Hanger, with the white tower of the village church thrown against its rich green, and the sheltered parsonage and picturesque cottages scattered along the foot of the hill, and sending up their circling wreaths of smoke among the foliage. Along the descending side of the vale, to the left, appeared the vicarage garden, separated by its snug enclosure from a paddock in the dell, on the declivities of which, a few sheep and cattle hung quietly browsing ; while the summit of the higher ridge was fringed by the young larches of the Lithe wood. To the right, farm-yards and cottage

gardens, with hop-lands and corn-fields again stretched away towards the Hange, and bounded the scene in that direction: and near the Church, and in the midst of the village itself, that fine old emblem of rural sport, the May-pole, which now so rarely meets the view of the traveller either by high-ways or by-ways, 'rose tapering to the sky.'

"In the appearance of the cottages 'of good stone or brick, glazed, and with chambers above-stairs,' I recognised the same pristine air of industry and comfort which White has ascribed to them. He might still assert the pride of his village, that 'mud buildings there are none;' nor could I anywhere detect any trace of that heart-sickening spectacle of squalid abject pauperism, which now, alas! too often haunts our fairest island scenes of cultivation and abundance. On the contrary, chimneys reeking with evidence of clean hearths in full activity, walls neatly covered with vines and creepers in full bloom, and trim little gardens prank'd with flowers, seemed here to tell only of cheerful toil and decent competence, nor did it enter into the charmed fancy to enquire how often crime and wretchedness might disturb such a haven of rest. The whole landscape, indeed, so far surpassed expectation, as to seem almost too beautiful for reality; and I could not but acknowledge and marvel how far short even

the naturalist's fond description of his favourite spot has fallen of its true features. The illusion of the moment may have been heightened by the the season and the weather; for the sunny brilliancy of the deep blue sky was just dappled and tempered by the few summer clouds which threw their varying lights and shadows over the wooded uplands and cultivated dale. The traveller therefore who would 'view fair Selborne aright,' should humour the caprices of our fickle climate, and visit it only when its fields and foliage are clothed in their summer verdure or autumnal russet, and lighted up in genial sunshine; for its beauty is of the joyous seasons, fitted neither to be obscured by the sullen influence of a rainy day, nor torn by the rude hand of winter. Descending into 'the single straggling street' of which the village consists, my steps were instinctively directed towards the Hanger, and I soon found myself climbing the winding path which was cut through the beech-wood in the time of Gilbert White. A sweeter spot than the interior of this thick covert, with its craggy slopes and 'graceful pendulous foliage,' it is impossible to conceive. The effect on entering its cool shades and deep twilight gloom, after the full blaze of the glowing sunshine, was most refreshing, and stole over the senses with a peculiar delight. The halcyon stillness which reigned around, was here

broken only by the hum of insects, and the tinkling of the bells from a herd of cattle, which the woodland being part of the village common ground, were turned loose in to graze. This custom of belling the cattle, I think, must be almost peculiar to this district, as I never remember to have met with it in England, at least except at Selborne and at Waltham Chace. It is here necessary to trace the straying cows at milking time through the common wood; and the charm of the scene was much increased by the rural music, borne through the glades, as well as by occasional glimpses of the herd of that Norman breed, or Guernsey cross, now become so common in Hampshire, and which abounds in picturesque forms and colouring. Amidst this scene of exquisite repose, I drank up the fulness of its influence in one of those rare moments of unutterable thrilling enjoyment, which recall the most vivid day-dreams of youth, and recur so seldom—so few and far between—in the cheerless realities of our later years.

“ Here, seated in an arbour, which has been formed about half way up the Hanger, the traveller may catch the enchanting picture of the valley, with the advantage of a new point of view. An opening in the wood shows the whole village scattered at its base with ‘that engaging prospect’ in the plain country beyond of ‘hill, dale,

‘ woodlands, heath, and water,’ which White has so warmly commended, not beyond its merits. Through the glade below there is a surprise prepared for the visitor, for the eye suddenly falls on a little villa under the hill, which is planted out from the street itself, and not discovered in the opposite approach to the valley. This house, with its rough-cast walls, and deep wainscot-coloured wood-work, its over-hanging thatched roof and gables, and its rich carpet of lawn, forms a very pleasing object, though the elaborate cottage ornée style of the thing—which I afterwards found was built by John White, the nephew of the naturalist, and erst a Fleet Street bibliopole—has a pretension about it not quite in keeping perhaps with the perfect rurality of Selborne, and smacking too much of the spirit of cockneyism to harmonise thoroughly with the genius of the place.

“ In other respects the village of Selborne has ‘ taken no note of time,’ and remains so perfectly unchanged, that at the distance of forty years almost every spot in it may be recognized from the descriptions of Gilbert White. His own house, the successive abode of several generations of his family, is of course the first object of the traveller’s enquiry. It stands not very far from the church, on the opposite side of the road, and is an irregular unpretending edifice, which has evidently been enlarged at different periods with more care of interior comfort than of architectural symmetry.

It is still inhabited, I was told, by a maiden relative of the naturalist, the last tenant of his family at Selborne, save those who sleep under its churchyard turf. The house, aided by the old-fashioned neatness of its lawns and gravel walks, preserves the staid aspect of by-gone days, and has apparently undergone no alteration since the death of the naturalist. It was impossible to gaze on the spot without recalling to memory those hundred little passages in his book which, with so pleasing and beautiful an association, have identified the intellectual pursuits of the man, and the tasteful purity of his mind with every beauty of his beloved retreat. The Swallows, his favourite object of notice among the 'winged people,' were at the moment careering in circles round the house, and twittering among its eaves; and as with too intrusive curiosity, I could not help peering over the fence into the little garden, I thought of its quondam tenant, his old familiar friend and domiciled guest the tortoise, whose habits he has so quaintly described,—of his oft-mentioned fruit-wall and vine—of his thick hedge rows, where a whole host of the feathery tribe were repaid for the study which they afforded him with safe and hospitable entertainment—until amidst his favourite haunts, the form of the venerable naturalist himself almost rose up in fancy before me.

'In the centre of the village, and near the 'church,' still remains in its old condition the

‘square piece of ground, surrounded by houses, and vulgarly called the Plestor,’ named originally as White elsewhere tells ‘La Pleystow, locus ludorum, or play-place.’ The site of the ancient oak which stood in the centre of this spot until it was blown down ‘in the amazing tempest of 1703,’ is occupied by a huge spreading sycamore, now become almost as dignified as its predecessor; for it must have seen its centenary festival if the report of an old inhabitant be true, that it has undergone neither encrease of growth, nor other change, within forty years of his memory. Like the oak which it succeeded, it has a seat round its base, and a little thatched umbrella-shaped canopy round the trunk above; provided, through the care of the same nephew of the naturalist who built the villa, both for shelter to the aged gossips, and protection to the tree from being injured by climbing urchins.* In the church-yard, however, is a far older denizen of the village than this modern antique, the sycamore: an ancient yew, which I do not remember that White has noticed,* and measuring—for I had the curiosity to

* The tasteful traveller’s memory is correct as to the omission of the mention of this tree in the Natural History, but it occurs in Letter V. of the Antiquities of Selborne. ‘In the church-yard of this village is a *yew-tree*, whose aspect bespeaks it to be of a great age: it seems to have seen several centuries, and is probably coeval with the church, and therefore may be deemed an antiquity: the body is squat, short, and thick, and measures

measure it, full sixteen feet in girth. The church-yard is full of those frail memorials, which

‘teach the rustic moralist to die.’

and might furnish some curious scraps for the amateurs of lapidary poesy. Among these quaint inscriptions is that, once the common legend of a thousand village tombstones, but now almost discarded, and grown too simple and hackneyed for the fastidious operatives of these lettered days—

‘Afflictions sore long time he bore,

‘Physicians were in vain,

‘Till after all, God did him call,

‘And eas’d him of his pain.’

So saith the record of Henry Bone; and beside him lieth in peace his wife Elizabeth, ‘bone of his bone.’ The grave of Gilbert White lies in undistinguished fellowship with those of the rude fathers of the hamlet, among whom he spent his benevolent and simple life. The tablet to his memory, which described the position of his remains as ‘the fifth grave from the wall,’ has been removed, by some pious care for its preservation, from the exterior of the church into the chancel; and with this removal the site of the grave appears to have been forgotten; for, even the Parish-Clerk, who should be by his office the chronicler

‘twenty-three feet in the girth, supporting an head of suitable extent to its bulk. This is a male tree, which in the spring sheds clouds of dust, and fills the atmosphere around with its farina.’

and composed of worthies in Spanish hats and doublets, and steel-clad warriors in the panoply of the fifteenth or sixteenth century. The tablets to the memory of the naturalist and his brother, which have been removed from the exterior of the church, now stand on the south wall of the little chancel. The inscription on the former merely records his name and descent. He was the eldest son, as the short biographical notice prefixed to his works has told us, of John White, Esq. of Selborne, and Anne, the daughter of Thomas Holt, Rector of Streatham, in Surrey. But both his grandfathers were like himself, in the church; for what his biographer has omitted is here stated, that his paternal grandfather was vicar of Selborne. His brother and nephew were successively eminent booksellers in the metropolis. Both brothers have for the sum of their epitaph but a hackneyed quotation from Cicero—Gilbert,—‘Nec bono quicquam mali evenire potest, nec vivo, nec mortuo.’—John,—‘Ex hac Vita decedimus tanquam ex hospitio non tanquam ex domo commorandi enim natura diversorium nobis non habitandi dedit.’

“In the absence of any great landed proprietors in the humble parish of Selborne, the Whites have evidently reigned for several generations the magnates of their native hamlet; and a memorial of their station of honour among the villagers

remains to this day in a door of the chancel, which was pointed out as the separate entrance into the church still reserved for the last resident of their name. It was displeasing to hear, that since the death of the naturalist their fortunes have not risen. He bequeathed to them a comfortable property; but some agricultural speculations of his nephew, I was told, had ended ruinously, and involved in distresses an individual who seems to have been a man of spirit and enterprise, and to have had a laudable pride, with a disposition not uncongenial to that of the naturalist in ministering to the embellishments of his birth-place. Several little memorials of his regard for the recreations of the villagers yet remain to attest that his kindly feelings deserved a better fate. Of Gilbert White himself I could collect few personal reminiscences; and all that an old dame—who had nursed several of the family, and from whom these particulars of them were gleaned—could tell me of a philosophical old bachelor was, that ‘he was a still quiet body,’ and that ‘there wasn’t a bit of harm in him I’ll assure ye, sir—there wasn’t indeed.’ Alas! for all the dignity of science, and all the honour that befallerh a prophet in his own country!”

Mr. White was fifty years Fellow of Oriel College, Oxford, and died at Selborne on the 26th of January, 1793, in the 73rd year of his age, having

passed his life, as has been well said of him, with scarcely any other vicissitudes than those of the seasons.

I find the following pretty lines amongst his manuscripts. They are evidently not his own composition, but are somewhat descriptive of his favourite village, and will, I am sure, be read with interest. They are addressed to Mrs. J. White by her father, and are signed G. T.

From henceforth, my dear M.— I'll no longer complain
Of your ruts, and your rocks, of your roads, and your rain ;
Here's a proverb that suits with your cottage most pat,
When a thing's of most worth, 'tis most hard to get at.

And besides, where to find such another retreat,
As the shades of old Selborne, so lonely and sweet,
Where the lover so freely may languish and sigh,
Where the student may read, and the Christian may die ?

But as now neither lover nor student am I,
(I'm a Christian I hope, but I wish not to die,)
So nor books, nor a mistress, nor zeal have inspired,
My Muse to commend what she ne'er has admired.

Yet as mind gives a comfort to deserts and dens,
Makes a turnpike of bogs, and a garden of glens :
So affection, kind Chymist, I feel, can convert
To the sweetest of sweets what I thought to be dirt.

Be then welcome, dear Selborne, as welcome can be,
As the primrose of May, or the hawthorn to me ;
For 'tis there (may they ever be, blest from above !)
Dwell a daughter and son, and the children I love.

As soon as the good old lady comes in sight who has waited on it for more than thirty years, it hobbles towards its benefactress with awkward alacrity, but remains inattentive to strangers. Thus the most abject reptile and torpid of beings distinguishes the hand that feeds it, and is touched with the feelings of gratitude.—Nat. Hist. of Selborne.

EVERY admirer (and there are not a few) of Mr. White's Natural History of Selborne, must recollect the frequent mention he makes of his Tortoise. He very often took this animal to a neighbouring huckster's shop to be weighed; he sometimes immersed it in water, and tried various experiments upon it. On one occasion the Tortoise made its escape, and was missing for some time, but was afterwards found in an adjoining field, and brought back to the garden, where for many winters it had buried itself, and either enjoyed the sun under a south wall, or sheltered itself from the heat under the shade of a cabbage leaf. Mr. White has made every thing connected with his Tortoise interesting, and I am sure my readers will peruse with pleasure a supposititious letter of this celebrated animal to Miss Mulso, complaining of the treatment it had received from the curious naturalist. I found a copy of this letter among Mr. White's manuscripts in his own hand-

writing, and as it has not been published I now introduce it.

This Tortoise became the property of Mr. White at the death of an old lady at Lewes in Sussex. Mr. White called it 'Timothy,' and I find frequent mention made of it throughout his voluminous unpublished remarks now in my possession. Some of them are as follow:—

' March 17. Brought away Mrs. Snooke's old
' Tortoise, Timothy, which she valued very much,
' and had treated kindly for near 40 years. When
' dug out of its hybernaculum, it resented the in-
' sult by hissing.'

' May 14. Timothy travelled about the garden.'

' May 2. Timothy eats.'

' April 19. Timothy, who had withdrawn him-
' self for several days, appears.'

' March 15. Timothy comes forth, and weighs
' 6ll. 5½ oz.'

' May 9. Timothy eats dandelion leaves and
' stalks. He swallows his food almost whole.'

' Sept. 19. Timothy forsakes the fruit wall, and
' retires to the laurel hedge, where he will lay him-
' self up hereafter.'

' April 14. Timothy has become very alert, and
' marches about the walks.'

' Sept. 18. Timothy eats voraciously.'

' Dec. 8. Timothy has laid himself under the
' hedge against Benham's yard, in a very comfort-

‘able snug manner. A thick tuft of grass shelters
 ‘his back, and he will have the warmth of the
 ‘winter sun.’

‘Sept. 29. Timothy eats grass, token that the
 ‘weather is warm.’

‘June 4. Timothy took his usual ramble, and
 ‘could not be confined within the limits of the
 ‘garden. His pursuits, which seem to be of the
 ‘amorous kind, transport him beyond the bounds
 ‘of his usual gravity at this season. He was mis-
 ‘sing for some days, but found at last near the
 ‘upper malt-house.’

‘Sept. 17. When we call loudly through the
 ‘speaking-trumpet to Timothy, he does not seem
 ‘to regard the noise.’

‘June 20. We put Timothy into a tub of water
 ‘and found that he sunk gradually, and walked on
 ‘the bottom of the tub. He seemed quite out of
 ‘his element, and was much dismayed. This
 ‘species seems not at all amphibious. Timothy
 ‘seems to be the ‘*Testudo Græca*’ of Linnæus.
 ‘Dr. Chandler, who saw the operation, says, there
 ‘is a species of tortoise in the Levant that at
 ‘times frequents ponds and lakes; and my bro-
 ‘ther, John White, affirms the same of a sort in
 ‘Andalusia.’ (This seemed to have been added
 by Mr. White as an apology for the immersion of
 poor Timothy.)

‘ April 19. Timothy enlarges his breathing hole,
‘ and lifts up the earth.’

‘ April 21. Timothy heaves up the earth and
‘ puts out his head.’

‘ April 22. Timothy comes forth, and walks
‘ about.’

‘ May 2. Timothy marches about, and eats part
‘ of a piece of a cucumber paring.’

‘ Nov. 27. Timothy sleeps in the fruit-border
‘ under the wall, covered with a hen-coop, in which
‘ is a good armful of straw. Here he will lie warm,
‘ secure, and dry. His back is partly covered with
‘ mould.’

Having made these selections from Mr. White’s paper respecting the Tortoise, it is time that this celebrated animal should give the promised account of himself.

TIMOTHY the TORTOISE to MISS HECKY MULSO.

From the border under the fruit-wall, Aug. 31, 1784.

Most Respectable Lady,

Your letter gave me great satisfaction, being the first that ever I was honoured with. It is my wish to answer you in your own way, but I could never make a verse in my life, so you must be content with plain prose.

