Hotices of New Books.

The Descent of Man, and Selection in Relation to Sex. By CHARLES DARWIN, M.A., F.R.S., &c. In two volumes. 900 pp. 8vo; 76 illustrations on wood. London: John Murray, Albemarle Street. 1871.

TWELVE years have elapsed since the publication of Mr. Darwin's 'Origin of Species,' which was at the time fully, but not approvingly, noticed in the pages of the 'Zoologist.' Then, as now, I felt convinced that the hypothesis broached by Mr. Darwin had no foundation whatever on which to stand; and a naturalist, who was in every respect fully competent to the task, wrote for the 'Zoologist' a notice of the work in entire accordance with my own judgment. Now a sequel to the 'Origin of Species' comes before us; and it is in all respects an appropriate sequel to the introduction by which it was preceded. It completes and crowns the work of which the 'Origin of Species' was the foundation stone. Finis coronat opus. The conclusion is not new to me: it is in exact accordance with my anticipations. Man is declared, as I expected would be the case, to be descended from an ascidian: and the process by which Mr. Darwin arrives at this conclusion is carefully and advisedly set forth by himself in the quotations which follow:

"We have thus far endeavoured rudely to trace the genealogy of the Vertebrata by the aid of their mutual affinities. We will now look to man as he exists; and we shall, I think, be able partially to restore during successive periods, but not in due order of time, the structure of our early progenitors. This can be effected by means of the rudiments which man still retains, by the characters which occasionally made their appearance in him through reversion, and by the aid of the principles of morphology and embryology. The various facts to which I shall here allude have been given in the previous chapters. The early progenitors of man were no doubt once covered with hair, both sexes having beards; their ears were pointed and capable of movement; and their bodies were provided with a tail having the Their limbs and bodies were also acted on by many proper muscles. muscles which now only occasionally reappear, but are normally present in the Quadrumana. The great artery and nerve of the humerus ran through a supra-condyloid foramen. At this or some earlier period, the intestine

gave forth a much larger diverticulum or execum than that now existing. The foot, judging from the condition of the great toe in the fœtus, was then prehensile; and our progenitors, no doubt, were arboreal in their habits, frequenting some warm forest-clad land. The males were provided with great canine teeth, which served them as formidable weapons."—Vol. i. p. 206.

This, it will be seen, is the announcement in the first volume, and the conclusion thus announced is repeated still more explicitly, but with a slight variation, at the close of the second: here it is.

"By considering the embryological structure of man,—the homologies which he presents with the lower animals,—the rudiments which he retains, -and the reversions to which he is liable, we can partly recall in imagination the former condition of our early progenitors; and can approximately place them in their proper position in the zoological series. We thus learn that man is descended from a hairy quadruped, furnished with a tail and pointed ears, probably arboreal in its habits and an inhabitant of the Old World. This creature, if its whole structure had been examined by a naturalist, would have been classed among the Quadrumana, as surely as would the common and still more ancient progenitors of the Old and New World The Quadrumana and all the higher mammals are probably derived from an ancient marsupial animal, and this through a long line of diversified forms, either from some reptile-like or some amphibian-like creature, and this again from some fish-like animal. In the dim obscurity of the past we can see that the early progenitor of all the Vertebrata must have been an aquatic animal provided with branchiæ, with the two sexes united in the same individual, and with the most important organs of the body (such as the brain and heart) imperfectly developed. This animal seems to have been more like the larvæ of our existing marine Ascidians than any other known form."-Vol. ii. p. 389.

Most of my readers will agree with me on two points. First, that it is extremely unwise to intermingle Darwinism and Theology; and it therefore may be most plausibly and fairly asked, Why then seek to intermix them? the answer is that, Secondly, It is impossible to keep them separate. If man be lineally descended from an ape or some ape-like creature or ape-like progenitor, and if at some remote period his ancestors underwent a change from jelly-fishes, or from fish-like animals, or amphibian-like creatures, or reptile-like creatures, or from marsupial animals, or from Old World monkeys, and this lineage is expressly set forth, then it follows that the assertion so emphatically made in

