

**Observations on the state of zoology in Europe, as regards the vertebrata /
Translated for the Ray Society, by H.E. Strickland.**

Contributors

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BONAPARTE



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H.B.L.

1892
à M. le Prof. Brand.

Homage de
H. E. Strickland

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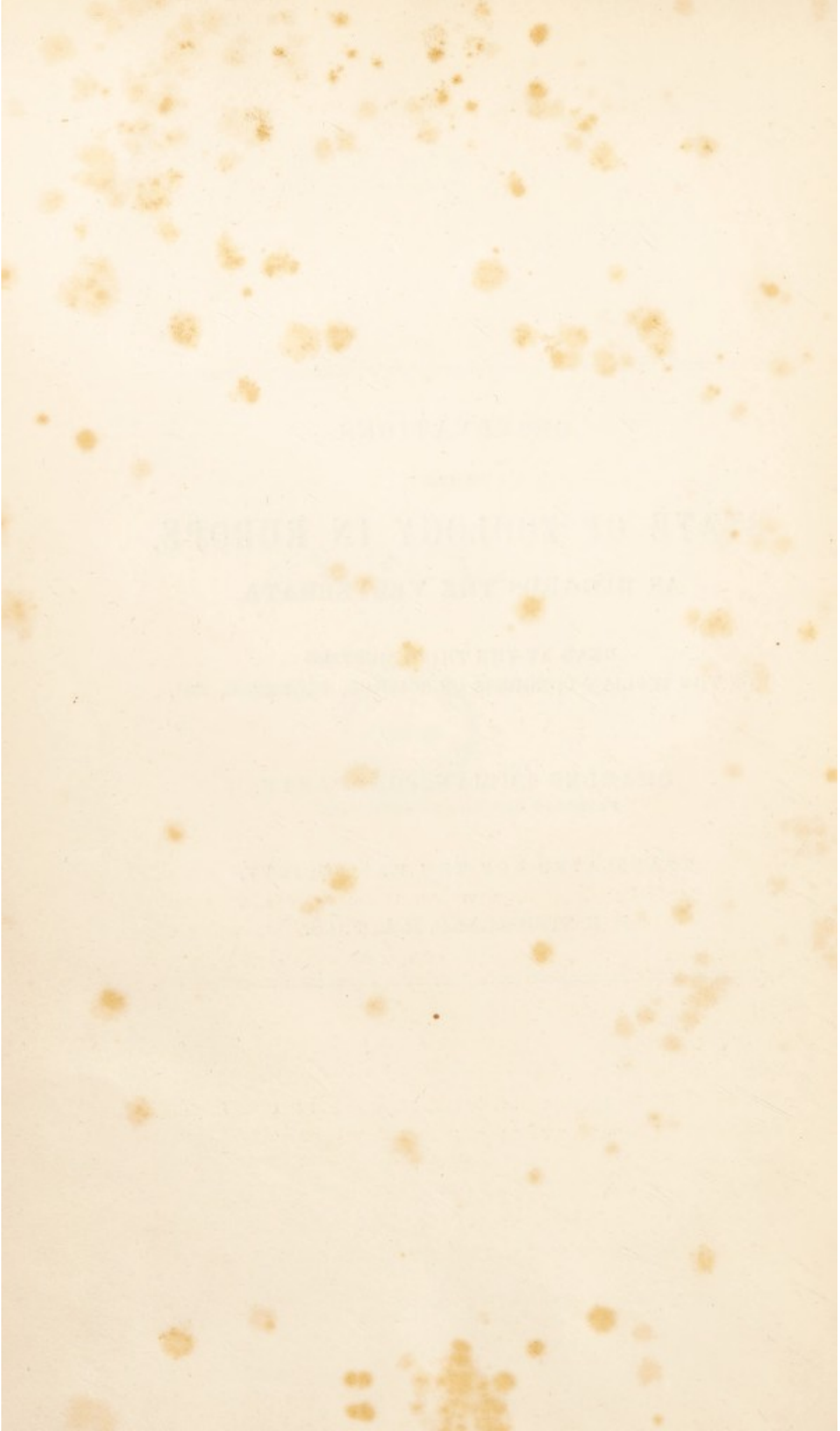


OBSERVATIONS
ON THE
STATE OF ZOOLOGY IN EUROPE,
AS REGARDS THE VERTEBRATA.

READ AT THE THIRD MEETING
OF THE ITALIAN CONGRESS OF SCIENCE, FLORENCE, 1841.

BY
CHARLES LUCIAN BONAPARTE,
PRINCE OF CANINO AND MUSIGNANO.

TRANSLATED FOR THE RAY SOCIETY,
BY
H. E. STRICKLAND, M.A., F.G.S.



OBSERVATIONS
ON THE
STATE OF ZOOLOGY IN EUROPE, &c.

WHEN it was proposed last year, at the Turin meeting, that some person should be requested to give an account to the members, at the ensuing meeting, of the scientific researches which might be made during the year in all countries, especially as regarded new discoveries on subjects relating to the respective sections, I pointed out the great difficulties which presented themselves, particularly in regard to Zoology. I remarked, that expectations would thus be aroused, which could not be accomplished by a single person, and that any one who should earnestly and diligently undertake so difficult a task, might easily incur the criticisms of those, who in particular departments, were acquainted with details of which he was unavoidably ignorant. Besides, who could assure himself, that the work would ever be fully accomplished? What security could be found, that he who undertook it would not be interrupted by the arrival of the future meeting? It appeared to me, also, to be more consonant with the independence of our pursuits, and more conducive to that spirit of intercommunication, which is a chief object of our meetings, that every one should use his own privilege, of informing the members, of whatever has, to his knowledge, been effected during the year in those places where literature and science are pursued.