Having seen but little of this great world, conversed but little, and read less, I feel myself much at a loss how to entertain so intelligent a correspondent. Unless you will let me write about myself, my answer will be very short. Know, then, that I am an American, and was born in the year 1734, in the province of Virginia, in the midst of a Savanna that lay between a large tobacco-plantation and a creek of the sea. Here I spent my youthful days among my relations with much satisfaction; and saw around me many venerable kinsmen who had attained to great ages, without any interruption from distempers. Longevity is so general among our species that a funeral is quite a rare occurrence. I can just remember the death of my great-great-grandfather, who departed this life in the 160th year of his age. Happy should I have been in the enjoyment of my native climate, and the society of my friends, had not a sea-boy, who was wandering about to see what he could pick up, surprised me, as I was sunning myself under a bank; and whipping me into his wallet, carried me aboard his ship. The circumstances of our voyage were not worthy a recital: I only remember that the rippling of the water against the sides of our vessel as we sailed along was a very lulling and composing sound, which served to sooth my slumbers as I lay in the hold. We had a short voyage and came to anchor

on the coast of England, in the harbour of Chichester. In that city my kidnapper sold me for half a crown to a country gentleman who came up to attend an election. I was immediately packed in a hand basket, and carried slung by the servant's side to their place of abode. As they rode very hard for 40 miles, and as I had never been on horseback before, I found myself somewhat giddy with my airy jaunt. My purchaser who was a great humourist, after shewing me to some of his neighbours, and giving me the name of Timothy, took little further notice of me: so I fell under the care of his lady, a benevolent woman, whose humane attention extended to the meanest of her retainers. With this gentlewoman I remained almost 40 years, living in a little walled-in-court in the front of her house; and enjoying much quiet, and as much satisfaction as I could expect without society, which I often languished after. At last the good old lady died in a very advanced age, such as a tortoise would call a great age; and I then became the property of her nephew. This man, my present master, dug me out of my winter-retreat, and packing me in a deal-box, jumbled me eighty miles in post-chaises to my present place of abode. I was sore shaken by this expedition, which was the worst journey I ever experienced. In my present situation I enjoy many advantages such as the range of an exten-

sive garden affording a variety of sun and shade, and abounding in lettuces, poppies, kidney-beans, and many other salubrious and delectable herbs and plants; and especially with a great choice of delicate gooseberries! But still at times I miss my good old mistress, whose grave and regular deportment suited best with my disposition. For you must know, that my master is what men call a *naturalist*; and much visited by people of that turn, who often put him on whimsical experiments such as feeling my pulse, putting me in a tub of water to try if I can swim, &c.; and twice in the year I am carried to the grocer's to be weighed, that it may be seen how much I am wasted during the months of my abstinence, and how much I gain by feasting in the summer. Upon these occasions I am placed in the scale upon my back where I sprawl about to the great diversion of the shopkeeper's children. These matters displease me; but there is another that much hurts my pride; I mean the *contempt shewn* for my *understanding*, which these *Lords of the creation* are very apt to discover, thinking that nobody knows any thing but themselves. I heard my master say that he expected that I should, some day tumble down the ha, ha, whereas I would have him to know that I can discern a precipice from plain ground as well as himself. Sometimes my

master repeats, with much seeming triumph, the following lines, which occasion a loud laugh :

‘ Timotheus placed on high
 ‘ Amidst the tuneful quire
 ‘ With flying fingers touch’d the lyre.’

For my part I see no wit in the application, nor know whence the verses are quoted: perhaps from some prophet of his own, who, if he penned them for the sake of ridiculing Tortoises, bestowed his pains, I think, to poor purposes. These are some of my grievances; but they sit very light on me, in comparison of what remains behind. Know then, tender-hearted lady, that my greatest misfortune, and what I have never divulged to any one before is—the want of society with my own kind. This reflection is always uppermost in my mind; but comes upon me with irresistible force every spring. It was in the month of May last that I was resolved to elope from my place of confinement; for my fancy had represented to me that, probably many agreeable Tortoises of both sexes might inhabit the heights of *Baker’s Hill*, or the extensive plains of the neighbouring *meadow*, both of which I could discern from the terrass. One sunny morning I watched my opportunity, found the wicket open, eluded the vigilance of the gardener, and escaped into the saint-foin, which began to be in bloom, and thence to the beans.

I was missing eight days, wandering in this wilderness of sweets, and exploring the meadow at times. But my pains were all to no purpose; I could find no society, such as I sought for. I began to grow hungry, and to wish myself at home: I therefore came forth in sight, and surrendered myself up to Thomas, who had been inconsolable in my absence. Thus, Madam, have I given you a faithful account of my satisfactions and sorrows, the latter of which are mostly uppermost. You are a lady, I understand, of much sensibility. Let me therefore make my case your own in the following manner; and then you will judge of my feelings. Suppose you were to be kidnapped away *to-morrow* in the bloom of your life, to a land of Tortoises; and were never to see again a human face for fifty years!!! Think on this, dear lady, and pity

Your sorrowful reptile,
 Timothy.

While on the subject of Tortoises, I may mention that Captain Gooch, one of the elder brethren of the Trinity House, informed me that when he was at Calcutta, he was told that a Tortoise which had belonged to and been a great favourite of Lord Clive, when he was Governor General of India, was still alive. He went to see it, and as no one seemed to take any interest in it, he pro-

cured it with little difficulty, and brought it to England. Before he left Calcutta, he made every enquiry in his power as to the probable age of this Tortoise, and ascertained from a variety of corroborative circumstances, that it could not be less than two hundred years old. On its arrival in England, it was put into the coach-house at Captain Gooch's house on Clapham Common, where it did well for a short time, but one morning nothing of it was found but its shell, the poor Tortoise having been devoured by rats.

With *White* my spirit finds beloved employ :
 A sage who cared not how the world would prize
 His sylvan strolls, so nought might him annoy,
 Roaming through Selborne's woods, in loneliness and joy.

ANON.

IN looking over Mr. White's Manuscripts, I find the following pleasing notices of the seasons, and can only regret that they conclude so abruptly. They will, I think, be read with interest.

January.

' To this month our Saxon ancestors gave the
 ' significant name of Wolf-month, because the se-
 ' verity of this season usually brought down the
 ' wolves from the woods and mountains among the
 ' villages and enclosures, where they committed
 ' frequent ravages. Hence we may infer that the
 ' tenour of our weather was the same 12 centuries
 ' ago; for now if we have any heavy frosts, they
 ' usually befall in January. If this month is not
 ' rigorous, it is either obscured with deep fogs or
 ' drowned with rains; so that it may fairly be said
 ' to be the most uncomfortable in the whole year.

' Yet there are pleasing circumstances which
 ' sometimes occur; such as the wild song of the
 ' missel thrush occasionally ushering in the year.

‘ This is our most early woodland songster, which
‘ sitting in the top of some tall tree in showery
‘ weather, exerts his throat in loud interrupted
‘ strains, and it is called by our country people the
‘ Storm Cock. In this month also, the wren sings
‘ very melodiously, and availing himself of the food
‘ and shelter that he derives from stables and out-
‘ houses, appears wonderfully alert and vigorous.

‘ As to insects, they by no means lie all be-
‘ numbed through the winter; for even in this
‘ month, house crickets, spiders, wood-lice, and the
‘ nimble shining creatures that frequent sugar cup-
‘ boards, are stirring and abroad; gnats (*empedes*
‘ *et tipulæ*) are seen frisking whenever a mild day
‘ encourages them; nor are earth-worms afraid to
‘ extend themselves on the turf in warm and foggy
‘ nights. This gloomy month is not altogether
‘ without flowers; though vegetation seems to be
‘ asleep, for now the *Helleborus foetidus*, and various
‘ mosses blossom in our woods; and fructification
‘ goes on in the instance of ivy berries, which con-
‘ tinue to swell whenever the weather will give
‘ them the least respite.

February.

‘ This month may well be called the dawn of
‘ Spring, because within its course vegetation
‘ visibly begins to revive. Under this idea the
‘ Saxons named it Sprout Cale, from observing that

' their cale or cabbage (such as it was) began to
 ' make shoots. Not that this month is exempt
 ' from severe weather; for the frosts of January
 ' often extend into it; but yet such is the influence
 ' of the approaching sun, that they seldom main-
 ' tain their rigour for any time. A February is
 ' hardly known without a fine, soft, still season,
 ' attended by a high barometer, and a heavy, thick,
 ' dark sky, lasting often for several weeks without
 ' either sun or rain, during which the lover of a
 ' garden has an opportunity of adjusting his beds
 ' and borders, to examine each budding root, and
 ' to transplant such flowers as want removing. In
 ' this infancy of the year incidents are rare; and
 ' therefore the commonest occurrences must not
 ' be passed over. Now the marsh titmouse exerts
 ' his two harsh quaint notes, which some compare
 ' to the whetting of a saw; and the great black
 ' headed titmouse distinguishes himself by three
 ' cheerful notes. The hedge-sparrow, yellow ham-
 ' mer, and chaffinch, also essay to sing, and ac-
 ' companied sometimes by the wood, and sky, lark
 ' and the song thrush. Ravens pair and build, a
 ' hardy race, that live as it were by accident, being
 ' supported by the casual deaths of maimed or
 ' distempered cattle. Crocuses blow and call forth
 ' the bees which will discover them though partly
 ' covered with snow. Now the helleborus vindis,
 ' emerges, and expands its blossoms as soon as it

‘ gets clear of the ground; the male yew tree
‘ sheds its farina or impregnating dust, and hazels
‘ open their scarlet flowers and catkins. At times
‘ this month is very wet and floody, hence the
‘ country man calls it February fill dike. Proverbs
‘ or adages respecting weather, though ever so
‘ homely, are worthy the attention of the natu-
‘ ralist, because founded on good sense and ob-
‘ servation.

March.

‘ Nothing can be more changeable than this
‘ month, some say its characteristic is fickleness, it
‘ storms, it smiles, it snows, it hails, it shines, it
‘ rains, all in a day. Yet if it has any prevailing
‘ and predominate feature that may uniformly dis-
‘ tinguish this various period, it is that of the harsh
‘ north-east winds, which always prevail sooner or
‘ later in some part or other.

‘ The Saxons called this the lengthening month,
‘ because about the vernal equinox, for reasons of
‘ which they were not aware the days encrease in
‘ a very rapid manner. This month is distinguished
‘ for producing the first summer bird of passage,
‘ the smallest uncrested wren, which though so
‘ minute, exerts his two sharp notes with such
‘ earnestness, as to make the woods echo; and is
‘ usually heard about the 20th day.

‘ Around pools and mill ponds some few swal-
‘ lows are usually seen before the month closes.

' The various tribes of flies awake and come forth ;
 ' the yellow butterfly in particular amuses the natu-
 ' ralist ; while warmed by the prevailing sun, the
 ' reptiles forsake their winter retreats. The same
 ' encreasing warmth that calls our summer tribes
 ' into life, warns the winter birds to retire. The
 ' woodcocks which usually visit us in a spring
 ' flight, now pair and withdraw. The field-fares
 ' cluster on trees, and essay to sing before they
 ' take their departure ; while our home-bred flock-
 ' ing birds, the larks, the chaffinches, the yellow
 ' hammer, and the linnets, begin to separate and
 ' dissolve their winter associations. Towards the
 ' end of this month, the orchards and meadows
 ' glow with the golden blossoms of the *Ficaria*
 ' *verna*, the pile wort or less celandine ; the whole
 ' face of the ground seems to be covered with this
 ' plant, yet in a few weeks it is gone, leaves and
 ' all, to make way for succeeding tribes ; so that no
 ' vestiges remain. In England, a dry March is
 ' justly esteemed kindly for wheat, and a peck of
 ' March dust (according to the proverb) is in-
 ' estimable.

' As the month advances, the sun mounts very
 ' high, and has much influence. Yet the piercing
 ' winds still prevail, so that it is often summer on
 ' one side of the hedge, and winter on the other.
 ' Of these contrarieties, the invalid complains, and
 ' the country man repines that the springing of his

‘ grass and corn is retarded. Yet from these extremes, reconciled and moderated by the hand of Providence, much good results. Thus sings the poet of nature whose philosophic reflexions and moral remarks are only to be equalled by his own matchless descriptions.’

‘ Be patient swains, these cruel seeming winds
 ‘ Blow not in vain ; for hence they keep repressed
 ‘ Those deepening clouds on clouds surcharged with rain,
 ‘ That o’er the vast Atlantic hither borne
 ‘ In endless rain, would quench the summer blaze,
 ‘ And cheerless drown the crude, unripen’d year.’

April.

‘ The engaging month of April is distinguished by the arrival of most of the summer birds. The swallow, the bank-martin, the house-martin, the cuckoo, the nightingale, the black cap, the white throat, the second and third uncrested wren, the redstart, the grasshopper-lark, and the swift, steal into sight and crowd ———’

' And often by the murm'ring rill
' Hear the thrush, while all is still.'

DYER.

I now and then visit a copse of young trees and underwood, sometimes of an evening, and never at this time of the year (the end of September) without being struck with the variety of pleasing sounds which I hear as soon as I enter. It is on the slope of a rising piece of ground—a path or two has been cut through it, and a little purling rill trickles gently between two mossy banks. With whatever silence I may enter the copse, a note of alarm is immediately given, and this is generally by the black-bird, except indeed a wood-pigeon happens to have settled in a tree close to me, in which case the loud flapping of her wings as she takes flight is sufficiently understood by all the inmates of the wood. The rabbits scud away from the path—the pheasants quit it at the same time to seek shelter in the underwood, while the jay screams in notes which are any thing but melodious, and which are answered by the whole family as they fly from one tree to another. The magpie, that most cautious and cunning of birds, may be seen quitting the neighbourhood, while I am there, chattering now and then, and commu-

nicating all her forebodings of evil as she flies along. If I stand still for a few minutes, the disturbance which my presence had excited soon ceases. I am stationed under an old decayed oak—

‘——— On whose sprays,
‘The throstle chaunts her roundelays,’

and I can then see and listen to all that is going forward. The pheasants return to the ride, and at the same time the rabbits make their re-appearance, rising on their hind legs, and looking about in every direction to see if danger is near. After they have grazed for a short time, little skirmishes take place between them, two or three meeting and springing up together, and then chasing each other in circles. Above my head a family of tit-mice are seeking for insects under the branches of trees, hanging with their backs downwards, and now and then uttering a note which is understood by all the party. They are odd, amusing birds. The heavy flight of the wood-pigeon is again heard as she returns to her favourite tree, followed at intervals by numbers of her congeners; and a large flock of starlings settle in the alders which grow in the lower part of the copse. The sudden whirrs they make, and their chattering noise, may be heard at some distance, and the latter is kept up till late in the evening. The distant call of the partridge, the abrupt crow of the

pheasant as he goes to roost, and the cawing of rooks as they return—

‘To fly in circles o’er yon distant wood,’

are amongst the pleasing sounds of a fine autumnal evening.

Returning from my walk, I am struck with the varied shades one sees on the trees at this season of the year, the beauty and elegance of the foliage, the richness of the colours, those golden tints which a painter dare not attempt to imitate. They are seen under the arch of yonder bridge, and sparkle on the top of that embrowned beech-tree.

‘Who can paint

‘Like Nature? Can imagination boast,
‘Amid his gay creation, hues like these?
‘And can he mix them with that matchless skill,
‘And lay them on so delicately fine,
‘And lose them in each other——?’

THOMSON.

I enjoy these ‘sylvan strolls.’ They awaken all ones best feelings. The ‘gleams and glances ‘of nature,’ leave a sunny recollection on the mind, which can only be appreciated by those who have felt them. The dreary wild, the sedgy pool, parks, chases, heaths, all in their turn either entertain the imagination, or afford new subjects for contemplation and enjoyment.

The more I reflect upon the order and arrangements of Providence in the works of creation, the more reason I find to admire them. ‘My friend

Mr. Yarrell has the credit of being the first to bring under the notice of naturalists the fact that the tips of the bills of birds, before they are hatched, are strengthened by a deciduous scale, which enables them to perforate and burst the shell more rapidly. The apparently useless fungus which I see near me affords food for the beetle, and the dry tuft of grass growing against the trunk of an old oak is a place of retreat and security for the chrysalis of a moth. Yonder woodpecker is enabled to run up trees perpendicularly in search of those insects which are necessary for its existence, in consequence of being furnished with peculiarly stiff, sharp-pointed feathers in its tail. These feathers are bent inwards, and the bird, having besides strong claws which are much hooked, two of which are placed forward and two backward, is able to cling to trees with perfect ease.

I am aware that these remarks may appear to some persons minute and trifling, but I must confess that little facts and circumstances, in the economy of Almighty God, have irresistible charms for me, and serve, like others more prominent, to shew the perfect and beautiful manner in, and for, which every thing has been created. In contemplating them, what a delightful lesson may we not learn! We may find in them the strongest testimonies of the truth of revelation, and the

superintendence of an all wise and benevolent Creator. It has been well said that in the Book of Nature is written in the plainest characters the existence of a God, which revelation takes for granted—of a God how full of contrivance! how fertile in expedients! how benevolent in his ends! At work every where—every where, too, with equal diligence; leaving nothing incomplete—finishing ‘the hinge in the wing of an insect,’ as perfectly as if it were all he had to do—unconfounded by the multiplicity of objects, undistracted by their dispersion, unwearied by their incessant demands on him, fresh as on that day when the morning stars first sang together, and all nature shouted for joy.

' With eye up-raised his master's looks to scan,
' The joy—the solace—and the aid of man ;
' The rich man's guardian, and the poor man's friend,
' The only being faithful to the end.' ANON.