the book of Genesis (i. 27) must be untrue. Now this ape-descent of man is not only asserted in the passages I have quoted, but is assumed as proven in dozens of passages scattered throughout the volumes before me; for instance—"It is probable that the early ape-like progenitors of man were likewise social" (vol. i. p. 85): again, "the social instincts which must have been acquired by man in a very rude state, and probably even by his early ape-like progenitors, still give an impulse to many of his best actions" (id. p. 86). I will not stop to notice an obvious objection to this sentiment, but pass on: "We may infer that when, at a remote epoch, the progenitors of man were in a transitional state, and were changing from quadrupeds into bipeds" (id. p. 121): again, "These several reversionary as well as strictly rudimentary structures reveal the descent of man from some lower form in an unmistakeable manner" (id. p. 130): or again, "If then the ape-like progenitors of man" (id. p. 136): again, "the apelike progenitors of man" (id. p. 161); and so forth. Well, then, if we grant that these passages assume the truth, then assuredly there could have been no creation of a God-like man-a man "in God's image"; there could have been no garden of Eden; no tree of knowledge; no forbidden fruit; no temptation; no transgression; no expulsion; no need of a Saviour; no prophetic announcements of the advent of that Saviour; no fulfilment of those announcements; no reconciliation; no salvation: the entire Scripture history of man's occupation of the earth, the entire scheme of his redemption, the entire fabric of our faith, falls and crumbles into dust if that one verse is false, and false it must be if man were called into existence as the larva of an ascidian, or as some fishlike animal, or as a hairy quadruped furnished with a tail and pointed ears.

It is obviously no part of my duty as a zoologist to teach Theology, nor shall I attempt it; but it seems to me that the science of Zoology—certainly not the Bible—is endangered by Mr. Darwin's teaching; for every work that brings on Science the contempt or disapproval of the wise and good, is an attack on Science itself. Now Mr. Darwin has attempted to prove, by appealing to a systematically arranged series of facts, taught him by Science,—almost the whole of them indisputable, and all adduced in evident sincerity,—that man was not created at all; and in doing so he has availed himself of zoological science,

a science which I cherish and love, as an engine for the subversion of a religion which I also cherish and love, and in which I devoutly believe. I decline to bolster up my position by adducing proof that others share my belief in this religion, and in the Bible as its exponent; but I regard Mr. Darwin's exposition of a new faith as a private and individual grievance, inasmuch as he has done this through the instrumentality of a science I have always been studying and whilom attempting to teach. In reply it may be truthfully objected that Mr. Darwin has expressed no intention of contravening the statements or subverting the authority of Scripture; yet this appears to me the inevitable result of accepting as true the principles of man's evolution which he has laid down. Now if this be the tendency of legitimate science, then Science or Scripture must be given up. Antagonistic principles cannot be welded together: no sophistry, however ingenious, can possibly reconcile them: it is disingenuous to attempt it. Science is true; in other words, it is a simple and single-minded search after truth. Whenever it shall be made manifest to my mental perception that the Bible and truth are antagonistic, I must give up the Bible, and range myself under the banner of truth. present I see no necessity for this. I cannot consent to give up truth. But Mr. Darwin has not proved the ape-descent of I consider that his work is characterized throughout by what I believe is called a petitio principii, or, in more commonplace parlance, "a begging of the question": he reasons in a circle, and his circle, like every other, returns into itself. It will be seen that the brief but very unmistakeable passages I have quoted occur at the commencement of his own labours; and although they perfectly accord with the longer passages which I previously cited, it will I think be found that this method of reasoning is altogether unsound. Mr. Darwin assumes that his view of what we call "creation," or the world of organized beings, is the correct view, and therefore that he is at liberty to base every argument on the assumption. I would suggest that the logical mode of solving so profound and so difficult a question is not to assume that we had hairy-bodied ancestors furnished with a tail, but to prove that it was so: the only passage in the entire work in which I can find a tendency in this particular direction has reference to our descendants and not our ancestors; for the unborn human baby, in whom this character was discovered, could never have become a progenitor at all, and its parents were not known to have possessed this abnormal appendage.

Supposing a man to be writing a history of England, he would consult every previous history, every previous record; he would sift all accessible evidence as to dates, names, and relationships, and would compile his pedigree of our gracious Queen from authentic sources, or would be silent. Now there is one source of information for the "Descent of Man," and that Mr. Darwin ignores. True, there is the "Testimony of the Rocks," but that is worse than silent, it is adverse. He has therefore reduced himself to the necessity of inferring, assuming, guessing; and I contend that inferences, assumptions and guesses, however subtle, however ingenious, however plausible, can only obtain the most unsatisfactory of all verdicts, that of "Not Proven."