And as each one could append to such a statement his own ideas, and follow his own views in explaining the subject, the work would thus be rendered more complete, and no one would be unduly injured in his own estimation, or discouraged from joining in this most useful but most extensive undertaking.

On further considering the subject, I regretted not to have proposed it at Turin, as it would have been in favour of such a plan, that the many learned members there assembled, might, by combining their materials, have erected such an edifice with great success. Be that as it may, however, by making use of many books and journals to which I had access, and also a considerable amount of correspondence, with which zoologists in most parts of the world have honoured me; aided too by the inspection of many museums, during my various journeys since October last (including a visit to Lyons during the recent scientific Congress of France), I am enabled to lay before you such notes on the subject as I could collect, hoping that you will all be willing to aid in rendering them more perfect.

BRITAIN.

COMMENCING with Great Britain, I think I ought, before all others, to make mention of the work to which Gould is devoting great study, labour and expense, entitled the "*Birds of Australia*," and for the sake of which he visited Australia with all his family, and remained there more than two years. That distinguished zoologist entrusted to me the first number of his work, that I might present it to this meeting; a work, as you all see, truly superb and marvellous, and capable of adding to a fame which already seemed to have reached its ultimatum. He showed me about 500 species of Birds, many among them of wholly new genera, and many others belonging to genera, which in Europe are very poor in species, such, for instance, as *Platalea*, *Himantopus*, and others; all which he will figure and illustrate in the truly excellent mode which you see in the specimen before you, together with an account of

their manners and habits, from the egg to maturity, and that too, from a country whence hardly 150 species were before imperfectly known. Besides those anomalous animals from Australia, which are already celebrated, you will be interested in seeing others added, of which we had before no notion. I will here limit myself to mention two only, the first of which is the *Talegalla lathamii*, till now a subject of dispute, as to whether it was a gallinaceous bird or a vulture. These birds have the habit of uniting together in communities, and of collecting, by the aid of their feet alone, vast mounds of vegetable matter, disposed to fermentation, and prepared for the reception of their eggs, which in due time they bury at intervals of a foot, and with the point downwards. Another new bird, called by Gould, *Leipoa ocellata*, makes mounds of sand for the same purpose. There are also two species of Passerine Birds (*Chlamydera*, Gould), which form, with marvellous skill, a gallery, I might rather call it a covered terrace, for the purpose of walking there and playing with the females, which terrace one species decorates with shells, the other with feathers of various colours. Nor has Gould confined himself to Birds, for while making observations and collections in all the classes, he has especially attended to the *Marsupial* animals, of which he has published an entire series, admirably figured. By the help of these figures, and the never sufficiently praised researches of the celebrated anatomist Owen, this sub-class of animals, hardly known a few years since, will be illustrated in a manner adequate to the singularity of its characters.

The whole class of Mammalia is more effectually studied in England than elsewhere, not so much because the museums of that country are the richest in those animals, as from the fact, that those zealous naturalists readily undertake long and expensive journeys, for the sole purpose of verifying the objects of their studies in the museums of all other nations, and of cancelling or adopting the species which have been proposed or suspected, thus rendering more perfect the critical department of science; while, on the other hand, allow me to remark, that continental naturalists, although worse supplied with specimens, rarely or never visit London with this object. In reference to

Mammifers, not to mention the well known labours of Bell, and the useful researches of the encyclopædic J. E. Gray, who so worthily superintends the first zoological museum in the world ; there are, at present, three men who are earnestly engaged on this class in Britain—Martin, Waterhouse, and Ogilby. The first, if it had not been for the unfortunate failure of a publisher, would probably have finished a complete general work on the Mammalia, the commencement of which, embracing only the varieties of Man and the *Simiidae*, forms a luminous sample of a work worthy of all praise, and leaves in us a lively and unhappily insatiable desire for the remainder. Mr. Waterhouse, who occupies the enviable position of Curator to the Museum of the Zoological Society of London,* and who founds his researches upon the structure of the cranium, to which, however, he perhaps attaches too exclusive an importance, has given us some excellent monographs, of which I beg to offer as a specimen to this meeting, that of the *Galeopithecii*, in which group he establishes, on good grounds, two species. He has also arranged the *Carnivora* into new and very natural groups, giving his chief attention, however, to the *Rodentia*, in regard to which we may depend upon his work being most perfect, as he has promised to figure the entire series of this very intricate order. Of Mr. Ogilby, the worthy secretary of the same Zoological Society, it is sufficient to allude to the friendship and renown which he enjoys among men of science. He spares no exertion to increase his extensive knowledge of Mammalia, with the view of publishing, in due time, a general work on species. Meanwhile, he does not cease to publish memoirs on many questions connected with this subject, especially on the *Ruminantia*, which he has arranged in a much more philosophical manner than was before known. And even those who, like myself, cannot attach so great an importance to the organs of locomotion and of prehension, as he is disposed to do, must admit, that even the abuse of this principle has in his hands been beneficial to science. By conversing in

* Mr. Waterhouse does not now occupy this position, but he is equally well placed for the study of Zoology, as assistant-curator in the British Museum.—ED.