I delight in hearing well authenticated anecdotes of the sagacity and attachment of dogs. Their fidelity to man is so conspicuous, and they are so capable of shewing great and extraordinary instances of noble and disinterested affection, added to an instinct which is nearly allied to reason, that I shall devote a short space in relating some well attested facts concerning them.

One of these was recently communicated to me by the late Captain Gooch, one of the elder brethren of the Trinity House. He informed me that Captain Dance, who as commodore of a fleet of Indiamen, so gallantly repelled the attack of some French frigates during the late war, brought with him from China a native dog. After his ship was at her moorings in the Thames, he ordered a chaise, had the dog put into it, and drove with it to his house near Leatherhead in Surrey, where Bonner, the name of the dog, was safely made over to Captain Dance's sisters. The next night, as the

Indiaman was getting under-weigh for the docks, one of the sailors heard a loud barking amongst the rushes on the Kent side of the river, and immediately exclaimed that it was Bonner's bark. This was declared by his ship-mates to be impossible, as the captain had taken him away the day before. The man, however, persisting that he was correct, a boat was at length lowered, and on arriving at the side of the river, Bonner was discovered among the rushes and was taken on board. Here was an instance of a dog being brought to a strange country, and taken in a carriage to a distance of some twenty or twenty-five miles from the ship he had just left, finding his way back to it through a country essentially different from his own—a different soil and climate—different objects, and different people. By what instinct he was enabled to do this it is not easy to define. I can only give the fact as I received it, from the most respectable authority. Captain Gooch assured me that he had often heard Captain Dance relate it as an extraordinary instance of sagacity in his dog.

I heard Mr. Barry, a South American merchant of great respectability, relate the following anecdote. He said, that while travelling across the Andes with a guide they lost their way, and after wandering about a great length of time in uncertainty where they were, at last espied a hut at some

distance from them. On approaching it they were attacked by two dogs, who barked violently, and opposed their entrance to the hut. They were obliged to throw stones at them, and thus drove them away. Getting near the hut, they heard a voice in Spanish begging them not to hurt the dogs. On entering it they found a man in the feeblest state of old age, who assured Mr. Barry that he should have been starved to death had not his dogs gone out hunting, and regularly brought him part of what they caught. He was a slave, who had made his escape and sheltered himself in this secluded spot. X

A gentleman, residing in the neighbourhood of Blackheath, had a favourite dog who was his constant companion. He was an old bachelor, and his sister resided with him. Before leaving his dining-room he was in the habit of locking up his wine, and then threw the bunch of keys on the floor, which was taken up by the dog, who followed his master with the keys in his mouth to join his sister in the drawing-room. This practice was followed till the old gentleman's death. The dog then appeared miserable, and in order to let him follow his old custom, the wine was locked up as usual, and the keys thrown on the floor. But neither then, or at any subsequent time, would the dog be induced to take them up. It was impossible for this poor animal to shew his love for his

deceased master in a more marked and affecting manner.

Let me here record an instance of strong attachment shewn me by my favourite old dog 'Trim.' He was a rough Scotch terrier; he loved me most faithfully, and shewed it in a thousand ways. He slept under my bed at night—awoke me by jumping upon it at exactly the same time every morning, and accompanied me wherever I went. He was moreover somewhat of a pickle, and ready for any mischief. I think I now see his honest countenance watching me as I was preparing to take my walk; and if I had my gun, hunting every hedge-row that I passed along in search of a rabbit. Having occasion to be absent from home for some time, I left him behind me. It was the first time we had been separated, and my poor dog was miserable. He wandered about the premises, and got under my bed as usual, but my room being occupied by some one else, he was driven from it, and from that time was seen no more in the house. The last I heard of him was from the post-boy, who had driven me when I left my residence. He had found out and followed the chaise many miles, barking now and then, and looking up to it, supposing, no doubt, that I was in it. When the chaise stopped, and the door was opened, my faithful dog jumped into it, but not finding me he disappeared, and I never could hear

of him afterwards. My own conviction is that he again set forth in a fruitless search of his master, and died untimely. Poor Trim! many years have elapsed since I lost him, but I shall never forget his attachment to me, and have a little melancholy satisfaction in recording this instance of his kind fidelity.

- ' When some proud son of man returns to earth,
- ' Unknown to glory, but upheld by birth ;
- ' The sculptor's art exhausts the pomp of woe,
- ' And storied urns record who rests below ;
- ' But the poor dog, in life the firmest friend,
- ' The first to welcome, foremost to defend ;
- ' Whose honest heart is still his master's own,
- ' Who labours, fights, lives, breathes for him alone ;
- ' Unhonour'd falls, unnoticed all his worth,
- ' Denied in heav'n the soul he held on earth.' BYRON.

Dogs, in addition to their attachment and fidelity to man, shew a degree of sense on some occasions which is quite extraordinary. I knew a dog who never barked or shewed any degree of restlessness when his master's family were at home, but when the house was left to the care of one servant only, the dog's vigilance was extreme, and he barked at the slightest noise. This is very much the case with a good yard-dog. He is always on the watch, the least noise excites his attention, but he only gives the alarm when it is necessary to do so, and when he does it is in a different tone to that with which he receives his master after the latter has been some time absent.

' 'Tis sweet to hear the watch-dog's honest bark
' Bay deep-mouth'd welcome as we draw near home.'

A gentleman had a remarkably fine Newfoundland dog, so innately gallant and polite, that, unless ordered to remain at home, he invariably, unbidden, preceded his wife and sisters when they walked abroad if they were unattended by a gentleman. He compelled every person he met, by a significant look or growl, to make way for them; but, when a gentleman accompanied them, he always walked behind. With him, by night or by day, they were safe, for his courage was equal to his sagacity, and on the slightest signal from them of alarm, he was ready to defend them. His death was a melancholy one, and he was regretted by all who knew him. He was poisoned by drinking some water which had been poured into a vessel having white paint in it.

A friend of mine took a Newfoundland dog and a small spaniel into a boat with him, and when he got into the middle of the river near one of the locks, not far from Hampton Court, he turned them into the water. They swam different ways, but the spaniel got into the current, and after struggling some time, was in great danger of being drowned. As soon as the Newfoundland dog perceived the predicament his companion was in, he swam to his assistance, took him up in his mouth, and brought him safe to the shore.

The great sagacity and intelligence of the sheep dogs that come to London must have been noticed by many. I have seen one of them run over the backs of a flock of sheep in a crowded street to get at the further end of them in order to turn them, and this on the slightest signal from his master. When I had the pleasure of meeting Mr. Hogg, the Ettrick shepherd, in London, he was kind enough to relate some interesting anecdotes in Natural History to me. Although the following instance of the sagacity of one of his dogs was not one of the anecdotes alluded to, the accuracy of it may, I believe, be depended on.

3 During the time in which lambs are weaned, the Ettrick Shepherd had seven hundred of them under his care. As is sometimes the case, especially at that time, they broke away in the middle of the night, and scampered off in three different parties across the hills, in spite of all that the shepherd and his assistant could do to keep them together. 'Sirrah,' cried the shepherd, in great affliction (addressing his dog,) 'my man, they're 'a' awa.' The night was so dark that he did not see the dog, but the faithful animal had heard his master's words, and without more ado he silently set off in quest of the flock. Meanwhile, the shepherd and his companion spent the night in scouring the hills for miles round, but could see nothing

of the flock or the dog. On their way home in the morning they discovered a body of lambs at the bottom of a deep ravine called the Flesh Clench, and the dog standing in front of them looking all around for some relief, but still standing true to his charge. Not one lamb of the whole flock was wanting.

The following instance of the fidelity of a farmer's dog is perfectly well authenticated, and will, I am sure, be read with interest. It is extracted from the Sportsman's Cabinet, a work containing many curious particulars on the canine race.

3 1/2
' Mr. Henry Hawkes, a farmer residing at Hal-
' ling in Kent, was late one evening at Maidstone
' market. On returning at night with his dog,
' who was usually at his heels, he again stopped
' at Aylesford, and as is too frequently the case
' upon such occasions he drank immoderately, and
' left the place in a state of intoxication. Having
' passed the village of Newheed in safety, he took
' his way over Snodland Brook, in the best season
' of the year a very dangerous road for a drunken
' man; the whole face of the country was covered
' with a deep snow and the frost intense; he had
' however proceeded in safety till he came to the
' Willow Walk, within half a mile of the church,
' when by a sudden stagger he quitted the path
' and passed over a ditch on his right hand. Not

‘ apprehensive he was going astray, he took to-
‘ wards the river, but having a high bank to
‘ mount, and being nearly exhausted with wan-
‘ dering and the effect of the liquor, he was most
‘ fortunately prevented from rising the mound, or
‘ he certainly must have precipitated himself (as
‘ it was near high water) into the Medway. At
‘ this moment, completely overcome, he fell among
‘ the snow in one of the coldest nights ever known,
‘ turning upon his back; he was soon overpowered
‘ with either sleep or cold, when his faithful de-
‘ pendant, who had closely attended to every step,
‘ scratched away the snow so as to throw up a sort
‘ of protecting wall around his helpless master, then
‘ mounting upon the exposed body, rolled himself
‘ round and laid upon his master’s bosom, for
‘ which his shaggy coat proved a most season-
‘ able covering and eventual protection during the
‘ dreadful severity of the night, the snow falling
‘ all the time. The following morning, a person
‘ who was out with his gun, in expectation of falling
‘ in with some sort of wild fowl, perceiving an
‘ appearance rather uncommon, ventured to ap-
‘ proach the spot; upon his coming up the dog
‘ got off the body, and after repeatedly shaking
‘ himself to get disentangled from the accumulated
‘ snow, encouraged the sportsman (a Mr. Finch,)
‘ by actions of the most significant nature to come
‘ near the side of his master. Upon wiping away

‘ the icy incrustation from the face the countenance
‘ was immediately recollected; but the frame
‘ appearing lifeless, assistance was procured to
‘ convey it to the first house upon the skirts of
‘ the village, when a pulsation being observed,
‘ every possible means were instantly adopted to
‘ promote his recovery.

‘ In the course of a short time the farmer was
‘ sufficiently restored to relate his own story as
‘ already recited; and in gratitude for his miracu-
‘ lous escape, ordered a silver collar to be made
‘ for his friendly protector, as a perpetual remem-
‘ brancer of the transaction. A gentleman of the
‘ faculty in the neighbourhood hearing of the
‘ circumstance, and finding it so well authenti-
‘ cated, immediately made him an offer of ten
‘ guineas for the dog, which the grateful farmer
‘ refused, exultingly adding ‘ that so long as he
‘ had a bone to his meat, or a crust to his bread,
‘ he would divide it with the faithful friend who
‘ had preserved his life:’ and this he did in a per-
‘ fect conviction that the warmth of the dog in
‘ covering the most vital part, had continued the
‘ circulation, and prevented a total stagnation of
‘ the blood by the frigidity of the elements.’

Such is the acuteness of observation in some dogs, that I have seen a pointer which never chased his game on any other occasion, follow a partridge which was wounded in a covey when I could not

perceive it myself, and bring it back to me in his mouth after it had fled over two or three fields.

4 The following instance of sagacity in a dog I received from good authority. Two small terriers were in the habit of leaving their home together and hunting rabbits in a warren at some distance from it. One of them got so far into a rabbit-burrow that he could not extricate himself. His companion returned to the house, and by whining, and using many significant gestures, attracted the notice of his master. When he had done this, he ran a short way forward and then returned; and after repeating this some time, his master was induced to follow him. The dog led him to the rabbit-burrow, where he began to bark and scratch violently; and, on procuring a spade, the other dog was dug out.

A relation of mine had a terrier, which he was sometimes in the habit of confining. He frequently missed the dog's collar, and at last discovered that the animal carried it off in its mouth in order to hide it, being aware that it was one of the instruments of its confinement.*

5 It is difficult to account for the extraordinary

* This, perhaps, is not so extraordinary as what I have frequently observed a buffalo to do at the Zoological Farm, on Kingston Hill. This animal is particularly ferocious, and in order to tame it, when necessary, a strong iron ring has been passed through the cartilage of his nose, having a chain about two feet long attached to it. At the other end of the chain there is another ring, three or four inches in diameter. In grazing the buffalo must have

instinct which some dogs derive from their parents. One of the fine deer hounds in Richmond Park, instead of seizing the deer by the ear or neck, as is usually the case when they stand at bay, always takes it by the skin of the forehead, between the antlers—a difficult place to hold it by, and one of peculiar danger to the dog. On slipping a puppy of this particular hound at a deer for the first time, when it was only nine or ten months old, it immediately seized the deer when brought to bay in the same manner its mother had done, and has continued to do so ever since. ✕

The instinct which animals possess of finding their way back to a place, perhaps many hundreds of miles from whence they had set off, without any previous acquaintance with the country, is one of the most curious facts in Natural History. That it is not done by scent alone is sufficiently evident, and this is shewn by the fact I have already related of the dog brought from China by Captain Dance.

Professor Gall mentions an instance of a dog having been taken to England from Vienna, and which escaping from his new owner, went to the

put his feet on this ring, and in raising his head the jerk would have produced considerable pain. In order to avoid this, the animal has had the sense to put his horn through the lower ring, and thus avoid the inconvenience he was put to. I have seen him do this in a very deliberate manner, putting his head on one side while he got his horn through the ring, and then shaking his head till the ring rested at the bottom of the horn. It may at any time be seen in that position.

port, contrived to get on board a vessel, and took his course to Vienna. They must, therefore, be endowed with some unexplained instinct which leads them to the point to which they wish to arrive. This faculty is also possessed by savages, who certainly are endowed with the same instinct, which migratory birds and some animals possess, of finding their way in a straight line from one point to another at a great distance from each other. A gentleman, who resided some years in Australia, informed me that having occasion to go a considerable distance into the interior of that country, he lost his way, and should have been unable to return had he not had one of the natives with him. This man, who had never before been more than 15 or 20 miles from his own district for fear of hostile tribes, with whom his own was in perpetual warfare, conducted him in an undeviating line of more than 100 miles to the point he wished to arrive at. I was assured that he could have done the same blindfold, as he travelled as accurately when the sun was obscured as when it was visible. The gentleman assured me that this man was not assisted in his journey by any observations on the bark of trees, but that he did it from mere instinct, in the same way that a carrier pigeon will find its way to the dove cot, many miles from where it was turned loose.

¶ Parrots in general, have striking peculiarities in their manners. Both sexes readily learn to pronounce words.'

BLUMENBACH.

ALMOST every one has heard of Colonel O'Kelly's Parrot. There is one however which is occasionally brought from Brighton to Hampton Court, that appears to equal it in intelligence and power of imitation. I had seen and heard so much of this bird, that I requested the sister of its owner to furnish me with some particulars respecting it, and I now give the account in her own agreeable manner of stating it. I will only add that its accuracy need not be doubted.

"As you wished me to write down whatever I could collect about my sister's wonderful parrot, I proceed to do so, only promising that I will tell you nothing but what I can vouch for having myself heard. Her laugh is quite extraordinary, and it is impossible not to help joining in it oneself, more especially when in the midst of it she cries out 'don't make me laugh so, I shall die, I shall die;' and then continues laughing more violently than before. Her crying and sobbing are curious, and if you say poor Poll, what is the matter? she says 'so bad, so bad, got such a

‘ cold ;’ and after crying for some time will gradually cease, and making a noise like drawing a long breath, say ‘ better now,’ and begin to laugh.

“ The first time I ever heard her speak was one day when I was talking to the maid at the bottom of the stairs, and heard what I then considered to be a child call out ‘ Payne,’ (the maid’s name,) ‘ I am not well, I’m not well :’ and on my saying, ‘ what is the matter with that child ?’ she replied, ‘ it is only the parrot, she always does so when I leave her alone, to make me come back ;’ and so it proved, for on her going into the room the parrot stopped, and then began laughing quite in a jeering way.

“ It is singular enough, that whenever she is affronted in any way she begins to cry, and when pleased, to laugh. If any one happens to cough or sneeze, she says ‘ what a bad cold.’ One day, when the children were playing with her, the maid came into the room, and on their repeating to her several things which the parrot had said, Poll looked up and said quite plainly ‘ no I did’nt.’ Sometimes, when she is inclined to be mischievous, the maid threatens to beat her, and she often says ‘ no you won’t.’ She calls the cat very plainly, saying, ‘ Puss, Puss,’ and then answers *mew* ; but the most amusing part is, that whenever I want to make her call it, and to that purpose say Puss, Puss, myself, she always answers *mew* till I begin

mewing, and then she begins calling Puss as quick as possible. She imitates every kind of noise, and barks so naturally that I have known her to set all the dogs on the parade at Hampton Court barking; and I dare say, if the truth was known, wondering what was barking at them; and the consternation I have seen her cause in a party of cocks and hens, by her crowing and clucking, has been the most ludicrous thing possible. She sings just like a child, and I have more than once thought it was a human being; and it is most ridiculous to hear her make what one should call a false note, and then say 'Oh la,' and burst out laughing at herself, beginning again in quite another key. She is very fond of singing 'Buy a Broom,' which she says quite plainly, but in the same spirit as in calling the cat, if we say with a view to make her repeat it, Buy a Broom, she always says 'Buy a *Brush*,' and then laughs as a child might do when mischievous. She often performs a kind of exercise which I do not know how to describe, except by saying that it is like the lance exercise. She puts her claw behind her, first on one side and then on the other, then in front, and round over her head, and whilst doing so keeps saying, 'come on, come on;' and when finished, says 'bravo, beautiful!' and draws herself up. Before I was as well acquainted with her as I am now, she would stare in my face for some time,

and then say 'how d'ye do, ma'am?' this she invariably does to strangers. One day I went into the room where she was and said, to try her, 'Poll, where is Payne gone?' and to my astonishment, and almost dismay, she said 'down stairs.' I cannot at this moment recollect any thing more that I can vouch for myself, and I do not chuse to trust to what I am told, but from what I have myself seen and heard she has almost made me a believer in transmigration."