Touching this theory of pedigree, this chain of linear descent, Mr. Darwin is thoroughly aware of the vast gap that exists between the highest ape and the lowest man; and he makes no attempt to prove that an intermediate creature ever stood in this gap: not only is literature silent on the subject, but Geology emphatically denies the existence of such a creature. It is easy to imagine "a hairy quadruped, furnished with a tail and pointed ears, probably arboreal in its habits and an inhabitant of the Old World," but it is quite another thing to prove it, and in the entire absence of proof we cannot accept conjecture. The nearest approach of a brute to man is scarcely to be found in the chimpanzee, gorilla or ourang, but rather in the genus Hylobates, the gibbons, and perhaps especially in the extinct European Dryopithecus, a creature that Mr. Darwin has not overlooked, and one of which St. George Mivart has very recently pointed out the anthropoid characters; but even Dryopithecus will not answer Mr. Darwin's purpose: this miocene chiropod, as Mr. Mivart has well observed, confirms the claim of the gibbons to be placed at the head of all the apes, deposing even the gorilla from his throne of preeminence, but certainly is no connecting link between apes and man.

There is another very marked characteristic of the volumes before me: I allude to the introduction of such an enormous mass of matter that might be called irrelevant. The author's own resources, his own fund of zoological lore, seem well nigh inexhaustible; but, not content with this, he has laid his friends under

contribution for their observations also; and the result, as might be expected, is a "zoological miscellany" of unexampled interest. Still it is not to the point; it will and must amuse and instruct, but it cannot convince the most enthusiastic admirer that there is truth in the hypothesis of evolution; the concluding part of the first volume and almost the whole of the second seem to have no bearing whatever on the question discussed, the ape-origin of man. These six hundred pages are full of information, replete with instruction in Zoology, but I think that the author has received somewhat too readily and implicitly the statements of others: I cannot, for instance, agree with the assertion that birds reject hairy caterpillars, for I have long known that the cuckoo, that preeminently caterpillar-eating bird, feeds almost exclusively on the hairy kinds. The villose coating of this singular bird's stomach has caused much speculation, some ornithologists contending that the villosity is natural and normal, others that the hairs of the caterpillars it has devoured have become fixed in the coating of the stomach, and have thus produced the hairy surface in question. Be this as it may, the fact of the cuckoo's feeding by preference on hairy caterpillars does not admit of doubt. Any one might have made this mistake, and I only notice it because it forms the groundwork of an argument, and I desire to press on all speculative naturalists that the statements they receive should be most carefully considered before they take the form of arguments; for as facts are in their very nature the best of arguments, so statements susceptible of disproof are the worst and weakest; far from supporting, their tendency is to subvert, the desired conclusions.

Having passed for a moment from Mr. Darwin to his followers I may mention a weakness which seems common to them all; I allude to the extreme irritability they display when a critic or opponent suggests that the hypothesis of ape-origin is not original on Mr. Darwin's part. Why this should be I know not; indeed I cannot conceive why it should be either doubted or concealed that Lamarck expounded the hypothesis of evolution, entering in a methodical manner into the whole question. This is so notorious to reading naturalists that to assume the contrary, to deny to the really illustrious Frenchman any of the merits or demerits of his extraordinary hypothesis, in order that they may be bestowed on Mr. Darwin, has always seemed to me a lamentable mistake.