London with men of this stamp, and aided especially by the two last named, I have remodelled the Catalogue which I have been for some years compiling, of all the Genera of Mammifers, and which, with your permission, I propose to read on another occasion, not doubting that I shall be much aided by your observations on the application of my system to so important a branch of Zoology. Mr. Jenyns, the well known author of the *Manual of British Vertebrate Animals*, pursues his varied investigations into the small Mammifers of those islands; and, in a late excellent memoir, corrects all the errors into which he had fallen. He has published a new species of *Arvicola*, under the expressive, though not laudable, name of *neglecta*, which species I believe not only to be a good one, but to occur on the continent also, being nothing else than the true *agrestis* of Linnæus and Nilsson, which has been brought to light by De Selys Longchamps.

Ornithology flourishes in Britain more than ever, as is proved, not only by the various inimitable works of Gould before spoken of, but by those of Macgillivray, of Eyton, of Yarrell, of Jardine, and of Selby. The two last authors have united to resume, after a short interruption, but with increased energy and improved execution, their beautiful *Illustrations of Ornithology*. If the United Kingdom has to deplore the irreparable loss of the erudite Vigors, and the far removal of Swainson, who nevertheless may render great service to Ornithology in New Zealand, it may yet console itself with the labours of Mr. George Robert Gray, a worthy brother of the well known naturalist of that name. This gentleman, having laid aside Entomology, seems desirous of applying himself more strictly to the study of Birds, which are now his special department in the British Museum; and while peacefully engaged in arranging them in the magnificent and splendid gallery, lately built for them at the national expense, he has not neglected to send to press, a second edition of his *List of the Genera of Birds*, the first edition of which was already celebrated as the most complete comparative work known on that subject. He and I mutually satisfied ourselves on many of the details of that class: he was also willing to adopt many particulars

of my Classification, so that our final labours will differ but slightly from each other. Great Britain may also congratulate itself on another ornithologist, Mr. Strickland, who, in his brief criticisms on the works of others, has shown himself well acquainted with a subject which he proposes to treat of more at large. Mr. Blyth, the secretary of the Ornithological Society, has left London to reside in India, at the head of one of the chief scientific establishments; a new observer will thus be added to the Hodgsons, the Sykeses, and others, to inform us of the Vertebrate Animals of those regions. Maclelland has published a Paper on the Birds and Quadrupeds of Assam, on the remote frontiers of China.

Britain has contributed little or nothing to Erpetology since the elegant work of Mr. Bell on British Reptiles. I am only able to mention with praise, the short descriptions given by Mr. J. E. Gray, of the most interesting species in the British Museum, and the not very successful attempts at the classification of the *Batrachia* by Mr. J. Hogg.

Ichthyology is there continually extended by the labours of Mr. Yarrell on the Indigenous Fish. Messrs. Thompson, Parnell, M'Coy, and others, also continue to describe new species, without, however, sufficiently studying continental works, in consequence of which they occasionally publish as new, species which are only remarkable as being found for the first time in that country. Allow me to mention an example of this in my *Torpedo nobiliana*, which has been reproduced under two different names. Sir William Jardine is publishing a magnificent work on the *Salmonidæ*, of which I have recommended the distribution of prospectuses. Mr. Low is bringing before the public, in a handsome form, the Fish of Madeira, the comparison of which, with those of our seas, will supply some important information. There are also in Britain other authors, who, from time to time, make known some of the rare fish, brought from the numerous colonies of that country. I ought not to pass over the ichthyological researches, exhibited in beautiful plates, and carefully edited letter-press, by Dr. A. Smith, in his work on the Zoology of South Africa, and by Mr. Darwin, in the Zoology of the Voyage of the Beagle, in

which the new species of Birds are illustrated by Gould, the Fossil Mammalia by Owen, and the existing ones by Waterhouse. I cannot, however, refrain from remarking, that Ichthyology, and as I said before, Erpetology, are far from being cultivated in Britain so fully as the two superior classes of Vertebrate Zoology.

The United Kingdom is adorned, especially in its manufacturing towns, with zoological museums, more or less complete and well arranged. There are also formed (and the taste is on the increase,) vivaria of all kinds of animals, in beautifully situated gardens, at the head of which are the magnificent Zoological Gardens of London, where we have lately heard of the birth of a Giraffe, which is being successfully reared. New societies which rise in all quarters, and which, being confined to particular objects, are better adapted than the more comprehensive ones, to the making tranquil observations, contribute remarkably to a more perfect knowledge of animal beings. The extension of zoological science in Britain is further advanced by the meetings of the British Association, as may be seen in various periodical journals, which are too many to enumerate. I will merely mention, that the report of Mr. Thompson, on the Zoology of Ireland, is a valuable and lucid essay which faithfully exhibits the subject, and seems to me worthy of imitation. The union into one of the two best magazines of natural history, which took place last year, is chiefly owing to the departure for America of Mr. Charlesworth, the young editor of one of them.* Science, however, will be no loser, if by means of the English privileges of impartiality and freedom of insertion, the surviving journal continues to maintain its former reputation. I cannot omit to mention the importance of the *Proceedings of the Zoological Society*, although they have been so roughly censured by an eminent author. What shall I say of their *Transactions*, published with so much careful attention and splendour? Meantime, the *Transactions* of more ancient origin, such as those of the Linnæan, the Wernerian, the Royal, and other Societies,