In addition to this account, I may mention that the Rev. Dr. Hooker of Rottingdean, near Brighton, has a Parrot which evinces almost equal sagacity. If a piece of tape is given it, it weaves it into a sort of basket, and will tie a knot with its beak and foot.

‘ Sir, ’tis a wondrous bird. Do what you will,
 ‘ Or chip a plank, or beat upon a board,
 ‘ Or strike the cymbal, or the trumpet blow,
 ‘ The Jay shall seem to do the like.’

ANON.

THE power which some birds are in possession of in regard to imitating sounds, and even actions, has always appeared to me an interesting fact in natural history. The Raven, Jay, Magpie, and Starling, possess it in a greater or less degree amongst our British birds. Why it should be confined to these birds, or for what purposes they are endowed with it, are questions which it is not easy to answer.

I have had some amusing facts communicated to me on this subject, from which I have selected the following.

Miss Fane (daughter of the Member for Oxfordshire) had a tame magpie, which was taught to pronounce her name, ‘Charlotte.’ This bird having wandered away from her, got among some wild birds of its own species, by whom (as is often the case under these circumstances) it was attacked, when it saved itself by screaming ‘Charlotte, Charlotte,’ which novel sound caused its astonished assailants to pause, and brought up at the same time a man from a neighbouring field to its rescue.

A late highly respectable attorney, in the county of Somerset, possessed a Jay which was an admirable mimic. It could imitate almost any sound that it heard produced by another animal. For instance it would so perfectly mimic the cackling of chickens that the lady of the house hearing him, has desired a servant to buy the fowls that were 'noising' at the door. He would with equal success imitate the quacking of ducks. But what is still more surprising, and which I would not venture to relate but on the best authority, and that of a living witness, this bird could imitate the neighing of a horse. He did it so well, that a servant has been known to run into the yard, thinking that a stray horse was there, and has found that he was deceived by the bird.

A clerk of this attorney had a very singular laugh, and when laughing he used to hunch up his shoulders, and raise his eyebrows and his hair, in a manner that may be best understood by attempting the same thing. It is a fact that this bird not only imitated with success the clerk's laugh, but used also at the same time to raise the feathers of his head in imitation of the raising of the clerk's hair—this he did whenever he had a *bird's-eye view* of the young man, to his great annoyance, and to the infinite amusement of those who were present.

If this bird heard any new sound, as produced

by a whistle, &c. he would not attempt to mimic it whilst any one was within sight; but having listened attentively to it, with his head on one side, he would attempt an imitation if he thought that he was not observed. If he succeeded he would display his new acquirement to the first person who passed him.

The Jay's fate was untimely. He escaped from his cage, and perched on a tree, from which he could not be dislodged by any gentle means. A man servant, who by the bye was very fond of the bird, took a gun to frighten him from his station by discharging it; but, either not being aware that there was shot in the piece, or by some unaccountable awkwardness, he laid the Jay dead at his feet.

The bird at the time of its death was about three years old. It might be remarked that it was in the habit of hearing the neighing of horses, as its cage was hung up not far distant from a paddock.

- ' When the moon is on the wave,
- ' And the glow-worm in the grass,
- ' And the meteor on the grave,
- ' And the wisp on the morass.
- ' When the falling stars are shooting,
- ' And the answering owls are hooting ;
- ' And the silent leaves are still
- ' In the shadow of the hill.'

BYRON.

I invariably experience a variety of sensations when I 'survey the heavens' on a calm clear night, about the end of the month of May. I can then inhale the sweets of the wood-bine and other flowers, whose fragrance is drawn out by the gentle dews of evening. The Nightingale breaks the silence by his sweet and varied notes ; and the full moon, 'walking in brightness,' and rendered still more beautiful by the lustre of so many shining stars, which appear in the wide extended firmament, completes the loveliness of this nocturnal scene. Then I begin to reflect upon my own insignificance, and to ask myself what am I, that the great Author of the universe should be mindful of me. His mercy however then presents itself to me as well as His majesty, and the former affects me more than the latter. I listen to the bird which appears to be pouring forth its little tribute of gratitude and praise, and my heart prompts me to do the same.

The very perfume of the flowers seems to be an incense ascending up to heaven; and with these feelings I am able to enjoy the calm tranquillity of the evening. The distant lowing of the oxen, the tinkling of a sheep-bell, the well known cry of the corn-crake, disturb the silence and remind me where I am. Beneath the gloom of a large spreading oak, I can now and then discover the Fern-owl, or Night-jar, as it hawks for moths or cockchaffers, sometimes amongst the branches of the tree, and at others nearer the ground. The Bat flies past me with a silence and rapidity which prevents my watching its motions, and on the dead branch of an old decayed elm, an owl settles and utters his melancholy note. Such is the scene of a peaceful night in the country.

I have great pleasure in watching the movements of the Fern-owl. In the twilight it appears an active and valorous bird, shewing some symptoms of menace to those who then approach its haunts; but if it is disturbed in the day-time, it takes a short flight, and appears solitary and listless. I have generally found it in some little dell or tangled copse, perching on the dead branch of a tree, as near as possible to the ground, and not appearing intimidated by my approach.* Like

* This circumstance has led me to suppose that it can only see well, like the common owl, at night. Mr. White supposes that

Falco Apivorus, or Honey Buzzard, it seems to be one of nature's links, having some analogous conformations with that bird, and appearing to connect the rapacious and the insectivorous birds.

The Bat is another link in nature, and its habits are very curious. We have 15 varieties of them in this country, though our British Fauna notices only 7, and they are certainly deserving of more attention than they have hitherto received. Bats are not torpid all winter. They are out at all times during the winter months except in frost.

I like also to watch the silent flight of the Owl on a summer's evening along a range of meadows, sometimes seeking its prey by the side of a ditch, and at others near a hedge-row. The common brown or tawny Owl (*Strix Stridula*) is frequently found in the old oak pollard trees in Richmond Park, generally those which have some ivy about them. Indeed these birds are only, I believe, found amongst woods; while the White Owl (*Strix Flammea*) shelters itself in barns and old build-

it is the only insectivorous bird which takes its prey with its feet when flying. The Titmouse, however, does so, at least I have thought that I have discovered it doing so. It is however difficult to decide accurately on the rapid motions of so small a bird. Mr. White thinks that the Fern-owl picks the insects to pieces as she flies along, and so pouches them for the young. The solstitial chaffer is their favourite prey. The serrated claw of this bird is on the longest toe.

ings, and is the bird whose hooting or screeching is so well known.

——— ‘The howlet mourns in her ivy bower,
‘And tells the midnight moon her care.’ BURNS.

Owls probably do not require water, as they do not swallow their prey, but suck the juices from it. This may account for their bodies being so light and bare of flesh.

The Rev. Mr. Bree, of Allesley, near Coventry, whose agreeable communications in Loudon's Natural History have afforded me both pleasure and information, relates a fact respecting the common brown Owl, which is quite new to me, (as it will probably be to many of my readers.) He says that this bird, occasionally at least, is in the habit of feeding its young with live fish, a circumstance which he had ascertained beyond a doubt. Some years since several young Owls were taken from the nest, and placed in a yew tree in the Rectory garden. In this situation the parent birds repeatedly brought them live fish, (bull-heads and loach,) which had doubtless been procured from the neighbouring brook, in which these species abound. Since the above period, Mr. Bree says that on more than one occasion he had found the same fish, either whole or in fragments, lying under the trees on which he had observed the young owls to perch after they had left the nest, and where the

old birds were accustomed to feed them. He adds, that it has always been a wonder to him by what method the Owl contrives to capture the fish, being apparently a bird peculiarly unfitted for piscatory depredations.

Another correspondent confirms the fact, which he says corroborates a declaration made by a labourer who was employed to watch the fish-pond in the flower-garden at Bulstrode, about 50 years ago. The gold and silver fish had been missed, and the then Duchess of Portland suspecting that the pond had been poached, ordered Mr. Agnew, the gardener, to employ men to watch. The watchmen detected the robbers, whom they saw alight on the side of the pond, and there waiting the approach of the fish, captured and devoured them. The common brown Owls were the robbers. One of the men who reported the circumstance still attests the fact.

It must be a matter of astonishment to many persons, as to Mr. Bree, how the Owl could possibly contrive to capture fish, as it is impossible, from the formation of its head and the redundancy of feathers upon it, that it should emerge itself in water. It is well known that the Owl seizes its prey with its feet, and as the fish which Mr. Bree found under the young ones were bull-heads and loach, both of which are generally met with in shallow water, and were stated to be very abundant

in a neighbouring brook, it would by no means be difficult for Owls to dart their talons into them as they pass. The sight of the Owl must be very acute, since it can capture mice in dark or dusky weather as it flies over a meadow. The same acuteness of vision would enable it to see fish in a shallow brook, and to secure them in the way mentioned.

'The Lark at Heav'n-gate sings.'

SHAKSPEARE.

SINCE the publication of the former Series of my 'Gleanings,' one of my labourers, whom Mr. White would designate as a 'sober hind,' came to tell me that in mowing some grass he had found the nest of a Skylark, with young ones in it, which seemed to have been hatched three or four days. In consequence of a request I had previously made to him, he watched the old birds, and saw them come to their nest and remove their young to a place of greater safety. This they did by taking them up with their feet at different times. I was much pleased with this information, not only as communicating a new and interesting fact in Natural History, but as corroborative of my former statement respecting the uses to which the apparently unnecessary length of the claws of the Lark may be applied.

Many agreeable communications have been made to me since my former work appeared before the public, and amongst the rest the following lines descriptive of the Lark. They are from the pen of a young lady, and are too pretty to be omitted.

' Up springs the Lark, and shakes his wings,
 ' And mounting higher, clearer sings ;
 ' Till the small speck eludes the eye,
 ' Melted into song and sky.
 ' And now the straining eye discovers
 ' Where the tiny warbler hovers.
 ' As he gently sinks to ground,
 ' Sudden his wings he closes round ;
 ' And pitching headlong like a stone,
 ' His flight is o'er,— his song is done.'

The following lines also have always struck me as containing an accurate and charming description of the movements of the Lark both before and after a sudden shower of rain. I have often witnessed the scene early in the spring, and every lover of nature will have made the same observations.

' Fraught with a transient frozen show'r,
 ' If a cloud should haply low'r,
 ' Sailing o'er the landscape dark,
 ' Mute on a sudden is the Lark ;
 ' But when gleams the sun again
 ' O'er the pearl besprinkled plain ;
 ' And from behind his wat'ry veil
 ' Looks through the thin descending hail ;
 ' She mounts, and less'ning to the sight,
 ' Salutes the blythe return of light.
 ' And high her tuneful track pursues
 ' Mid the dim rainbow's scatter'd hues.'

T. WARTON.

Large flights of Larks have been observed in autumn going westward. This is the case more generally, I think, in the inland countries. When

I resided in Staffordshire, I had frequent opportunities of noticing this. In cold dry weather in January, Larks will rise, and apparently try to sing. In February they will rise a little way and sing.

‘ O blind to Nature’s all accordant plan,
 ‘ Think not the war-song is confin’d to man ;
 ‘ In shrill defiance, ere they join the fray,
 ‘ Robin to Robin chaunts the martial lay.’

ANON.

I had an opportunity this summer of witnessing the distress of a Robin, which, on returning to her nest with food for her young, discovered they had disappeared. Her low and plaintive wailings were incessant. She appeared to seek for them among the neighbouring bushes, now and then changing her mournful cry into one which I fancied was a call to her brood to come to her. She kept the food in her mouth for a short time, but when she found that her cries were unanswered, let it fall to the ground. There was something affecting in this little incident, which has also been remarked by the ‘ Poet of Nature’ in the case of a Nightingale, and is thus beautifully described :

- - - - - the Nightingale
 ‘ - - - when returning with her loaded bill,
 ‘ The astonished mother finds a vacant nest,
 ‘ By the hard hands of unrelenting clowns
 ‘ Robb’d ; to the ground the vain provision falls ;
 ‘ Her pinions ruffle, and, low drooping, scarce
 ‘ Can bear the mourner to the poplar shade ;
 ‘ Where, all abandon’d to despair, she sings
 ‘ Her sorrows through the night ; and on the bough

- ' Sole sitting, still at every dying fall
 ' Takes up again her lamentable strain
 ' Of winding woe ; 'till wide around, the woods
 ' Sigh to her song, and with her wail resound.'

THOMSON—Spring.

It is impossible to read these lines without being struck with a similar description in Virgil, or with the beautiful and concise manner in which he relates it.

- ' Qualis populeâ mœrens philomela sub umbrâ
 ' Amisos queritur fœtus ; quos durus arator
 ' Observans nido implumes detraxit : at illa
 ' Flet noctem, ramoque sedens, miserabile carmen
 ' Integrat, et mœstis late loca quæstibus implet.'

VIRG. Georg. 4th Book.

The affection which birds shew for their young is very remarkable, and the affection seems to be reciprocal. When a bird returns to the nest to impart warmth to her brood, she is received with a chirp of pleasure and love. I have observed this to be the case more particularly with Swallows. When the parent bird settles in her nest for the night, I can hear the young keeping up a little *satisfied* note of gratification, which seems to continue till very late in the evening.

The warmth and protection which birds receive from their parent is beautifully illustrative of the security afforded by a superintending Providence to those who apply to him for help : ' He shall cover thee with his feathers, and under his wings

'shal't thou trust.' To my feelings there is not in the whole Bible a more elegant or delightful metaphor than this, or one which the human mind, especially when in a state of affliction and distress, may dwell upon with greater comfort and satisfaction. When I have seen a bird of prey hovering over some newly hatched chickens, and perceived them run for shelter under the wings of their parent, I am forcibly reminded that in the hour of danger and temptation I may fly, by prayer, to my heavenly Father for refuge and protection. Those who have made the works of creation their study, will have had many opportunities of appreciating the truth of the remarks I have ventured from time to time to make respecting the lessons of instruction which may be derived from the delightful contemplation of the various objects with which we are perpetually surrounded.

Let me now return to the subject of this chapter, and give an instance or two of the love of animals for their young.

A Cat in this neighbourhood was observed on the top of a paled fence, endeavouring to get at a Black-bird's nest which was near it; the hen left the nest on her approach, and flew to meet her in a state of great alarm, and placed herself almost within her reach, uttering the most piteous screams of wildness and despair. The cock bird on perceiving the attempt, shewed the greatest

distress, and uttered loud screams and outcries, sometimes settling on the fence just before the cat, who was unable to make a spring in consequence of the narrowness of its footing. After a little time, the cock bird flew at the cat, settled on her back, and pecked her head with so much violence, that she fell to the ground followed by the black-bird, who succeeded in driving her away. On a second occasion the same scene occurred, in which the black-bird was victorious, when the cat became so intimidated at the attacks made upon her, that she gave over her attempts to get at the young ones; after each battle the black-bird celebrated his victory with a song, and for several days afterwards he would hunt the cat about the garden whenever she left the house. I also knew an instance of a pair of black-birds following a boy into a house, and pecking at his head while he was conveying one of their young ones into it.

People indeed little think what misery and anxiety they occasion to birds when they deprive them of the brood which they have been cherishing with so much tenderness and affection. I remember the following passage in an old author: 'The cruel parent that would encourage his childe to deprive a poor birde of her young broode, right well deserveth to have his own nest robbed, and to become childless.'

Put young birds in a cage, and under every

change of place and circumstance they will be followed and fed with the utmost care and punctuality by the old ones; and this care will be shewn for a much longer period of time than if they had been reared in the usual manner. I have often watched the anxiety and distress which birds exhibit when I have lingered near the nest which contained their young. Their uneasiness cannot be mistaken, and the most timid will then shew a degree of boldness and a carelessness of their own safety, which is not a little to be admired. It may be traced downwards from the eagle to the wren, and again, from the swan to the most minute of our aquatic birds. One of the latter tribe, the Moor-hen, displays sometimes a degree of foresight in her care for her young, which is particularly pleasing. It is well known that she builds her nest amongst sedges and bull-rushes, and generally pretty close to the water, as it is there less likely to be observed. In places, however, where anything like a flood is likely to take place, a duplicate nest, more out of the reach of the water is constructed, which is intended to be in readiness in case a removal of the eggs or young ones should be found necessary. This observation was made by a family residing at an old Priory in Surrey, where moor-hens abound, and where the fact was too often witnessed by

themselves and others to leave any doubt of its accuracy.