To return to Mr. Darwin's volumes, I am not prepared to dispute his statements as to the structure of the human body: many of them I know to be correct, others I believe to be so; and I am perfectly willing to admit that organs in constant use by man occur also, in a more or less modified state, in apes, dogs, seals, and even in animals supposed to be much lower in the scale. But, in the first place, I contend that this is no new discovery: this homologous character of the bones and muscles of mammals is the very foundation of the science of Comparative Anatomy. The same obtains in the insect world. What is a specific character, nomen specificum, but the admission of this truth. In my younger days I described some five hundred, perhaps a thousand, beetles: I gave them names, lamentable ambition! and I endeavoured to differentiate them by pointing out peculiarities in the structure of their maxillæ. mandibles, legs or elytra: this very circumstance is a tacit admission of that truth on which Mr. Darwin lays so much stress, that the same general plan of structure pervades large groups of animals. How can I deny the constant presence of an elytron, or a maxilla, when I have taken so much pains to describe their differences? And having admitted this fact into the science of Entomology, how can I resist it in other provinces of the animal kingdom? I neither dispute nor doubt that the bones and muscles in my arms and face have their exact homologues in the arms or legs or faces of apes, or dogs, or seals: it is manifest that on this truth the entire range of descriptive Zoology is founded. But if I am told that because I possess bones and muscles similar to those of an ape, a dog, or a seal, or even if I am subject to the same diseases, or am attacked by the same parasites,—for these facts are also adduced by Mr. Darwin,—or even if I have instincts or psychical characters analogous to those of an ape, a dog, or a seal, - for this is also adduced in evidence, - therefore I am descended from an ape, a dog, or a seal, I cannot acquiesce in the assertion; it seems to me a most evident non sequitur. were quite as easy, indeed more in accordance with familiar phenomena, to reverse the series, and to insist that the seal, dog, and ape are lineally descended from some primæval man. The one speculation would be as good, or as bad, as the other: indeed the very facts adduced by Mr. Darwin, that the descendants of reasoning man occasionally lack reason, and exhibit ape-like propensities and actions, in climbing trees and walls,

sitting on the backs of chairs and running up stairs on all fours, certainly indicate retrogression quite as much as progression; they tell us of a tendency downwards quite as much as a tendency upwards; and therefore the hypothesis of advance, the idea that every change is a change for the better, must fall to the ground.

Here another collateral consideration crops up out of the enquiry. How far are we to carry the theory that the existence of a graduated scale or series of allied forms or structures, can be admitted as evidence of lineal descent? Does it apply to organized beings only? or does it include the inorganic, the world of minerals? The mineralogist, the chemist, well know that there are affinities, approximations, gradations, in the Mineral Kingdom, · more delicate, more nicely adjusted, more complete, more continuous, than any that have been discovered either in the Animal or Vegetable Kingdoms. This may perhaps be ascribed to the perfect control which man has obtained over the so-called elements, the elementary or inanimate substances with which he deals. I think there are said to be some seventy of these, admitting of combinations almost infinite. The grouping of alkalies, I am told by chemists, is perfectly marvellous. Had Mr. Darwin found such gradations among plants or animals, he could not have failed to conclude that the characters were inherited. The fact of homologous bones or homologous muscles recurring through a long series of animals, with modifications more or less obvious, is more than paralleled, it is eclipsed, by the exquisitely delicate modifications of the inorganic world. A flake of snow exhibits some of these wonders; and every thoroughly-investigated series of cognate substances reveals similar gradations. How then shall we say of the interrupted series, of the broken and mutilated chain of existing animals—and we possess no clew to the recovery of the "missing links"-how shall we say, "Herein is proof of lineal descent; herein is evidence of the transmission of characters from an ancestry of immeasurable antiquity," and then forthwith assert that the more perfect series of inorganic objects has no such teaching; is the mere work of chance?

I have given in extenso not only Mr. Darwin's own summary of his own views, but also his own summary of the reasoning by which he arrived at those views, and I have done this with the determination to place Mr. Darwin before my readers exactly as he would

place himself. The great point on which Mr. Darwin relies is evidently the very rudimentary condition of the human fœtus and its progressive development anterior to birth: he has taken the utmost pains to place this development before us in the clearest possible light; and invites attention to its correspondence with inferior animals at various stages of their growth. Now I would remark, in the first place, that as the human embryo advances from the state of what may be called a protozoic spermatozoon, or from an ovule fertilized by the spermatozoon,—that is from the most simple, and most imperfect, condition known to the decided and comparatively complex and perfect condition it has assumed before birth,—it must of necessity pass through the intervening or intermediate conditions. Then seeing that man, in his consummate skill, has taken advantage of the greater or less perfection of the animal, as affording characters for systematic classification, it seems difficult to conceive anything more inevitable than the correspondence between the two: here, on one hand, is a positively ascertained progress towards perfection in a living being, and, on the other, a human classification founded on the degree of perfection exhibited by Nature herself. Suppose, however, that Cuvier had selected some other character for classification than that of comparative perfection, which he has so admirably carried out in the 'Règne Animal,' then there would have been no correspondence between the divine arrangement for progressive development in the fœtus, and the human classification, "according to its organization," of the animal kingdom. A master mind has studied with devout attention the steps of the ladder of life by which Nature mounted from the lowest to the highest, and has selected this graduated ascent towards perfection as the basis of his system. Nature supplies the facts, Cuvier arranges them; and it must be admitted that he has done so with a sagacity that clearly indicates the existence of the wide "gap" I have already noticed as separating ape from man.