* Mr. Charlesworth has since returned, and is now Curator of the Museum of the York Literary and Philosophical Society.—ED.

still continue to be published. The *Library of Natural History*, edited by Sir W. Jardine, continues to flourish with the progress of science; and among its many merits, I consider the greatest to be, that it favours the diffusion of knowledge, by the low price at which these learned and elegant treatises, adorned with excellent coloured figures, may be purchased. This eulogium is fully justified by the latest volumes, including those of Hamilton Smith on Dogs and Horses, and especially that of Waterhouse on the Marsupials. The zoological volumes of the *Library of Entertaining Knowledge* are no less deserving of praise, as well as the learned ones of *Lardner's Cyclopædia*, and the articles scattered, alphabetically, by the pen of a Broderip, in the widely circulated *Penny Cyclopædia*, which has served as a model to so many similar works.

SWEDEN.

SWEDEN has not departed from the station to which Linnæus raised her. In the department of Vertebrata (to which, as you are aware, I confine this sketch), her eminence is worthily sustained by Professor Nilsson, who occupies himself with equal success in all the four classes, and has shown himself a complete master of each, in his *Fauna Scandinavica*. This work is unfortunately written in the Swedish language, which is very unfavourable to the diffusion which it deserves, and the same is also the case with his other work, the *Illuminade Figurer till Skandinaviens Fauna*. That author has informed me, that he is also preparing a special work on the *Phocidæ*, of which he has carefully studied the specimens preserved in the museums of Berlin, London, and Paris. Nor can I pass by a valuable letter, which he has lately written to me, in which he clearly proves, that the *Lepus timidus* of Linnæus, and more particularly the species described in the *Fauna Suecica*, is not the common hare of the continent of Europe, which does not occur in Scandinavia at all, but is the *Lepus variabilis* of Pallas, as is clearly shown, by the phrase *æstate cinereus hyeme semper albus*, and especially by

the character, *cauda abrupta, semper alba*. In that hare, moreover, Nilsson recognises two distinct forms, which I would regard as two good species, and the rather, because the hares of different countries seem to me not to have been sufficiently compared. The same naturalist has recognised six Swedish species, of that very difficult genus, *Lemmus* or *Arvicola*, viz.,—the *norwegicus*, the *amphibius*, a new species from Lapland, which he calls *medius*, the *arvalis*, the *rutilus*, and the *glareola*. He has also discovered in Scania, the most southern province of Sweden, the *Mus betulinus* of Pallas, which he clearly proves not to be a *Mus*, but to belong, in reality, to the very distinct genus, *Sminthus*. Nor ought I to pass over some facts, from which he advises me to cancel my *Sciurus italicus*, but which rather confirm the existence of a species hitherto mistaken by others. I beg, therefore, the meeting to test this species, by the very rules which my learned opponent suggests, referring to the skulls which I here exhibit. A more just objection is made by him to the criticism of Temminck, on the shortness of the claws in the Plates 6 and 7 of his *Lagopus subalpinus*, a critique which originated in Temminck not being aware, that the bird changes not only its feathers but its claws, which last are longest only in winter; a provision which adapts it to scratch the hardened snow, just as the white plumage enables it to remain unobserved by rapacious animals, upon the whitened surface of the ground. The light thrown by Nilsson on the Ichthyology of the Baltic is well known; I will merely mention one of his more recent discoveries, viz.,—an obscure species of *Salmonidæ* from that region, and a second species of the Mediterranean genus, *Argentina*. In that country also is continued, and now nearly completed, the purely Iconographic work of Wright, on the Birds of Sweden. Sundevall also, who has given us an ornithological system, abounding in sound science, continues to publish, in the Swedish periodicals, the descriptions of various birds of that country. Let us unite in lamenting the death of the Ichthyologist Fries, and let us be thankful, that his surviving colleague, Erkestrom, continues in a praiseworthy manner, the magnificent work on the Fish of Scandinavia, which they

published in common, and which has already thrown much light on the Fish of Europe, including even the southern parts. And although some errors occur in it, they certainly appear to arise not from negligence or from wrong views, but from hypercriticism. The continuation of this work is rendered the more valuable, now that Sundevall has joined in the undertaking, and the Latin translation which accompanies it will make it more extensively known.

DENMARK.

DENMARK also contributes to the advancement of Zoological Science. It is from thence that Lund departed to South America, where he has collected a rich harvest of antediluvian animals. The Transactions also of their Academies testify to Danish science, as do the writings of Professor Reinwardt, and among which I ought specially to mention his excellent description of the celebrated *Bogmaro*, a Fish of the genus *Trachypterus*; also the Danish Ichthyology, in course of publication by Kroyer, who, moreover, has published a Journal of Natural History since the year 1836.

RUSSIA.