I have frequently observed a duplicate nest unoccupied near the one in which the White-throat has deposited her eggs, and generally in a more exposed situation than the latter. For what reason this second nest is built I cannot conjecture, except it were for the purpose of deception.

Birds, especially those which are familiar with mankind, frequently choose odd situations for building in. A Robin lately began its nest in a myrtle, which was placed in the hall of a house belonging to a friend of mine in Hampshire. As the situation was considered rather an exceptionable one, the nest was removed. The bird then began to build another on the cornice of the drawing room, but as this was also objected to for obvious reasons, it was not allowed to be completed. The Robin, thus baffled in two attempts, began a third nest in a new shoe, which was placed on a shelf in his dressing-room. Here it was permitted to go on with its work until the nest was completed; but as the new shoe was likely to be wanted, and as it would not be benefited by being used as a cradle for young birds, the nest was carefully taken out, and deposited in an old shoe, which was put in the situation of the

new one. Here what remained to be done to the nest was completed; the under part of the shoe was filled up with oak-leaves, the eggs were deposited in the nest, and in due time hatched, the windows of the room being always left a little open for the entrance and egress of the birds. My friend informed me that it was pleasing to see the great confidence the Robins placed in him. Sometimes, while he was shaving in the morning, the old birds would settle on the top of his glass, having worms in their mouths, nor did they appear in the least alarmed at his presence.

I have heard of a pair of Robins having built their nest in a pew of the church of Burton-upon-Trent, and was informed that the process of incubation and feeding the young went on uninterruptedly, even when persons were in the pew during divine service. 'The sweet poet of Israel' has indeed remarked the partiality of birds for the sanctuary in most beautiful strains, and many persons must have observed the Red-breast in particular flitting over the heads of a congregation in our parochial churches. One of them for several successive years resorted to the church at Dudley in Staffordshire, and its warbling notes were frequently heard amidst the tones of the organ and the voices of the people. At last its visits were discontinued, to the no small regret of many of the congregation. A few years afterwards, when the

organ was taken down to be cleaned, the skeleton of the Red-breast was discovered in one of the pipes, its favourite station having been the summit of the instrument.

In speaking of the Robin I may observe, that when they sing late in the autumn it appears to be from rivalry, and that there are always two singing at the same time. If one of them is silenced the other immediately ceases its song. I observe also that they always sing while they are preparing to fight with each other. The Red-breast is indeed a very pugnacious bird, of which I lately observed an instance. Two of them, after giving the usual challenge, fought with so much animosity, that I could easily have caught them both as they reeled close to my feet on a gravelled walk. After some time one of them had the advantage, and would have killed his opponent had they not been separated. Indeed these birds will frequently fight till one has lost his life. It has been asserted that the female Robin sings, and I am much inclined to be of this opinion, having heard two Robins sing at the same time in a situation where I had every reason to believe there were only one pair. This was an insulated garden on the banks of the Thames.

- ' Dear is my little native vale,
' The Ring-dove builds and warbles there ;
' Close by my cot she tells her tale,
' To every passing villager :
' The *Squirrel* leaps from tree to tree,
' And shells his nuts at liberty.'

ROGERS.

WHILE fishing in the beautiful grounds of Pain's Hill, near Cobham, I have had frequent opportunities of watching the habits of the Squirrels, which are there in great numbers. These engaging animals generally make their nests on the branch of a tree, appearing to give the preference to the fir. In forming the nest, they begin by gathering mouthfuls of dry bent grass, in the way we see rabbits do, and of this grass they make a considerable deposit. The outside is afterwards protected with a quantity of sticks, giving the nest or *drey*, as it is called with us very generally, the appearance of a bird's nest. When the young are ready to be deposited, the female Squirrel strips off her fur in the manner of the rabbit, so that its stomach is sometimes quite bare. This circumstance however enables the helpless young to find the teats more readily, thus answering a double purpose, affording them at the same time warmth, and removing the obstruction to their receiving nourish-

ment. The Squirrel has from 4 to 5 young ones. These, when very young, have an odd appearance, in consequence of the shortness of their tails, which are some time before they arrive at the full size. The young ones are easily reared, and soon learn to take milk out of a spoon, and become very tame and familiar. In a wild state the female shews considerable coyness, and when pursued by the male will drop from great heights from one branch to another. They make deposits of food, chiefly acorns, in holes of trees. I never, however, could hear of a drey having been found in such a situation, but generally on the branches, where I saw several about half way up the tree. I have, however, seen one on the very top of a young fir tree. Squirrels vary in colour, some having more white about them than others, and one was shot at Pain's Hill with a grey tail.

Squirrels are much delighted with the fruit of coniferous trees, such as the pine, the fir, the larch. They also feed on the birch, and probably the alder. As to Scotch firs, Squirrels not only devour the cones, but they also bark large boughs, and gnaw off the tops of the leading shoots, so that the trees are much injured and defaced by these little mischievous quadrupeds; which are too subtle and too minute to be easily taken or destroyed.

I am not aware of there being two distinct breeds of Squirrels in this country; but in the

park of Sir Thomas Winnington, in Worcestershire, and in that of Sir R. Phillipps, in Pembrokeshire, several have been noticed with white tails.

I have been able to collect very little information respecting Hedge-hogs. The keepers in Richmond Park assure me that they scratch out young rabbits from their nests, and eat them when they are only a few days old. They also feed on beetles, cock-chaffers, and worms. Hedge-hogs have from five to eight young ones at a litter, and the keepers frequently discover the nest by the outcry the young ones make when they are hungry. The dam, however, seldom quits them for any length of time.

The sagacity and foresight of Rats is very extraordinary, and the following anecdote, wonderful as it may appear, may be relied upon. I received it from a person of the strictest veracity, who was a witness of the fact. A box, containing some bottles of Florence oil, was placed in a store room which was seldom opened, the lid of the box having been taken away. On going to the room for one of the bottles, the pieces of bladder and the cotton which were at the mouth of each bottle had disappeared, and a considerable quantity of

the contents of the bottles had been consumed. This circumstance having excited surprise, a few bottles were filled with oil, and the mouth of them secured as before. The next morning the coverings of the bottles had been removed and some of the oil was gone. On watching the room, which was done through a small window, some rats were seen to get into the box and insert their tails into the necks of the bottles, and then withdrawing them they licked off the oil which adhered to them. I would not have ventured to introduce this anecdote had I not been as much convinced of its accuracy as if I had been a witness of it myself.

A striking proof of the sagacity, courage, and I may say reasoning power of these animals, has been recently given me by a medical friend living at Kingston, who is much devoted to the pursuits of Natural History.

It appears that from his having entertained a great deal of surprise that the Ferret, an animal of such slow locomotive powers, should be so destructive and obnoxious to the rat tribe, he determined to bring both these animals fairly into the arena in order to judge of their respective powers; and having selected a fine specimen of a large and full grown male rat, as also an equally strong buck ferret, which had been accustomed to the haunts of rats, accompanied by his son, he turned these

two animals loose in a room void of furniture, in which there was but one window, determined to await patiently the whole process of their encounter. Immediately upon being liberated, the rat ran round the room as if searching for an exit. Not finding any means of escape he uttered a piercing shriek, and, with the most prompt decision, took up his station directly under the light, thus gaining over his adversary (to use the language of pugilists) *the advantage of the sun*. The ferret now erected his head, sniffed about, and seemed fearlessly to push his way towards the spot where the scent of his game was strongest, facing the light in full front, and preparing himself with avidity to seize upon his prey. No sooner, however, had he approached within two feet of his watchful foe, than the rat, again uttering a loud cry, rushed at him, and in a violent attack, inflicted a severe wound on the head or neck of the ferret, which soon discovered itself by the blood which flowed from it; the ferret seemed astonished at the charge, and retreated with evident discomfiture, while the rat, instead of following up the advantage he had gained, instantly withdrew to his former station under the window.

The ferret soon recovered the shock he had sustained, and erecting his head, once more took the field.

This second rencontre was in all its progress

and results an exact repetition of the former, with this exception, that on the rush of the rat to the conflict the ferret appeared more collected, and evidently showed an inclination to get a firm hold of his enemy: the strength of the rat, however, was prodigiously great, and he again succeeded in not only avoiding the deadly embrace of the ferret, but also inflicted another severe wound on his neck and head. The rat again returned to his retreat under the window, and the ferret seemed less anxious to renew the conflict. These attacks were resumed at intervals for nearly two hours, generally ending in the failure of the ferret, who was evidently fighting to a disadvantage from the light falling full on his eye whenever he approached the rat, who wisely kept his ground, and never for a moment lost sight of the advantage he had obtained.

In order to prove whether the choice of this position depended upon accident, my friend managed to dislodge the rat, and took his own station under the window; but the moment the ferret attempted to make his approach, the rat, evidently aware of the advantage he had lost, endeavoured to creep between my friend's legs, thus losing sight of his natural fear of man under the danger which awaited him from his more deadly foe.

The ferret by this time had learned a profitable

lesson, and prepared to approach the rat in a more wily manner by creeping insidiously along the skirting, and thus avoiding the glare of light that heretofore had baffled his attempts.

The rat still pursued with the greatest energy his original mode of attack, namely, inflicting a wound and avoiding at the same time a close combat, whilst it was equally certain that his foe was intent upon laying hold of, and grasping, his intended victim in his murderous embrace.

The character of the fight, which had lasted more than three hours, was now evidently changed, and the rat appeared conscious that he had lost the advantage he originally possessed, and, like the Swedish hero, had taught his frequently beaten foe to beat himself in turn.

At last, in a lengthened struggle, the ferret succeeded in accomplishing his originally intended grapple; the rat, as if conscious of his certain ruin, made little further effort of resistance, but sending forth a plaintive shriek, surrendered himself quietly to his persevering foe.

The progress of this experiment brought to proof the instinctive character of the animals engaged therein. There were many minor traits and circumstances illustrative of a reasoning power, the detail of which would far exceed the limits of this notice. It is evident, however, that in a state of nature, or in a fair field, the rat would

probably be triumphant; but in close quarters, and particularly in the dark, the insidious ferret would ultimately prove the victor.

As regards the history of the Ferret, the same gentleman has also given me the following account of its sanguinary and ferocious character, showing its partiality for human blood had it the power more frequently to indulge its inclination. Some few years ago a poor woman, holding a mangled infant in her arms, rushed, screaming with agony and fright, into my friend's house, who is a surgeon, imploring him to save her child's life, who, she said, had been almost killed *by a ferret*; the face, neck, and arms were dreadfully lacerated, the jugular vein had been opened, as also the temporal artery; the eyes were greatly injured, and indeed the child, who is still living, has lost the entire sight of one of them, and has very imperfect vision in the other. Having stopped the still bleeding vessels, my friend accompanied the mother to her cottage, on entering which, the child, in some degree recovering from its state of apparent death, began to cry, when the ferret was in an instant seen rushing from behind some bays where he had taken shelter, and with his head erect, boldly came forward and met the infuriated parent in the middle of the room, still holding her infant in her arms. On my friend's kicking the ferret, as the first impulse of protection, the animal

endeavoured to seize his leg, and not until his back was broken by repeated kicks did he give over his earnest and reiterated attempts to renew his sanguinary feast; and indeed, whilst in the agonies of death, the piteous screams of the child seemed to rouse him to vain efforts to regain his prey.

The ferret was of large growth, and much distended with the infant's blood; and although formerly of peculiar shyness, yet he lost sight of fear, and became ferocious in pursuit of the unfortunate infant. It appears the poor woman had left her child (about six months old), in a cradle whilst she went to market, when it is supposed the infant's cry had arrested the attention of the ferret, who managed to make his escape, and thus effected his purpose. There is good reason to believe he must have past more than half an hour in the indulgence of his appetite, from the circumstance of the neighbours having heard the piercing shrieks of the child for a long time without the slightest suspicion of the mother's absence.

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' Nature, enchanting Nature, in whose form
 ' And lineaments divine I trace a hand
 ' That errs not, and find raptures still renew'd,
 ' Is free to all men—universal prize.' COWPER.

IN surveying the works of nature, in admiring their beauty, their order, their seasons, and the thousand attractions they possess, I sometimes think that the divine Author of our religion viewed them with corresponding feelings; and this reflection always affords me pleasure. He selected a garden, having a brook in it, as a place of frequent resort; and, in a beautiful passage, we find him telling us to ' consider the lilies of the field, how ' they grow—they toil not;' he adds, ' neither do ' they spin, and yet Solomon in all his glory was not ' arrayed like one of these.' He delightfully reminds us how securely we may trust to his care and love, by desiring us to ' behold the fowls of ' the air, which neither sow, nor reap, nor gather ' into barns; and yet our heavenly Father feedeth ' them.' Then, again, he tells us ' that we are ' his sheep, and that He is our shepherd.' And at another time he illustrates his kindness and compassion by referring to the care and protection afforded by a hen to her chickens; and further assures us, that not even a sparrow falleth to the

ground without the knowledge of our beneficent Creator. These, and other illustrations of our Saviour's precepts, were taken from objects of nature, which probably immediately surrounded him, and may be admitted as a proof of the justice of the observation I have hazarded on the subject.

Throughout the whole of the New Testament the images taken from nature leave a stronger impression on the mind than almost any others. And sure I am that the close contemplation of those which assure us of the ever wakeful care and kindness of our Maker will bring with them a peaceful serenity of mind, which would be envied, if it could be justly appreciated, by persons who have hitherto thought but little on the subject.

I was occupied the other day, for a few moments, in reflecting on the benefits accruing to mankind, from a remarkable instinct impressed by the great Creator on that insignificant grub the silk-worm. What warmth and comfort does it afford to us! How useful, convenient, and, I may add, elegant, is the clothing we derive from it! But this is not all. Let us, for one moment consider how many thousands of persons are absolutely indebted to it for almost their very existence, in consequence of the employment it affords in nearly every country of the known world.

There is, however, another striking and interesting peculiarity attending the silk-worm, which I have not observed to have been hitherto noticed. It is the fact, that while the caterpillars of all the other tribes of moths and butterflies, when they have arrived at a certain state of maturity, show a restless disposition, and wander about and hide themselves in a variety of places in order to spin their cocoons, preparatory to their making their escape as moths, &c.; the caterpillar of the silk-worm, on the contrary, may almost be considered as a domestic insect, and is content to remain stationary in the open tray, or box, in which it may be placed. After consuming its immediate supply of mulberry leaves, it waits for a further quantity; and when the period is arrived for spinning its cocoon, instead of showing any migratory disposition, it seems to place itself with confidence under the care of man for the providing it with a suitable place for its convenience and protection. In the fly or moth state, the female is quite incapable of flight; and the male, although of a much lighter make, and more active, can fly but very imperfectly. This latter circumstance insures to us the eggs for the following season, thus completing the adaptation of the insect in its different stages to the purposes it is destined to fulfil for our advantage. To my mind this striking peculiarity in the habits of the silk-worm beauti-

fully illustrates the care and kindness of the Almighty, in thus making an apparently insignificant reptile the means of conveying so many important benefits to man.

The migratory disposition of the common moths and butterflies is not, however, without its use, though we may not so immediately profit by it. I have before observed, that the caterpillars hide themselves in a variety of places. These, in the pupæ state, furnish food for our soft-billed birds during the winter, who search for and feed upon them. Without such a resource many of them must perish during a severe frost. Numerous insects also lay their eggs, in living caterpillars, who die before they change into pupæ; so that the very existence, as it is well known, of some insects is perpetuated by the destruction of others.

In noticing these facts, it seems impossible to withhold at least that silent admiration, which the ways of Providence in the works of the creation claim from every one, by whom they are properly contemplated. Trifling as the relation may appear to some persons, it ought to carry the conviction with it, that we are under the care and guidance of an all-wise and bountiful Creator. Happy shall we be if this instructive lesson is not lost upon us.

I do not know that I can do better than introduce here the following fact, which, was commu-

nicated to me by an observant and veracious person. He informed me, that of all the natural phenomena on an extensive scale which, during a visit to America, arrested his attention, and excited his admiration of the ways of Providence, was the formation of Oyster banks on the seabord of Georgia. The land from the sea for about the space of from 12 to 18 miles is completely alluvial, and in general consists of uncultivated marsh lands, through which an iron rod might be thrust to the distance of 18 or 20 feet. A great number of large creeks and rivers are found meandering through these marshes, and owing to the sinuosities invariably resulting from running water, the bends of these rivers would, in a short time, cut away the adjoining land to such an extent as would make the whole sea-bord a quagmire. But it is a remarkable fact, that wherever the tide bends its force, its effects are counteracted by walls of living oysters, which grow upon each other from the beds of the rivers to the very verge of the banks. These fish are often found in bunches among the long grass growing upon the surface of the soil. They are in such abundance that a vessel of a hundred tons might load herself in three times her own length. These banks are the favourite resort of fish and birds, as well as of the racoon, and some other animals, who feed upon the oysters both by day and night. Bunches of them,

sufficient to fill a bushel, are found matted, as it were, together; and the neighbouring inhabitants and labourers will light a fire upon the marsh grass, roll a bunch of oysters upon it, and then eat them. This barrier of oysters, like rocks of coral, must offer the strongest resistance to the force of the tide.