I am equally a sceptic as to mental advance, and it will doubtless be considered that I have already urged my scepticism far enough on this subject and in this journal. Still it would be scarcely candid to pass over without comment such a passage as the following, which is penned to meet, not my objections, for Mr. Darwin is scarcely likely to have heard of them, but the objections of those who think as I think.

"To believe that man was aboriginally civilized, and then suffered utter degradation, is to take a pitiably low view of human nature. It is apparently a truer and more cheerful view that progress has been much more general than retrogression; that man has risen, though by slow and interrupted stages, from a lowly condition to the highest standard as yet attained by him in morals and religion."—Vol. i. p. 162.

Where is that highest standard to be found? Among the hairy Ainos of the far east; among the Buddhists of India; among the aborigines of Australia, who Mr. Darwin tells us cannot count more than ten; among the Bushmen of Africa; or in the saloons of Paris, the empress of fashion, the queen of civilization; or among the spas of Germany. Where, I ask, is this highest standard in morals and religion to be found? I believe this hypothesis of evolution will nevertheless prevail, because it flatters our vanity. Though the Venus and the Apollo, the ruins of Balbec and Palmyra, the massive masonry of Karnac and Edfou, may ere long serve to mend our roads, our evolutionists will doubtless still point to the mitrailleuses and the chassepots, to the electric telegraph and the steam engine, as unquestioned evidence of progress. But although Mr. Darwin recoils from the idea of retrogression, he does not refute it: he does not deny or in any degree invalidate the fact, that when the Muse of History first unveiled the statue of man's mind, she presented him in all his glory,—a glory ineffable, indisputable,—a glory that creates in us an insatiable, an insuperable desire to know something earlier, and therefore grander and more perfect, and more worthy of our imitation and admiration.

In the very most remote ages that history can reach, there was an idea, and in the Bible it is more than an idea,—it is an assertion,—that angels walked the earth, and that men were their associates and friends. Men dwelt with angels, conversed with angels, and were deemed worthy the companionship of angels, and even the companionship of their Creator. The belief in these assertions was once general; and it was advocated by some of the earlier Fathers of the Christian Church, and has been embodied in the sweetest poetry of modern times.

"When, in the light of Nature's dawn
Rejoicing, men and angels met
On the high hill and sunny lawn,
Ere sorrow came, or sin had drawn
"Twixt man and heaven her curtain yet.
When earth lay nearer to the skies
Than in these days of crime and woe."

The sentiment conveyed in these lines is in exact accordance with those earliest records which prove such sentiments to have imbued the minds of the earliest writers. It appears to me a proof of modern decadence, that minds of the highest type should have existed in the remotest ages. Literature is a telescope that brings far distant events in close proximity to our mental vision. Assuming the account of creation to be a myth, a fable, a romance, a poem, a "rhapsodical fiction;" supposing Adam to have been "the creation of a poet's dream," and Eve the "child of a distempered imagination," can we assume that the genius, call it human genius if you will, that inspired the Book of Genesis, is also a myth; assuming the sufferings of Job to be a fable, his patience an allegory, can we ignore the existence of that wonderful fable, of that matchless allegory? I cheerfully grant that the Iliad and Odessy are fables, but the mind that produced such fables cannot itself be a fable; it must have existed, and its date must have been remote. No argument can show that the Books of Genesis and Job, the Iliad and the Odessy, are non-existent; no argument can reduce their antiquity; and viewing them in the most common-place and matterof-fact manner, no argument can detract from their literary merit. Here are the witnesses of my faith in the mental superiority of my ancestors,-Genesis and Job, Iliad and Odessy, Edfou and Karnac, Balbec and Palmyra: let Mr. Darwin cross-examine them as he may please. We learn from anthropological and ethnological societies that a large proportion of the human beings now inhabiting the earth have no idea of a superintending Providence, that they slav their own children, fatten and devour their fellowcreatures: let Mr. Darwin examine these witnesses also.