THE vast empire of Russia is also powerful in Science, of which we have an incontrovertible proof, in the honourable rivalry between the two Academies of Moscow and Petersburg. Nor let us wonder, that it flourishes under the direction of an Ouwarow, who gave us a written proof of his great and valuable interest in the Italian Congress. After the impulse given by the long desired publication of the *Fauna Rossica* of Pallas, a Krynicky, an Eichwald, a Ménétries, a Brandt, a Nordmann, strove to reap the well sown field. Of M. Brandt's writings, I have only seen the first and second parts of his *Spicilegia Ornithologica*, which make me impatient for their continuation, inasmuch as the learning there exhibited, would do honour

to countries which boast of being far more civilized. The recent labours of the same author, on the *Pelecanidæ* and the *Alcidæ*, rival his former writings on the *Hystriees* and the *Solenodon*.

We may here speak of a Russian work, though printed at Paris in the French language; the Travels in South Russia of Prince Demidoff, who after himself directing an expedition that would do honour to a state, whether we consider the individuals that composed it, or the measures taken to ensure the most successful results, has spared no effort to render his work perfect, accompanied as it is with all the typographic splendour which the French metropolis supplies. The zoological part of the work is wholly from the pen of Nordmann, who has also superintended the execution of the magnificent plates, among which those of *Mammalia* and Fish are specially to be admired. The text supplies a desideratum in the European Fauna, which was very deficient in its eastern portion; and it will, therefore, deserve an attentive examination. Of the Batrachians no notice is taken, and some orthographical errors have occurred to me, which sometimes obscure the sense; as, for instance, the Serpent, called *Callopeltis leopardinus*, has no other resemblance with *Cælopeltis* than that of the name. Useful observations, however, I need hardly remark, are deduced from every part of the work, and the two following have occurred to me in merely turning over the pages:—The *Pleuronectes nasutus* of Pallas, is nothing else than the Sole of Porro (*Solea lascaris* of Risso); an inspection of the plate of the *Callionymus festivus*, has convinced me, that it is my *Callionymus dracunculus*, the fish so called by Rondeletius and Linnæus. The especial memoir on the *Pastor roseus*, whose habits were not previously well known, is deserving of all praise. The observations on the Scales of Fish, by Professor Mandl, are the more important, because they serve to correct some misconceptions of Agassiz, although they are far from weakening his theory on the growth of scales, which is the foundation of his system of Ichthyology.

PRUSSIA.

RETURNING from Russia towards Germany, and resting a while in Prussia, I behold in her capital a museum, which, in many branches, especially in Ornithology, is the richest in the world. Its director, Professor Lichtenstein, continues to occupy himself chiefly with *Mammalia*, and with Monographs of Aquatic Birds. Wiegmann, the oracle of Erpetology, having died without publishing his long expected work on Serpents, I am fortunate in possessing his last words of censure against those who claiming high authority, make a chaotic confusion of species, and his exhortations to their successors to act otherwise. With his loss, however, we fortunately have not to regret the cessation of his most precious *Archiv für Naturgeschichte*, as Professor Erichson will devote himself with equal attention and diligence to that publication. And if the Memoirs of Nathusius on the *Sorices*, of Keyserling and Blasius on the *Vespertilionidæ*, of Krohn on the Metamorphoses and Generation of the *Sygnathi* and *Hippocampi*, and of Burmeister on the Corneous Integuments of the Tarsi of Passerine Birds, which furnish a good method for their classification, sufficed to raise that journal to great renown, the no less valuable labours of its present editor, which are there embodied, will equally maintain its reputation. This author is chiefly devoted to the *Invertebrata*, while in regard to *Vertebrata*, it will suffice to mention the valuable treatise of Wagner on the *Rodentia*. Muller and Henle, names which are inseparable, whether they treat of profound anatomical doctrines, or of the right determination of distinct species of Fish, have completed their work on the *Plagiostomi*, of which the second and concluding fasciculus, that which treats of the *Raiidæ*, yields in no respect to that on the *Squalidæ*, which has been so universally admired. Henle, moreover, has published independently an important Memoir on the Lingual Apparatus of Reptiles, compared anatomically. The posthumous work of Nitzsch, entitled *Pterologia*, is continued to be published, and unquestionably supplies new means for classifying

birds. The *Acta Naturæ Curiosorum* speak for themselves, as do the writings of the various professors of Bonn, and those of the celebrated Prince Maximilian of Wied, from whom we have, besides the descriptions of two most interesting species of *Rodentia*, two new species of North American birds, *Zonotrichia comata*, Wied, in the *Fringillineæ*, and *Gymnorhinus cyanocephalus* in the *Garrulineæ*, the last of which forms a distinct genus, to which I feel bound to propose the name of *Cyanocephalus* as generic, the name given by the author having been previously occupied.

Gloger has lately added to his many zoological works, an *European Ornithology*, deserving of high praise, of which we are expecting to receive the concluding volume. This author pushes, to an undue extent, the mania for restricting species, a useful but often dangerous tendency, and not unfrequently fallacious, an instance of which is furnished, among others, by the triumph of our countryman, Savi, respecting the *Sorex etruscus*, in which it were desirable that he had exercised more moderation. Directly opposed to Gloger, is the well known Brehm, who continues to multiply species *ad infinitum*, and not content with those which he has already created, he re-examines them daily, to extract from their ranks one or more new ones, a practice as you know already sufficiently exposed. The reader, however, who neglects to study this work, will deprive himself of many philosophical views, which indeed are not always able to emerge from the reality of facts without the aid of fancy. Whoever may have an opportunity of visiting Brehm, in his house, will admire a vast collection of birds, living and dead, in skeletons, models, and drawings. We might well say, that no one has studied the habits of birds more than Brehm, were it not for the Naumanns, which family for three generations has occupied itself with this curious and useful branch of natural history. So warm is their zeal, that they have constrained Nature, in order to procure and render familiar the winged tribes; one spot they have clothed with forests, another they have converted into a marsh; they have turned aside rivulets, and reared plantations of various foreign trees; not to mention the new

kinds of bird-lime, the new nets and the new cages, which they have invented and constructed. The present Naumann, after collecting and sifting the knowledge of his predecessors, and perfecting it by means of the growing light of the age, is now completing the last volume of a work, which excels all others of the same class, no less in the completeness of the text, than in the accuracy of the plates.