' This wither'd tree was once in prime ;
 ' Its branches brav'd the sky—' CENNINGHAM.

I HAVE devoted two or three days of the present summer to visiting some of the finest old trees within a morning's drive of my residence, and have derived much pleasure from these little excursions. It is quite impossible to view these relics of antient times without feelings of veneration and respect ;—

' I doe love such ancient ruines,
 ' I never look upon them but I read
 ' Some reverend historie.' WEBSTER.

At the north-west angle of Richmond Green, may now be seen the trunk of an antient elm, called "the Queen's Elm," from having, it is said, been a favourite tree of Queen Elizabeth. Some kind hand, with equal good taste and feeling, has planted ivy round its naked trunk, and the inhabitants of Richmond, much to their credit, have protected it from injury by surrounding it with a paled fence. The ivy has thriven, and the lately naked trunk is now richly covered with a verdant mantle.

At the entrance of the old palace at Kew, from the barge walk, may also be seen a lime tree, not so curious from its size, as from the singular appear-

ance of its stem, which is deeply indented with seams, as if several branches had sprung up from the ground and been afterwards joined together. This tree was frequently noticed and admired by His late Majesty George the Third, and stands in the angle of two walls, a circumstance which detracts much from its beauty.

The tree however which fills me with more admiration than any other, is the old oak near the Ranger's stables in Hampton Court Park: it has already been noticed by me. At five feet from the ground it measures 36 feet in circumference. The trunk shews but few symptoms of decay, having been for some time secured from injury by a strong fence.

In the same park stands King Charles' swing—an elm tree curious from its size and shape. At 8 feet from the ground, it measures 38 feet in circumference.

On the lawn of Bushy House may be seen an antient and venerable oak of a most picturesque appearance. It was long under the protection of His present Majesty, and is no small ornament to the place. Some traditionary stories are said to be attached to it.

In the former series of my 'Gleanings,' I have mentioned that the fine Spanish chesnut tree standing near Bushy House, and said to have been planted by Charles the Second, was perhaps

the first of the kind in this country. I have since found that I was mistaken, having been assured that the oldest Spanish chesnut tree in England is in Lord Ducie's Park, Gloucestershire, under which, according to an engraved inscription upon it, King John held a Parliament. Under a picture of it at Tortworth Court is inscribed as follows:—
' A Spanish chestnut tree at Tortworth, Gloucestershire, nineteen yards in circumference, mentioned by Sir Thomas Atkyns as a famous tree in King John's time, and in Evelyn's Sylva for its magnitude in King John's time.' Tradition carries this tree back to the days of the Saxon King Egbert who reigned from 799 to 837. It still lives and bears fruit, some of which was sent to me last autumn. I may here mention that in falling and sawing up some of the old trees in Sherwood Forest, not a long time ago, the letters K I with a crown, were distinctly visible in the centre of them. This would lead one to suppose that they were timber trees in the reign of King John, and were not too much decayed to be called so at the time they were felled. Supposing, therefore, they were marked in the year 1200, and that they were 100 years old at that time, they would be 730 years old when they were cut down. It is not going too much out of the way to suppose, that if they had been suffered to remain standing, they would have lived from 200

to 300 years longer without becoming completely decayed. This would bring the age of an oak to 1000 years.

This fact of the mark I have referred to being found in the centre of the Sherwood Forest oaks is not a little remarkable, and in some degree identifies the age of the tree. That substances placed either in a hole or the fork of a tree, will, in process of time find their way into the centre of it, cannot be doubted. An instance of this was communicated to me by the head carpenter of Hampton Court Gardens, a person on whose accuracy and veracity I can place every reliance, and I give the account in nearly his own words. He informed me that hearing from some of his brother workmen that in sawing up the butt of a large ash tree, they had found a bird's nest in the centre of it, he immediately went to the spot, and found the ash cut in two longitudinally on the saw-pit, and the bird's nest nearly in the centre of the diameter. The nest was about two thirds of a hollow globe, and composed of moss, hair, and feathers, all seemingly in a fresh state. There were three eggs in it, nearly white and somewhat speckled. On examining the tree most minutely, with several other workmen, no mark or protuberance were found to indicate the least injury. The bark was perfectly smooth; and the tree quite sound. In endeavouring to account for this

curious fact, we can only suppose that some accidental hole was made in the tree before it arrived at any great size, in which a bird had built its nest and forsaken it, after she had laid three eggs. As the tree grew larger, the bark would grow over the hole, and in process of time the nest would become embedded in the tree.

I have already referred to a few of the fine old trees in Windsor Great Park, but I must not omit to mention the large vine in the gardens attached to Cumberland Lodge in that park. This vine is but little known, but it is considerably larger than the one at Hampton Court, filling a house 120 feet long, and producing last autumn a prodigious crop of grapes.

The large thorn in Dalham Park, Suffolk, (of which a sketch is here given), is also well worthy



of notice, both from its great size, its antiquity, and the curious manner, in which it grows. It also affords another proof of the accuracy of the remark I made elsewhere, that when the thorn arrives at a certain age, it separates into distinct stems.

It is perhaps not generally known that one of the elm trees standing near the entrance of the passage leading into Spring Gardens, was planted by the Duke of Gloucester, brother to Charles the First. As that unfortunate monarch was walking with his guards from St. James's to Whitehall, on the morning of his execution, he turned to one of his attendants and mentioned the circumstance, at the same time pointing out the tree.

Few trees were more interesting than the Golynos Oak; this wonderful tree grew on the estate from which it takes its name, about four miles from the sea-port town of Newport, in the county of Monmouth. It was purchased by the late Thomas Harrison, Esq. (many years His Majesty's Purveyor of Plymouth Dockyard and Dean Forest), in the year 1810, for one hundred guineas, and was felled and converted by him the same year. Five men were each twenty days stripping and cutting it down; and a pair of sawyers were constantly employed one hundred and thirty-eight days in its conversion. The

expense of stripping, felling, and sawing, (exclusive of superintending the conversion or hallage of any part of it), was eighty-two pounds. It was felled in separate parts, and stages were erected for the workmen to stand on to cut down the valuable limbs. Previous to being felled it was divested of its brushwood, which was placed as a bed, to prevent the timber from bursting in falling. The main trunk of the tree was nine feet and a half in diameter, and consequently no saw could be found long enough to cut it down; two saws were therefore brazed together. In cutting the



main trunk through, a stone was discovered six inches in diameter, six feet from the butt, and

three feet in a diametrical direction from the rind, round which the timber was perfectly sound. The rings in its butt being reckoned, it was discovered that this tree had been improving upwards of four hundred years! and, as many of its lateral branches were dead, and some broken off, it is presumed it must have stood little short of a century after it had attained maturity. When standing, it overspread four hundred and fifty-two square yards of ground. Its produce was as follows:

	Feet.
Main trunk, at ten feet long	450
One limb	472
One ditto	355
One ditto	235
One ditto	156
One ditto	113
One ditto	106
Six smaller ditto	413
Dead limbs of the size of timber	126
	<hr/>
Total quantity of timber	2426
	<hr/>

Its conversion was—the main trunk cut into quarter boards and coopers' stuff; the limbs, one upper piece stem for a one hundred gun ship, one ditto fifty guns, one other piece seventy-four guns, three lower futtocks each one hundred guns, one fourth futtock one hundred guns, one ditto seventy-four guns, one ditto forty-four guns, one

floor timber seventy-four guns, one second futtock one hundred guns, and about twenty knees, all of which were large enough for the navy. The heavy body bark was three inches thick. When all its parts were brought to market, they produced nearly six hundred pounds!

'Y——I to thee, this trifling prate
 ' I, with affection, dedicate,
 ' Because thou prizest things that are
 ' Curious and unfamiliar.'

HERRICK'S HESPERIDES.

I AM assured that Sir Stamford Raffles, while he was at Java, had a pet monkey, which on being corrected for some faults, twice tried to destroy itself, and at last succeeded in doing so. As suicide has hitherto appeared to be confined to the human race, this anecdote, if correct, brings this tribe of mammalia nearer to us than might be wished.

My brother's cat, when she cannot get at the cream, which she often tries to do before he is seated at his breakfast table, puts her paw into the cream jug, and then licks it. The experiment is frequently tried for the amusement of visitors. When I give my honest old terrier milk and water, and it happens to be too hot for him, he puts his paw into the basin several times, in order to try if he may venture to drink without scalding his tongue.

A friend of mine, who resided near London, had

in his dining parlour a large marble basin in which he kept four gold and silver fish. Three of them at length died, and in the winter just at the beginning of a hard frost, he went to pass about a week in London. On his return, in consequence of there not having been a fire in the room during his absence, he found the water in the marble basin one solid body of ice, and the remaining fish frozen in the middle of it. He immediately broke the ice around it, took it out, and found it to all appearance lifeless, and looking perfectly crystallized. This was about noon. Leaving the fish in the basin, and a fire having been lighted, he, after dinner, more from accident than any other cause, looked at the basin, and to his astonishment saw the ice in a great measure thawed, and the fish moving. At midnight, when he went to bed, it was as lively as usual.

I have been assured by several respectable persons, who have lived many years in the East Indies, that ponds which have become perfectly dry, and the mud hard, have after the rainy season, been found with fish in them, although no stream communicated with them, or any passage or other means by which fish could be admitted. The fact is not to be doubted.

A buck in Hampton Court Park, which had

received an injury, this season (1832) threw out an extraordinary pair of horns of most irregular shape, although they were the same weight as those of bucks of a similar age, (seven years). The horns did not stand erect in the usual manner, but appeared to lay along his back.

In those countries where there are long winters, and but little day light, oil, which is then so necessary, is procured in the greatest abundance from different marine animals and fish. Pennant calls the herring a stupendous gift of providence to the inhabitants of the British isles. We ought to reflect with veneration and awe on the mighty power, which originally impressed on these creatures the instinct, that directs and points out the course that blesses and enriches these islands. It is stated that there were at one time enclosed in St. Ives' Bay, Cornwall, at the shooting of the nets 7000 hogsheads of pilchards, each hogshead containing 35,000 fish, in all 245,000,000. The herring will rise at a fly.

I am informed by an old shepherd that sheep always feed greedily before rain. They thus fill their bellies as soon as possible, and retire for shelter under a hedge, where they can chew the cud.

Animals must in some degree enjoy a happiness,

or rather be exempt from sources of misery which embitter the life of most persons, namely, that they have no anxiety either respecting death, or the means of future subsistence, in short, no power of anticipating evil.

Solitude seems to be very distressing to animals. At the Zoological Farm on Kingston Hill, animals have been put together to prevent their pining to death.

Most small birds come to their full growth in about a fortnight after they are hatched. Were they to lie a long time in the nest in a helpless state, much fewer would escape. Some accident or other would destroy the whole breed.

Mr. White calls the Fly-catcher a harmless and *honest* bird, because it meddles with nothing but insects.

Blackbirds devour my mulberries. Those which fall to the ground are attacked by numerous flies, which occasions swallows to hawk under the tree all day long. The same cause attracts many wag-tails to the spot, and it is amusing to watch their quickness and nimbleness in catching the flies.

A Razor-bill (*alea torda*) was shot last winter (1831) on the pond at Pain's Hill near Cobham, and a gull (*larus canus*) about the same time on the river Mole near Hampton Court. A ruff (*tringa pugnax*) and a tern, or sea-swallow (*sterna hirundo*) were shot the same year by one of the keepers in Bushy Park.

I observe that lapwings (*vanellus cristatus*) lay their eggs in low moist situations in Richmond Park, probably the grass is stronger, and their young can be more readily concealed. As soon, however, as the young are strong enough to accompany them, the old birds take them to higher grounds. The young run as soon as they are hatched, but they cannot fly till they are nearly full grown.

The fact of rats being able to remove eggs from one place to another, without breaking them, seems to be pretty well ascertained. I was assured that on one occasion they had taken them from a box in which they had been placed. It is not easy to guess how they contrive to do either the one or the other.

When I have disturbed a fern owl (*caprimulgus*) in the day time, it takes a very short flight, and when it settles it appears to look around it with

astonishment. It is mobbed, like the cuckoo, by small birds.

Young cuckoos are frequently found in the tit-lark's nest in Richmond Park. Both birds abound in this park.

February 12th.—The head keeper in Bushy Park this day sent me a bittern, (*ardea stellaris*) shot on Hampton Common. I had it dressed, and it was very fat and excellent eating.

There is something to me very pleasing and exhilarating in the note, or as Mr. White calls it, the 'shrill,' of a grasshopper as I walk in the meadows on a fine sunny day. Cowley has some pretty lines on this insect.

Happy insect! what can be
 In happiness compared with thee?
 Fed with nourishment divine,
 The dewy morning's gentle wine:
 Nature waits upon thee still,
 And thy verdant cup does fill,
 All the fields which thou dost see,
 All the plants belong to thee;
 All that summer hours produce
 Fertile made with easy juice.
 Thee, country binds with gladness hear,
 Prophet of the ripen'd year.

I think I have ascertained beyond a doubt, or

rather to my own satisfaction, that the cadis-worm is not the grub of the common May-fly, having found the cadis long after the May-fly has appeared on the water.* Another proof is the appearance of the husks or exuviae which the May-fly casts from it. These husks are very different from any thing I have been able to discover connected with the cadis prior to its emancipation. The exuviae of the May-fly are a thin brownish covering, of the finest texture. The fly appears to split these cases open at the back, probably by some muscular motion of the body, and they may be seen afterwards floating on the water and hanging upon bushes. These cases, on being examined, will be found to have covered every part of the fly; the cases which protected the three long hairs (if I may call them so) of the tail, being quite perfect. May-flies do not appear to feed during the three or four days of their existence. It is supposed that the eggs deposited by the fly, do not arrive at maturity till two years afterwards. I shall never forget being at Denham near Uxbridge, at the time of the first appearance of the May-fly on the Colne that year. The whole scene around the beautiful and hospitable residence, at

* I have also been informed that the May-fly is never found on the river Wandle, where the cadis abounds, and may be found at all seasons of the year. This is also the case with respect to a pond in Surrey, where the May-fly is seldom seen.

which I was staying, was the most animated possible. Myriads of May-flies surrounded me playing in the sun-beams, fish rose in every direction, and swallows hawked up and down the river, and round and round its banks till they were glutted with food. Nothing is more beautiful and elegant than the motions of May-flies as they flit about on a fine morning in May. Sometimes they dart and strike at each other, and then play up and down in the sun-beams, varying all their motions, and seeming to enjoy their new existence.

The shrew mouse (*sorex araneus*) will attack frogs, probably for the purpose of feeding on them. The frog screams at the time in the most distressing manner. The person, who gave me the information, covered the two animals over with a flower-pot, but so earnest was the shrew in its attack upon the frog, that even this circumstance at first did not make him desist.

Very minute insects must have a strong migratory instinct implanted in them. I have seen a large bean-field in Oxfordshire covered with Aphides in the course of one night.

An excrescence taken from an oak tree in Ashted Park near Leatherhead, was lately sent to me. It was about the size of an egg, and but slightly fixed

to the tree. After it had been on my dressing-table a few days, I found the table covered with a great many flies like small winged ants, the wings being very transparent. On touching these flies as they ran about on the table, they immediately put on a semblance of death, which I had never before observed to be the case with any species of fly. The gall was perforated with a great number of small holes, as big as those which might have been made with a pin; and which I had not observed when I first received it. On cutting the gall carefully in two, a great number of small cells were found, some of them empty, and others having a small white maggot in them. Each cell was round and perfectly smooth. The external appearance of the gall resembled the bark of the oak. The formation of these galls by so minute an insect, is a curious circumstance in Natural History.

Two instances have been related to me of Herons having been caught with trimmers which have been set for pike. A heron was lately sent to me by the head keeper of Hampton Court Park, which was caught by the beak in a vermin trap. It has been supposed that a light is emitted by herons from their breast, as they stand in the water of an evening waiting for fish. I should like to be assured of the accuracy of this supposition.

I have elsewhere mentioned that the tameness or ferocity of a parent seems to be imparted to the young with life. A *tamed* wild duck that had been pinioned, reared her young on a pond close to a gentleman's house in Northumberland. These young never shewed any alarm at man, but remained all the winter with other fowls which had been reared under hens in coops. The common water-hen when long unmolested, becomes very confiding. Its habits and manners are extremely pretty.

I have heard it stated that some grain, either wheat or barley, had been found a few years ago in an earthen vessel of Roman manufacture, dug up at one of the stations of the Roman wall on the borders of Northumberland, and which vegetated when sown. This, if true, is a wonderful example of the preservation of the vital principle of seeds.

The migration of Wood-cocks is still wrapped up in much mystery, as the bird seems so incapable of making long flights and of encountering rude gales of wind. A gentleman on whose veracity I can depend stated, that while he was one day shooting near the Humber, he disturbed a wood-cock about the time of their annual arrival. The bird fled over a sand bank and disappeared.