In closing these volumes, I cannot resist the conviction that Mr. Darwin has ventured beyond his depth in essaying to apply his hypothesis to man. I think it next to impossible that he should make a single convert, except among those—and they, alas, are too numerous—who are ever ready, like the Athenians of old, to hear and to tell some new thing. In those matchless tales, which, under the guise of amusement, and in the garb of fiction, often the wildest and hence the most attractive, conceal or rather reveal the perfection of human wisdom, we find one the moral of which may be safely applied to this new light—this hypothesis of evolution. The princess who was attracted by the brightness and glitter of the new lamp, and who readily gave up her old lamp in

order to obtain it, found to her cost that with her old lamp had departed all her wealth. The Bible is that old lamp. Evolution is the new one, and it is pitiful to see how many are willing to exchange the old lamp for the new.

EDWARD NEWMAN.

The Triumph of Evolution and other Poems. By Joseph Merrin. London: Longmans, Green, Reader and Dyer. 1871. 90 pp. fcp. 8vo.

MR. MERRIN, whose name is already familiar to zoologists by his 'Butterflying with the Poets' and 'Lepidopterist's Calendar,' has here attempted a bolder flight, and has proclaimed himself a poet and a philosopher. He seems willing to adopt Mr. Darwin's hypothetical hairy ancestor, and to hymn, as with a band of sacred music, the apotheosis of this strange creature into the heaven of literature, the hymn being elicited by the final result and "Triumph of Evolution."

"Strange, hairy creature, Repellant, in feature,

Come forth! I can see, in thine eyes' brilliant rage The germ of the Hero, the Poet, and Sage! Nature will fashion thy limbs into grace, Blot the brute out from thy strange, cunning face, Unangle thy brow, raise Thought's lofty dome, Make every grace in thy soul have its home. Crown of Creation! Noble and grand, Gemmed with a splendour, hosts to command;

Fruit of all time, Rich and sublime,

Proud may the Universe be of thy prime!
King of the World! With flower-kissed feet;
Genius, thy mantle; glory, thy seat;
Ministers, ever, thy kingdom invest,
Ready to compass thy lightest behest,
Latest equipment of Substance and Force,
Like a bright star, on thy glorious course,
Thou sweepest the verges of time, without tire,
Leaving behind thee a thought-way of fire.
Mystic the alchemy shaping thy birth;
Mighty the power thoul't wield upon earth;

All the grand Forces hold revel in thee,
Proud of the warrant they hold to be free,
Yet prouder to move in marvellous shrine,
Giving assurance of Mind's magic sign,
Bent to win all that is noble, divine.
Time shall, in splendour, thy powers reveal,
Virtue and Beauty, each, setting its seal,
Under thy hand, shall a Heaven appear,
Earth, for thy glory, become fitter sphere."—P. 52.

I should probably have ventured on criticising certain words or expressions in Mr. Merrin's poem that appear new to the English language, but I am still smarting under a severe castigation I have lately received for a similar offence, and therefore only cite, without condemning, a few of the peculiarities to which I allude: "by mage dismissed," "dreams of Yon-life," "gairish ray," "rise up, in startle," all at p. 3: "storm-fiend's blare," at p. 14; "myriad Cretacæ," at p. 20; "Aurial vapour, undensed into fire, enlucent and gasial"; "a deep ocean of sheen," both at p. 22; "amid the fumy storm," at p. 32; "a world new-sainted," at p. 34. "In their algid armour bound," at p. 35; "through the fusy mass," and "numberless form," both at p. 43; "the torridal heat," "Now food, and now frass," both at p. 44; "he bared his rutilant breast," at p. 45. I think it will be admitted that my coinage of such words as "differentiate" sinks into insignificance before such novelties as these.

EDWARD NEWMAN.

Wild Birds to be found in the London Markets. By John Gatcombe, Esq.

As you have kindly inserted my account of the wild birds I met with in the Continental markets, I venture to send you a list of those I have from time to time bought or observed in Leadenhall and Newgate Markets, more especially as I think many ornithologists are not fully aware of the rarities that might be picked up on visiting those places.

Peregrine falcon, merlin, kestrel, sparrowhawk; common and roughlegged buzzards (the stomach of the latter containing the remains of several moles); marsh and hen harriers; longeared, shorteared, white and tawny owls; dipper, missel thrush, fieldfare,