Proceeding to visit Northern Germany, we meet with Messrs. Blasius and Keyserling, who after having employed themselves on a Monograph of the European *Vespertilionidæ*, have undertaken to give a descriptive Catalogue of the *Vertebrata* of that portion of the world, a most useful task indeed, but of which I will not now speak in detail, as the questions on which I differ from those authors will be sufficiently elucidated when my work on the same subject is published. The descriptions of the Mammalia and Birds are already issued, and those of the Reptiles and Fish are anxiously expected. In Frankfort on the Main, Dr. Rüppell, now deserted by Professor Cretzschmaer, who seems to have bidden farewell to our science, has completed the ample volume of his *Fauna von Abyssinien*. We have also, from the same author several monographs, one on *Ceblepyris*, another on the Swans (among which he enumerates, to my surprise, the *Cairina moschata*), and he promises to publish others.

Southern Germany beholds new works published daily, but not of such importance, since the deaths of Spix, Wagler, and Michahelles. The supplements to the work of Schreibers on Mammifers are still continued. Besides the great work published at Darmstadt, I have received a periodical publication on the Birds of Europe, by Susemilh, which will now acquire fame, from the care bestowed on it by the celebrated Schlegel. There is also a treatise by F. Berge, on the Propagation of Birds, containing figures of their eggs. Some articles on Zoology occur in the Journal of Dr. Rohatzsch, published at Munich. The celebrated Tiedemann, by studying daily the brains of animals, and by weighing, measuring, and analysing them in every way, has succeeded in distinguishing the species even when closely allied, more especially of the *Quadrumanæ*

and *Carnivora*, by the circumvolutions of the brain. He is now preparing to publish a magnificent work, with plates, representing particularly the brains of the *Felidæ*, from which we may expect some important principles for future researches on the Animal Kingdom.

At Vienna, Natterer having returned from a lengthened sojourn of sixteen years in Brazil, has brought with him, as is said, the largest collection of Brazilian Birds hitherto known, amounting to more than a thousand species; and we cannot therefore be sufficiently urgent, that he will soon decide on making them known. Nor has he confined himself to collecting Ornithology only, since we frequently see remarkable animals of other classes published, which are said to be the fruit of his expedition. Among these I will merely mention the famous *Lepidosiren*, the description of which he entrusted to Fitzinger, who, as well as Bischoff and others, believed it to be the last link of the Batrachians, although furnished with scales, whilst I, persuaded by the profound anatomical researches of Owen, do not hesitate to class it with Fishes.

Fitzinger, from whom we expect researches of still greater interest, continues to issue detached memoirs, which are always of value, such as that on Crocodiles in the *Annalen des Wiener Museums der Naturgeschichte*, a work which, I regret to say, is no longer published. In these Annals, the famous Heckel, the curator of the ichthyological portion of the Vienna Museum, and the inventor of a very useful instrument, which he calls an Ichthyometer, for the measurement of fish (which being thus defined by certain formulæ, may be drawn without seeing them), has published various memoirs which emulate each other in merit. He sent me several new genera, accurately defined, that I might include them in my writings on fish; and more recently, he has informed me of a new inhabitant of the fresh waters of eastern Europe, which he calls *Aulopyge*, most remarkable for having the anal fin perforated, and also for its affinity to the *Anableps* of South America.

SWITZERLAND.

AN humble cottage in Switzerland was the cradle of Scientific Congresses, which Italy now beholds in gilded marble saloons, thanks to the love of science which certain of her princes exhibit, on these occasions especially, as an example to others. It was there that these Congresses were founded by the worthy Gosse, whose accomplished son honours this meeting with his presence, and from them the celebrated Oken originated those of Germany, from which, rather than from the later Associations of France and Britain, you are well aware that our Congresses are modelled. The annual recurrence of these meetings in the Swiss Republic, proves abundantly, that no other country of the world includes so many men of science in so small an area. Another proof of it is to be found in the various collections of Academical Memoirs, among which the most distinguished in the present year are, the Transactions of the Helvetic Society, and the *Memoires de la Société des Sciences Naturelles de Neufchatel*. Neufchatel is a corner of the world, illuminated by the presence of an Agassiz; of that Agassiz, who, in the morning of his life, launched into such reputation, that the Academies of Rome, of Paris, of London, of Petersburg, of America, strove to enrol him among their members. He continues with success his great work on Fossil Fish, and has at last issued the first specimens of that other magnificent work on the Fresh-water Fish of Central Europe, the plates of which, illuminated in water colours, and silvered in a manner entirely new, surpass in truth and splendour every other work of a similar description. It was fortunate for him, that the British Congress preceded that of Turin (to which, as you are aware, he communicated a most important letter respecting Italian fossils), as he was well repaid with interesting observations made in richer regions, and in the fame which he earned, by proving that all the surface of the British Islands had once been covered with perpetual ice; although his fatiguing exertions and the rigour of the climate injured his health, so that being unfitted for profound study, and having