The tide was at the same time flowing in. On following the wood-cock over the sand bank it was seen securely resting on the waves, and where it remained some time until it was again disturbed, when it rose, and flew away. May not wood-cocks in their annual flights settle on the water to rest themselves, and also snipes? The summer snipe swims and dives with ease. This has been frequently observed by persons who are in the habit of shooting at, and sometimes wounding, them on the banks of the Thames.

I have been informed that a living and healthy toad was lately found in the centre of a large block of millstone grit. This is one of the most curious problems in Natural History.

The chaffinch in Scotland is known among the peasants as the 'drunken sow,' because they have construed its call into the language of 'drink, 'drink till you're *fou*, wee drunken sowie.' In Gloucestershire the hedge sparrow is called 'blue Isaac.'

The love of pigeons for their native home seems to supersede that *στροφη* or natural affection which most animals shew for their young. Pigeons which have for three or four years bred in a confined place, have, on being released, forsaken their

young, although requiring all their care, and returned to their original haunts. °A pigeon which had been confined and made to pair with another, on being released forsook him and her two young ones eight days old, in order to return to a former partner. Although flying about in the neighbourhood, she never again came near them.

A person shot a viper's head off amongst some heath. Perceiving she was very big with young, he opened her stomach with his penknife, when nineteen young ones came forth, and began moving about.

I am assured by a person who has often tried the experiment, that though gold and silver fish will shew alarm by dashing about the glass in which they are confined, if he puts his face or hand near them they become calm, and evince much pleasure if he whistles to them. This affords another proof that fish can hear.

Fowls that roost in trees are much later in laying their eggs than those which have been housed and kept warm. Fowls belonging to London bakers begin to lay very early, as they generally roost over the ovens. Warmth therefore seems to be necessary to the early production of eggs, and it might be worth an enquiry whether those birds

which are most exposed to cold in a wild state, do not begin the process of incubation at a later period, than those which are kept warm. Pigeons are impatient of cold, and they are early breeders.

Every thing almost, which Mr. White has written interests me. In looking over his several volumes of manuscripts, I find the following names given to the notes, calls, and sounds made by several birds and insects;—

The Nuthatch, chatters.

Woodlark, whispers.

Bunting, sings.

Ring-Dove, crows.

Green Woodpecker, laughs.

Tit-Mouse, chirps.

Goldfinch, whistles.

Stone-curlew, clamours, cries.

Greenfinch, chirps.

Grasshopper-Lark, whispers, chirps.

Snipes, pipe.

Goat-sucker, chatters, jars.

Mole-cricket, churs.

Cuckoo, sings, cries.

Swallows, whistle.

Hedge-Sparrow, pipes in winter.

Wryneck, pipes.

Field-Cricket, shrills, cries, sings, crinks.

Water Wagtail, chirps.

Wren, laughs.

Willow Wren, makes a stammering noise.

Hogs, batten on beech mast.

Sewell, applied to the feathers tied to a string
to keep deer from breaking ground.

‘ Listen to Nature,

‘ A thousand joys her happy followers prove,

‘ Health, plenty, rest, society, and love.’

LORD HERVEY.

THERE are few people who do not enjoy a walk on a fine, smiling day in June, along meadows through which a stream of water takes its restless and meandering course. For my own part, in such a spot I always find something to interest and amuse me, and especially at the period when the grass is just ready for the scythe. Even the rustic bridge, which enables me to quit the sweets of a bean-field for the less powerful, but more delicate perfumes of my favourite meadows, is not without its interest. The trunk of an old willow pollard thrown across the little streamlet forms the bridge, and on one side, an equally rude rail has been nailed between two small alders to assist the helpless in making good their passage. Sedges and meadow-sweet, and here and there a bunch of brambles, mixed with honey-suckles, may be seen along the sides of the clear and silent stream. On approaching them a rat takes fright, jumps into the water, and rapidly makes his way to the opposite bank. At the same time perhaps a water-hen takes the alarm, and may be observed

stealing along the sides of the stream, sometimes hidden by the sedges, and then appearing in view again, giving a sort of jerk with her beak and white tail, and occasionally uttering a plaintive call to induce her little black brood to follow her.

As I pursue my walk along the foot-path, the pretty tufted Vetch (*Vicia Cracca*), the Cammock (*Ononis Spinosa*), the great Burnet (*Sanguisorba Officinalis*), the Cuckoo-flower (*Cardamine Pratensis*), and various other plants attract my attention. I disturb a titling or meadow pipit (*Anthus Pratensis*), and it settles at a little distance on the stalk of a wild sorrel plant, quivering with its wings, and then rising again slowly, it hovers in the air for an instant, and warbles sweetly till it alights on the ground. The sky-lark sings his song of love over my head, till after straining my eyes for some time, I discover a small speck amidst the blue liquid sky. This is my favourite bird. Far distant as he is from me, every note may be heard, owing to the calmness of the day:

How splendid all the sky! how still!

How mild the dying gale!

How soft the whispers of the rill

That winds along the dale!

So tranquil Nature's works appear,

It seems the Sabbath of the year.

Butterflies of various sorts may be seen in every direction, sometimes settling on the flowers,

and at others sporting together in the most joyous manner; while grasshoppers and numerous other insects produce a sort of harmony which cannot be unpleasing. Such is a meadow scene on a fine summer's day.

In pursuing my walk, I come to a small copse of old oak trees with an underwood of hazels, and a few hollies interspersed here and there. Earlier in the year the ground is covered with a profusion of blue-bells and primroses. They have now disappeared, but the tangled honey-suckles, the dog-roses, and various other flowers, give a cheerfulness to the spot, and here too I can enjoy the coolness of the shade. The stream has taken a sudden bend, and runs close under the copse. Insects play between the water and the overhanging branches of an oak tree, while a thrush sings his melodious notes on its topmost bough;—

— the thrush-haunted copse

- ' Where the brisk squirrel sports from bough to bough ;
- ' While from an hollow oak, whose naked roots
- ' O'erhang a pensive rill, the busy bees
- ' Hum drowsy lullabies.'

In my walk through the copse, I on one occasion disturbed a wren, and soon afterwards found its nest by the side of the stump of an old thorn tree. I like to see the bustle and activity of these minute birds during the time they have young ones. They then shew great anxiety, and appear

in a bush or along a hedge more like mice than birds. A gentleman, who, like myself, is fond of observing the habits of birds, on visiting one day a cottage in his neighbourhood, was told by some children of a wren's nest in a low hedge near the cottage. Wishing to have it left unmolested, he promised the children that if they would take care of it he would give them a reward. On visiting the nest a short time afterwards, he found that the usual hole of the nest had been stopped up, and immediately accused the children of having broken their promise not to touch the nest. They protested that they had never once meddled with it, or disturbed the old bird, but acknowledged that they had frequently looked at it. On examining the nest more attentively, it was found that the original hole of entrance to it had been stopped up, and that another had been made at the back part. It was evident that the bird, disliking to be looked at, and feeling unwilling to forsake her eggs, had taken this method of obviating the inconvenience to which she was subjected. This little anecdote affords another proof of the sagacity and foresight of animals.

The Water-crake (*Rallus Porzana*), is sometimes found in the meadows I have been referring to. It is, however, a scarce bird with us, and is exceedingly shy and solitary. It is said to form a buoyant nest, which rises and falls with the water,

and is moored to the stalk of a reed or bull-rush. It shews great ingenuity and perseverance in avoiding dogs, running and skulking among high grass and rushes, so that it is difficult to get it on the wing. The young ones, both of this bird and the water-hen, do not appear to require the care of the mother for any length of time, as they soon leave her.

It was on my return from a walk in these meadows that I had an opportunity of observing the almost total loss of the power of self-preservation in a rabbit, which was pursued by two weazles. It appeared to lose that activity and cunning which I have so often observed in it when pursued by dogs. It will then steal from break to break, stand on its hind legs, listening to every sound, and will, when necessary, creep into a hole. In the present instance, however, all its faculties appeared to be paralyzed while the weazles were in pursuit. It bounded about in a sort of circle, shrieking with terror, and seemingly incapable of getting away from its enemies, who would soon have destroyed it had it not been for my interference. Its hole is always avoided by a rabbit when pursued by weazles. I have been assured that weazles have been known to hunt hares and rabbits in small packs, and have myself had opportunities of observing that they hunt by the scent.

It has always struck me as a curious fact, that during my walks I have but very rarely met with a dead bird. When we consider the countless myriads of birds of various kinds, and how few of them, comparatively speaking, are killed by man, or taken alive, it becomes a matter of curious enquiry what becomes of the vast remainder. It may be thought that when disease or old age overtakes them, they get into holes and hedges and die. But who ever found any in such places? Or it may be said that vermin devour great numbers, and that many destroy each other; but how seldom is the skeleton or the remnant feathers of a dead bird seen compared with the multitudes whose existence is not ended untimely. I should be grateful to any one who would at all lessen my curiosity, by throwing any light on the subject.

- ‘ So work the honey bees :
 ‘ Creatures that, by a rule of nature, teach
 ‘ The art of order to a peopled kingdom.’

SHAKESPEARE'S HENRY IV.

THE lower orders of people in this and some other places have curious superstitions respecting bees. A poor old widow once complained to me that all her stocks had died, and on enquiring the cause, she informed me that on the death of her husband a short time before, she had neglected to *tap* at each of the hives to inform the bees of the circumstance. In consequence of this omission they had been gradually getting weaker and weaker, and that now she had not one left. This may appear a solitary instance of superstition, but it is by no means the case, and I believe it will be found that very generally on the death of a cottager who has kept bees, some ceremonious observance takes place. Mr. Loudon mentions that when he was in Bedfordshire, he was informed of an old man who sang a psalm in front of some hives which were not doing well, but which he said would thrive in consequence of that ceremony. This may be a local or individual superstition, but the announcement to the bees of the death of the owner is certainly a more general one. A corres-

pendent of Mr. Loudon's mentions, that in Norfolk; at places where bees are kept, it is peremptory, in case of the death of any of the family to put the bees in mourning, or the consequence would be that all of them would die. The person who made the assertion mentioned a case in point, where, from the neglect of the custom, every bee in the apiary had perished. The method of putting them in mourning is by attaching a piece of black cloth to each of the hives. Another correspondent also says, that in the neighbourhood of Coventry, in the event of the death of any of the family, it is considered necessary to inform the bees of the circumstance, otherwise they will dwindle and die. The manner of communicating the intelligence to the little community, is with due form and ceremony to take the key of the house, and knock with it three times against the hive, informing the inmates, at the same time, that their master or mistress, as the case may be, is dead. A similar custom prevails in Kent, and in some places it is considered expedient to communicate any great event that may take place to these industrious insects. The use of a key seems necessary in another ceremony which takes place in regard to bees. When a swarm has quitted one of my hives, I always observe that a key is used to induce it to settle, by striking it against a frying-pan, and I should feel some regret if this good old

custom was omitted. So far from letting the *ringer* think that the tinkling noise he makes is a useless one, I always encourage the practice of it, and it is 'one of the pleasurable sounds of the country. Often have I quitted my room on hearing it to enjoy the sight of my additional wealth, and to assist in securing it. The day is sure to be warm and *smiling*, and I watch the increased accumulation of my clustering bees with infinite satisfaction. The old customs I have been mentioning, and many similar ones which are practiced by my poorer neighbours, may be laughed at, but I like them all as long as they are innocent, and consider them as adding in some degree to the interest of a country life. Could I but see our peasantry prosperous and happy, all their little superstitions, their prejudices, and their many virtues, would only serve to increase the gratification I should experience in living amongst them.

To a thinking mind, few phænomena are more striking than the clustering of bees on some bough, where they remain, in order as it were, to be ready for hiving:—

‘————— arbore summa

‘ Confluere, et lentis uvam demittere ramis.’

I observe that where a hive is fixed over a swarm, the bees will generally go into it of their own accord, uttering at the same time their satisfied

hum,* and seeming to be aware of the purpose for which it was placed near them. How the queen bee is made acquainted that so convenient a place for her to retreat to is near at hand, I know not, but so it is. Surrounded by thousands of her subjects who press around her, she makes her way through them all, and enters the hive, followed by the whole swarm. Some means of communication must have taken place, as it is quite impossible that she could herself have seen the snug retreat which had been prepared for her. Here the work of preparing future cells is instantly commenced, and I have found that although a swarm has not been able for two or three days to quit the hive after they had taken possession of it, a considerable number of cells had been nearly completed. Even as soon as the foundation of a cell has been finished, the queen bee will sometimes deposit an egg upon it, the sides being afterwards built up. As the cells increase in number, honey and the farina of flowers are stored in them :

‘ The careful insect ’midst his work I view,
 ‘ Now from the flowers exhausts the fragrant dew ;
 ‘ With golden treasures loads his little thighs,
 ‘ And steers his distant journey through the skies ;
 ‘ Some against hostile drones the hive defend,
 ‘ Others with sweets the waxen cells distend ;
 ‘ Each in the toil his destin’d office bears,
 ‘ And in the little bulk a mighty soul appears.’ GAY.

* Shakespeare alludes to the ‘ surly hum ’ of bees.—HENRY IV.

Nothing can be more melancholy than the appearance of bees in wet weather. Some of them I have observed to come to the mouth of the hive, as if to take a view of the passing clouds, and some of those who are tempted to quit the hive return to it with the greatest difficulty. A sunshiny day in May is their delight, and it is then that bees seem most active and most joyous.

‘Blest power of sun-shine! genial day,
‘What balm, what life is in thy ray!
‘To feel thee is such real bliss,
‘That had the world no joy but this,
‘To sit in sunshine, calm and sweet,
‘It were a world too exquisite.’

LALLA ROOKIE.

‘ Let me tell you the Salmon’s growth is very sudden. It is said, that after he has got into the sea, he becomes from a Samlet, not so big as a Gudgeon, to be a Salmon, in as short a time as a gosling becomes to be a goose.’ IZAAC WALTON.

THE following amusing account of the sagacity of a water-dog is extracted from a work, by Dr. William Hamilton, perhaps but little known in this country. It is an interesting description of the coast of Antrim, in a series of letters. In one of them, Dr. Hamilton observes that the abundance of fish taken in the rivers of the north of Ireland, may in some measure be inferred by the fact that fourteen hundred salmon have been taken in the river Bann at one hauling of the net; and what is almost equally remarkable, near one thousand were caught at the succeeding haul. He then adds, ‘ now that I am got on the subject of fishing, let me tell you of an amusing instance of sagacity which I had an opportunity of seeing a short time ago, in a water-dog of this country, which had become a most excellent fisher.’

‘ In riding from Portrush to the Giant’s Causeway with some company, we had occasion to ford the river Bush, near the sea; and as the fishermen were going to haul their net, we stopped to see their success. As soon as the dog per-

ceived the men to move, he instantly ran down the river of his own accord, and took post in the middle of it, on some shallows, where he could occasionally run or swim, and in this position he placed himself with all the eagerness and attention so strongly observable in a pointer dog which sets his game. We were for some time at a loss to apprehend his scheme, but the event soon satisfied us, and amply justified the prudence of the animal; for the fish, when they feel the net, always endeavour to make directly out to sea. Accordingly one of the salmon, escaping from the net, rushed down the stream with great velocity, towards the ford, where the dog stood to receive him at an advantage. A very diverting chase now commenced, in which, from the shallowness of the water, we could discern the whole track of the fish, with all its rapid turnings and windings. After a smart pursuit, the dog found himself left considerably behind, in consequence of the water deepening, by which he had been reduced to the necessity of swimming. But instead of following this desperate game any longer, he readily gave it over, and ran with all his speed directly down the river, till he was sure of being again to seaward of the salmon, where he took post as before in his pointer's attitude. Here the fish a second time met him, and a fresh pursuit ensued; in which, after

‘ various attempts, the salmon at last made its way out to the sea, notwithstanding all the ingenious and vigorous exertions of its pursuer.

‘ Though the dog did not succeed at this time, yet I was informed that it was no unusual thing for him to run down his game, and the fishermen assured me that he was of very great advantage to them, by turning the salmon towards the net.

‘ During the whole of the chase, this sagacious animal seemed plainly to have two objects in view; one, to seize his game, if possible; and the other, to drive it towards the net when the former failed; each of which he managed with a degree of address and ingenuity extremely interesting and amusing.’

It is somewhat unaccountable, that mankind should look, with so much horror, and disgust, on any remote similitude which some of the brute creation bear to the human person and features, and yet dwell with pleasure on much nearer approaches toward, what they think, is their prerogative faculty of reason. Perhaps it may be, that a consciousness of decided superiority in the latter case, makes us observe the ingenuity of animals, without the alloy of any uneasiness from an apprehension of rivalship:—

‘ Reason and Instinct! who shall dare to say,
 ‘ Where one commences, and the other ends,
 ‘ So undefin’d is their affinity! ANON.

The return of salmon to their native streams is one of the most curious facts in Natural History. Indeed we may trace in them the same extraordinary instinct which is possessed by our migratory birds, and which leads them, in many instances, even soon after they have quitted their nest, to wander to far distant climes, where they meet with that food which is congenial with their nature. So is it with the salmon. They leave the fresh water river, little insignificant fish, not weighing perhaps more than one or two ounces, enter the vast ocean of salt water, traverse it to an extent of which we are ignorant, and in the course of a few months return to the very same river from which they had previously migrated. In their various wanderings they must be subject to be preyed upon by many enemies. In order, however, to make up for these casualties, the ovarium of one female salmon will produce 20,000,000 ova, thus shewing the bounty of Providence in preserving to us a fish of such incalculable utility.

The growth of salmon between the time the young fish quit the river till their return to it, appears, from several authorities, to be very rapid, varying from four to ten pounds: where testimony in favour of this fact is very strong, one is, of course, induced to give credence to it. At the same time I am bound to admit from observations made on the large quantity of salmon which our

numerous fishmongers exhibit from March to September, that there is some foundation for an opinion that the growth of salmon is over-rated. About the end of August young salmon may be seen not weighing more than $1\frac{1}{2}$ lb. to 2 lbs.; and a very considerable portion of the salmon sent to London in the month of March, consists of fish that do not average more than 4 to 5 lbs. each. While I allow the full force of this objection, it might, I think, be accounted for from several causes, such as locality, food, &c., but chiefly perhaps from spawn having vivified very late in the season, and the young fish produced from it having, from some cause or other, returned at an earlier period than others, to their native stream. It is a known fact that there is a difference of three months between the early and late spawners in the same river. The brood of the former would probably enter the sea with every advantage of time and season. They might be able, like the swallow, to reach far distant regions, suitable to their nature and supply of food, and would commence their return when a strong migratory instinct compelled them to do so. The later brood on the contrary, for some unexplained reason, might remain near the mouth of the river they had only quitted a short time before, and if this should be the case, they would probably re-enter it long before the early brood. I have

ventured to mention this supposition, because I have remarked that young salmon, of from one and a half to two pounds, have generally found their way to our markets some time before those of from four to ten pounds weight. It is not, however, one or two solitary experiments which will establish the fact of the rapid growth of the fish in question. The subject is a curious one, and I should feel thankful for any communications respecting it.

In looking over some of the proceedings of the Royal Irish Society, respecting certain fisheries in dispute with the Marquis of Donnegal, I met with the following extract, which contains some interesting particulars respecting the Natural History of the Salmon. It is a part of the evidence of David Babington, Esq., the Law Agent of the Society, and his testimony in favour of the rapid growth of the salmon appears very conclusive of the fact. Mr. Babington says, that 'Salmon spawn is generally lodged in shallow streams or creeks in small fivers, in the harvest season. It is lightly covered with gravel by the mother fish, as they are called, and continues there till the months of March, April, and May following, when it vivifies sooner or later according to the heat or coolness of the season, and to the quantity of covering that may have been put upon it, and which is frequently encreased

‘ or diminished by the winter floods. Almost as
‘ soon as they are able to swim, the young brood
‘ begin to make their way to the sea, where their
‘ growth is so rapid, that although when they pass
‘ to the sea they may not weigh more than one or
‘ two ounces, they are found to return in July and
‘ August into the fresh water, grown to the enor-
‘ mous weight of from four to ten pounds. It is
‘ equally remarkable of this species of fish, that it
‘ always endeavours to return into the same river
‘ it was spawned in, which facts of growth and
‘ propensity to return to their native rivers are
‘ ascertained beyond a doubt by a practice that I
‘ have frequently assisted in of taking up the fry
‘ in its passage to the sea, in different rivers remote
‘ from each other, weighing and marking them by
‘ the introduction of threads of silk into the fins,
‘ cutting the fins in different ways, and the like,
‘ and entering down the respective weights and
‘ marks of each in a book, and afterwards catching
‘ and weighing them on their return. No instance
‘ was ever found of the fry taken up and marked
‘ in one river, being caught in another.’

Mr. Babington then refers to Eels, and adds
that ‘ the eel tribe perform their functions in the
‘ very contrary way, and their history is not so
‘ well understood. They spawn in the sea, and
‘ the fry when not more than from one-eighth to
‘ one-fourth of an inch long, nor thicker than the

‘ hair of a horse’s mane, make their way into the
 ‘ fresh waters in the summer months, and return
 ‘ to the sea full grown the following year, from
 ‘ whence it is conceived they never come back.

‘ Salmon are always taken in their passage
 ‘ from the sea to fresh water, and eels in their
 ‘ passage from fresh water to the sea. Of course
 ‘ where there are two salmon fisheries in the same
 ‘ river, that next the sea must have the benefit of
 ‘ precaption, and vice-versa with respect to eel
 ‘ fisheries.’

I have been assured that in order to facilitate the passage of the young eels, which emigrate from the sea along the shore in some of the Irish rivers, especially the Bann, bushes, trusses of straw, &c. may be seen placed at stated distances for many miles. These must be a great assistance to the young fry, in enabling them to stem the current.

What has been here quoted respecting eels, is corroborative of what I have stated in another place of the propensity of these fish, when they have the power, of going to the sea or brackish water to deposit their spawn. It also agrees with the remark of an old fisherman that ‘ large eels
 ‘ have as strong an inclination to go down the
 ‘ stream, as young eels have to wander up.’

How now!—a Rat?

HAMLET.

During the very sudden rise of the Thames which took place this spring (1833), a great number of rats were observed on the willows which grow on the aits, or little islands of the river. Most of them, however, contrived to get to land, encountering the strong currents which then prevailed, and subsequently took refuge in drains, buildings, &c. In summer they appear to make their way from the aits to the shore every evening, getting up the drains, and entering houses, where they become a great nuisance to those who have residences on the banks of the river. In summer, rats haunt the fields, and especially corn-fields, where they make burrows and breed. They generally retire on the approach of the reapers, and get into the banks and hedges. They lay up a store of ears of corn, and I have seen a great quantity taken out of one of their runs. The damage therefore done by rats is not confined to the barn or corn-rick, but is much greater in the corn-field than is generally supposed. As they infest the fields in summer, I have no doubt but that they destroy a great quantity of game, and that much of the devastation which has been

attributed to stoats and weazels, has been committed by rats. When these vermin abound much in a farm-yard during winter, but little game will be found in its immediate neighbourhood in the ensuing autumn. Gentlemen, therefore, who are particular in the preservation of game, cannot pay too much attention to the cleanliness of the farm-yards of their tenants. It will be a great advantage to both parties. Mr. Broad's method of destroying rats never fails if properly attended to. His secret produced him 1000 guineas before he divulged it.*

The increase of rats, where little pains are taken to destroy them, is something enormous. The females are supposed to breed five or six times a year, and they will produce 12, 14, 16, and even as many as 18 at a litter. The most interesting account of rats I have met with, was made some time ago in an official report to the French government. It was drawn up in consequence of a proposition made for the removal of the horse slaughter-house at Montfaucon, to a greater distance from Paris, when one of the chief obstacles urged against such a removal, was the fear entertained of the dangerous consequences that might result to the neighbourhood, from suddenly depriving these voracious vermin of their

* His traps, and instructions for using them, may be had at Osmond's, in Piccadilly.

accustomed sustenance. The report goes on to state that the carcasses of the horses killed in the course of a day (and sometimes these amounted to 35) are found the next morning picked bare to the bone. Dussausois, a proprietor of one of the slaughter-houses, has, however, made a still more conclusive experiment. A part of his establishment is enclosed by solid walls, at the foot of which are several holes made for the ingress and egress of the rats. Into this enclosure he put the carcasses of two or three horses, and, towards the middle of the night, having first cautiously, and with as little noise as possible, stopped up all the holes, he got together several of his workmen, each having a torch in one hand, and a stick in the other. Having entered the yard, and closed the door behind them, they commenced a general massacre. It was not necessary to take any aim, for, no matter how the blow was directed, it was sure to immolate a rat, and those who endeavoured to escape by climbing up the walls were quickly knocked down. By a recurrence of this experiment, at intervals of a few days, he killed in the space of a month 16,050 rats. After one night's massacre, the dead amounted to 2,650, and the result of four hunts was 9,101. Even this can give but an imperfect idea of the number of these vermin, for the enclosure in which they were thus killed contains not above the twentieth part of the

space over which the dead bodies of horses are spread, and which it is but fair to suppose must equally attract the rats upon all points. These animals have made burrows for themselves, like rabbits, in the adjoining fields, and hollowed out into catacombs all the surrounding eminences, and that to such an extent, that it is not unusual to see the latter crumble away at the base, and leave these subterraneous works exposed. So great is the number of these animals, that they have not all been able to lodge themselves in the immediate vicinity of the slaughter-houses, for paths may be distinctly traced leading across the fields, from the enclosures in which the horses are killed, to a burrow about 500 paces distant. These paths are particularly remarkable in wet weather, being covered with a clayey mud, which adheres to the feet of the rat on running out of the burrows.

The predilection these animals shew to one particular part of a horse is curious. They invariably begin by devouring the eyes, drinking the liquid contained in them, and eating the fat at the bottom of the orbit. There has not been one instance of a dead horse left one night exposed, the eyes of which were not devoured before morning.

During very severe frosts, when it becomes impossible to flay and cut up the bodies of horses

that have been for any time exposed to the air, and when even the fragments of flesh lying about have become so hard as to render it difficult for the rats to feed upon them, they resort to the following expedient:—they penetrate into the body and there devour themselves, and devour the flesh, so that when the thaw comes, the workmen find nothing but a skin and a skeleton underneath, as clean and clear of flesh as if it had been prepared by the most skilful operator.

Their ferocity as well as their voracity surpass any thing that can be imagined, to prove which, the following fact was stated:—Mons. Magendie having gone himself to Montfaucon to procure twelve rats upon which to make experiments, had them put together into a box. On his return home he opened the box and found but three rats, the others having been devoured by the survivors, and nothing remained of them but their tails and bones. The fact appears incredible, but the reporters declare that they had it from Mons. Magendie's lips.

The conclusion of the report is much too *important* to be omitted, and contains a useful hint to those who may be inclined to frequent the minor restorateurs of Paris. It goes on to say, —‘ a man and a woman are employed the whole year round in flaying and cutting up dogs and cats. The skins of the dogs are hung up to

‘ dry; those of the cats are carefully stuffed with
‘ straw; the fat of both is sedulously collected
‘ and melted down, and the paws sold to the glue
‘ makers.’ We never entered this establishment
‘ without finding a great number of dogs and cats
‘ flayed, embowelled, and trussed with the greatest
‘ care, and quite ready for the spit or stewing pan.
‘ As the heads and tails are always cut off, these
‘ cats and dogs thus prepared, present a very
‘ tempting appearance, and it would be somewhat
‘ difficult to distinguish them from animals of the
‘ same size which are admitted to our tables.’

It appears that dogs are trained to bring to land the dead dogs and cats floating in the Seine. The stench and filth at Montfaucon are stated to be of the most horrid description, and yet all the men, women, and children, were found to be in a very healthy state. Indeed during an epidemic disease which prevailed in the neighbourhood, not one of the workmen of Montfaucon was attacked by it.

In an American work called ‘ Our Neighbourhood,’ may be found some interesting facts respecting rats. It appears that they have been frequently known to gnaw through water-casks, it being a mistaken notion that rats will not make a hole through articles of this nature, or through the planks of a ship. It is probable that they only refrain from doing the latter, not because

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they have any sense of the danger in scuttling a vessel, but from their dislike to salt. The outside plank of a ship is nearly saturated with salt, the rats therefore gnaw until the taste of the wood becomes disagreeable to them, and then they desist.

Rats and mice seldom, if ever, infest a house at the same time. If the mice get possession first and are numerous, they can keep off a score or two of rats. If, however, they are small in numbers, the rats soon destroy them.

I find that rats devour the common brown shelled snail, great numbers of the latter having been taken from the interstices at the bottom of an old wall in my garden; while at the same time I found great quantities of the broken shells in a hole or run which some rats had made near the spot. Rats will also eat frogs, fish, and the bark of trees.

'The fly-catcher is of all our summer birds the most mute, and the most familiar. — It builds in a vine, or a sweet-briar, against the wall of an house, or in the hole of a wall, or on the end of a beam, and often close to the post of a door.'

WHITE'S SELBORNE.

I HAVE now in my possession a curious instance of the habits of the spotted fly-catcher or beam-bird, (*muscicapa grisola*) in selecting very peculiar and odd situations for building its nest. The nest in question was found on the top of a lamp near Portland Place, London, having five eggs in it which had been sat upon. The top of the lamp was in the shape of a crown, similar to those which may now be seen in Whitehall. The nest was built in the hollow part of it, but perfectly concealed. In consequence of the great heat produced by the gas, the four legs or props of the ornamental crown became unsoldered, and a complaint was made to the authorities for lighting the streets, and the top, with the nest in it, was brought to them. The nest was composed of moss, hair and some fine grass. It is not a little curious that it should be found in such a situation, and with so great a degree of heat under it. Mr. White says that in outlets about towns, where mosses, lichens, gossamer, &c. are wanting, birds do not make

nests so peculiar each to its species. Thus the nest of the chaffinch has not that elegant appearance, nor is it so beautifully studded with lichens as those in the country; and the wren is obliged to construct its nest with straws and dry grasses, that do not give it that roundness and compactness so remarkable in the usual edifices of that little architect. The nest^{of} a question was not lined with feathers and spiders' webs as is generally the case.

I have discovered the fly-catcher's nest on two occasions in odd situations. One of them was behind a decayed piece of bark attached to an elm tree in Hampton Court Park, and the other was concealed amongst one of the ornaments of the beautiful iron gates of Hampton Court Gardens. In Mr. White's unpublished notes, he mentions a fly-catcher having built its nest, in a very peculiar manner, on a shelf fixed to the wall of an outhouse, and behind the head of an old rake lying on the shelf. Indeed the bird would appear to have a partiality for the last mentioned implement, for in Loudon's Magazine of Natural History it is stated that a fly-catcher's nest was built upon a wooden rake lying on the ground in a cottage garden at Barnsford near Worcester. In this nest the female laid five eggs, and even sat on them, indifferent to any one passing in the garden, till the nest was taken by a boy belonging to the cottage.

It appears from observations I have made that

the fly-catcher is one of the earliest of the migratory birds which leave us. I have missed them a fortnight after they have quitted their nest. It is surprizing that such young and tender birds should have strength sufficient to perform their migration.

While on the subject of nidification, I will mention the following anecdote, not only as illustrative of the habits of a bird of which we have little knowledge, but as a proof of the affection animals are capable of showing for each other, as well as for their offspring. The anecdote was related to me by Mr. Gould, the ingenious author of two of our most splendid and interesting works on Natural History, and which he had an opportunity of witnessing himself at the house of M. Artaria at Manheim.

An African bird, the grenadier grosbeak of Latham, was put into the same cage with a hen goldfinch, in order to try whether they would breed together. This took place, and after they had paired, a quantity of grass and other materials were put into the cage to enable the birds to make their nest. As soon as the hen began to sit, the tropical bird took a quantity of the grass and covered the hen over with it. This he did every day punctually at eleven o'clock, (at which time the sun came upon the cage) and apparently for the purpose of screening her from its heat. It is not improbable therefore, that in very hot

countries, birds show this mark of attention to their mates. It may however be done for the purpose of concealing them from the sight of birds of prey, or other animals, which might either molest or destroy them. The male of this species of grosbeak is of a brilliant scarlet colour during the breeding season, (and hence his name of grenadier by some, and cardinal by others) but it changes to brown afterwards. Its size is that of a Linnet.

I have now brought my 'Gleanings' to an end, and quit them with regret. When I think of the many happy hours I have passed in contemplating the works of a beneficent Creator, I can look back upon them as neither mis-spent nor unprofitable. The gratification I have derived in viewing what is beautiful in nature—my pleasant walks by some clear and lively stream, and my strolls through woodland scenery, cannot better be expressed than by quoting the following poetical language by the author of *Salmonia*, with which I will conclude this volume.

'How delightful is it in the early spring, after
 'the dull and tedious time of winter, when the
 'frosts disappear, and the sunshine warms the
 'earth and waters, to wander forth by some
 'clear stream, to see the leaf bursting from the
 'purple bud, to scent the odours of the bank per-
 'fumed by the violet, and enamelled as it were,

‘with the primrose and the daisy; to wander
‘upon the fresh turf below the shade of trees,
‘whose bright blossoms are filled with the music
‘of the bee; and on the surface of the waters to
‘view the gaudy flies sparkling like animated gems
‘in the sunbeams, whilst the bright and beautiful
‘trout is watching them from below; to hear the
‘twittering of the water-h^{dr}~~ic~~^{le}, who, alarmed at
‘your approach, rapidly hid^{le} themselves beneath
‘the flowers and leaves of the water-lily; and as
‘the season advances, to find all these objects
‘changed for others of the same kind, but better
‘and brighter, till the swallow and the trout con-
‘tend as it were for the gaudy may-fly, and till in
‘pursuing your amusement in the calm and balmy
‘evening, you are serenaded by the songs of the
‘cheerful thrush and melodious nightingale, per-
‘forming the offices of paternal love, in thickets
‘ornamented with the rose and woodbine.’