fallen into a nervous state, he reposed unwillingly for some months. In the midst of this repose however, he employed himself usefully in compiling a universal Nomenclator of all the Genera of the Animal Kingdom, for which vast work he has collected more than 17,000 words, of which already more than 700 have proved to be used in duplicate. To render more perfect this well-conceived undertaking, he has resolved to submit the respective classes to those who are more especially devoted to one or other of them; and he has done me the honour of requesting my revision of the ornithological portion, in which he has already collected 1700 genera, to be followed by the Ichthyology which I have also in hand. I now exhibit to the section a slight specimen of this work. This learned naturalist intended to have spent the summer among the mountains in his vicinity, then to publish another part of his *Poissons Fossiles*, and then to anticipate the arrival of this Congress, being desirous of first visiting with me the Maritime Alps; but the projects which he meditated were interrupted by the unfortunate episode of his illness. Under such a man who can doubt of the daily advancement of the Neufchatel Museum, patronised as it is by the patriotic feeling of those learned citizens, and assisted by M. Coulon? Geneva, that focus of civilization, is not confined to sheltering illustrious botanists; once the abode of the two Decandolles, of Duby, of Moricand, and others, she now boasts of a Pictet, who, not content with the fame which he acquired by the study of Insects, has now given us excellent illustrations of new *Vertebrata*, preserved in the flourishing museum of that city. The oriental plague in Syria has carried off Dr. Otth, the pride of Berne, where idly repose his collections and precious manuscripts, which, in a less turbulent and more studious city of Switzerland, would have been already published, as a rare treat to the cultivators of natural science. All Switzerland is peopled with active naturalists and adorned with museums. I will rest a moment at Zurich, where the Saxon, Oken, has his peaceful abode, and continues to edit the *Isis*, perhaps the most scientific journal of natural history, not in Germany merely, but in the whole world. He has lately finished his

great philosophical work on the whole of natural history, in which he has developed new and lofty theories, which, if to some they appear rather extravagant, are admitted by all to be most ingenious. There are none of us who do not regret the absence of a man to whom literature and science are so much indebted. Zurich may also boast of having given birth to that unwearied compiler, Professor Schinz, who has this year published a work on the *Vertebrata* of Europe, not indeed very well digested, and void of criticism, yet very useful, as containing every species, though they may be derived from books rather than from nature.

HOLLAND.

THE natural sciences flourish at present in Holland more than ever. This is shown by numerous publications, written, for the most part, in a language which is scarcely or not at all familiar to the generality; and by the prizes offered for the solution of certain questions, a specimen of which you have in the programme, which I now lay before you, of the Society of Science at Haerlem, a society to which I am proud to belong, and to be its representative on this occasion. The last volume of the Transactions of this Society, just now published, contains, among other papers, two, which, though foreign to Zoology, are of such importance, that I will here mention them, in order to make them known in Italy. One is by Herr Keitzing of Nordhausen, in Prussia, on the Metamorphoses of certain *Algæ*, and their development into plants of a higher organization; the other is by the celebrated Martius of Erlang, on the fecundation of vegetables. The richness of the museums of Holland has become proverbial, but they all are eclipsed by the national collection at Leyden, which, under the direction of a Temminck, aided by a Schlegel, a De Hahn, and a Reinwardt, has acquired a lustre, which equals, and even surpasses the most celebrated ones hitherto formed. Wonderful, above all, is the collection of skeletons, which is such, that no one can henceforth adequately treat of Zoosteology, without first having

recourse to this marvellous depository. In the court yards of this museum lives the gigantic American Salamandride, which in consequence of the decided opinion of those professors as to its being a true Salamander, it fell to my lot to call *Sieboldia*; a name which it has been afterwards vainly attempted to change into *Megalobatrachus*, and more recently (therefore less excusably) into *Cryptobranchus*; but I shall the more earnestly insist on the former appellation, because it commemorates the famous Dr. Siebold, who brought this Amphibian all the way from Japan, with other most interesting curiosities.

Temminck has concluded the series of his *Planches Coloriées*, forming a sequel to those of Buffon, and accompanied by an index which has hardly equalled expectation. He has also completed the fourth volume of his *Manuel d'Ornithologie*, which had been long expected, and in which is included a supplement to the preceding volumes, and a considerable number of species, either wholly unpublished, or new to the European fauna. A good work, on the Birds of this quarter of the globe, would have been much less imperiously wanted, if Temminck's *Manuel d'Ornithologie*, praised as it has been, especially in France, had been improved in its classification, its style, its arrangement of the descriptions (which, however, are very characteristic), and its notices of habits. The same naturalist has resumed, after a long interval, his very useful Monographs of Mammalia, among which the most anxiously expected was that intended to clear up the genus *Vespertilio*, more especially as the publication of his researches on these animals had been retarded more than twenty years. As long ago as 1830, I remarked in my *Osservazioni sulla seconda edizione del Regno Animale del Cuvier*, "I shall abstain from saying more on the Chiroptera (of America) to which I at one time gave my attention, but afterwards entrusted the specimens which I had collected to the learned Temminck, who is in a position to make a better use of them than I can do." We may therefore conclude, that he has devoted very little time to this subject during these twenty years, for notwithstanding his immense materials, and the aid which he has received from every side, the work would have afforded us but little light if

its defects had been less prominent. Permit me, therefore, to mention a few of these points, especially as it is an opinion which I have elsewhere maintained, that to correct the errors of eminent writers is the most effectual means to advance science, while the great veneration which is entertained for Temminck, and his *ex cathedrâ* tone, may in some cases prove fatal to truth. Not to enter on the discussion of classifications and the limitations of groups, which are matters of abstract opinion, I will here only remark upon *species*, which beyond all doubt, are matters of fact. His *Vespertilio brachyotus*, Baill., is nothing else than the *V. pipistrellus*. The *Vespertilio schreibersi* is perhaps the same with *Miniopterus ursinii* of my *Fauna Italica*, in the description of which he considered that the account of the teeth was wanting (of which, on the contrary, I gave a most minute description). This arose from his not knowing the proper place to seek it, for I having given these characters under the genus, could not repeat them under the species. The *Vespertilio limnophilus* published by him as new in Plate 48. of the work, is the *Vespertilio dasycnemus* of Boié. In regard to the two European species of *Plecotus* (a most excellent genus, notwithstanding his facetious remarks, now that it is restricted within due limits), he would have done much better to omit my *auritus* and my *brevimanus*, rather than the *auritus* and the *cornutus* of Faber, which are all one. It is true, that my *brevimanus* is different from that of Jenyns, which Temminck, with good reason, regards as the young of the *auritus*. He did not perceive, and I therefore announce it the more readily, that my *Vespertilio emarginatus*, of which he says my figure represents it exactly, is in fact the *V. nattereri*, which I have recently discovered also at Sestri. Possibly, there occurred to Temminck (whose figure is evidently copied from that of Geoffroy), that which I confess happened to myself, the failing to recognise the true *emarginatus* in the Paris Museum, where I made the strictest search in company with Isidore Geoffroy St. Hilaire, son of the founder of the species, which I would gladly have recovered, as the name of *emarginatus* ought to be retained for the species of Bat described by him. His

Vespertilio megapodius is evidently my *capaccinii*, of which I may add, that the *Vespertilio dasypus*, of the Turin Museum, is a synonyme. As I now wish to raise this species to the dignity of a genus, I shall call it *Capaccinius megapodius*, being ever desirous of honouring a most worthy prelate, whom I would gladly see sitting where he delights to sustain the honour of Roman learning, especially in our assemblies. The *Vespertilio humeralis* is not a good species, but only a variety of *mystacinus*. The *Vispistrellus* is nothing else than the *Vespertilio kuhli*. And here we may remark, that Savi will lose this as well as others of his species, as among Birds he loses his *Emberiza palustris*, which is identical with the *Emberiza pyrrhuloides* of Pallas. Another more magnificent and more recent work, which is also under the direction of Temminck, and does great honour to the typography and calchography of Holland, are the Illustrations of the island of Java; the last number of which contains a most interesting new genus of Marsupial. Schlegel continues his coloured representations of *Amphibia*, of which I have just received the fourth fasciculus, containing, among other things, the figures of many *Salaman-dridæ*, among which I rejoice to see figured the celebrated *Pleurodeles*, which I strongly recommended to the scalpel of our countryman, Rusconi, and which is accurately drawn with the very sharp ribs projecting beyond the skin. I cannot, however, abstain from expressing my regret, at seeing there repeated, among the Italian Salamanders, those words introduced equivocally, and now admitted to be erroneous, "*video meliora proboque, deteriora sequor.*" It is superfluous to say, that in his own modern writings, Schlegel continues to increase that spirit of *ultra reunion*, which I need not have alluded to, if that fatal school had not invaded our own country. It is a mischievous inconsistency in his principles, that while restricting species, he yet multiplies their names, by giving a new term to the species which embraces the former ones; a fatality which persecutes Zoology! And to say the truth, the dazzling style of Schlegel, the confidence with which he lays down his own opinion, often indeed a just, and never a trifling one, frequently induce the reader to despise the object which he

attacks. This is not the place to bring forward the many errors of fact, contained in his fascinating chapter on the geographical distribution of the *Ophidia*, which I shall do on another occasion, with the respect which is due to such a man, and to so great a personal friend; who has now applied himself, and I see the announcement with joy, to a work on the *Cetacea*, which will certainly throw light on a subject, which notwithstanding the recent labours of F. Cuvier and of Lesson, is still very obscure.

BELGIUM.

TURNING towards Belgium, we find, that when she separated from Holland, she carried with her her due share of literary fame. My friend Cantraine, who was of such service to Temminck and to the Leyden Museum, now worthily occupies the chair of Natural History in the University of Ghent, and although he prefers the study of *Mollusca*, in which he has produced several descriptive and anatomical works, and is preparing others, he is also successfully occupied with *Vertebrata*; and among his other writings, has published an excellent Memoir on the Fish *Ruvettus* of Sicily and of Madeira. The *Memoires de l'Academie Royale des Sciences de Bruxelles*, afford us not a few papers of much value, among which I will notice a Monograph of the Dolphins with plates, a subject, as all know, that supplies a desideratum in science, very little being known of these fish-like animals so renowned in fable. This work we owe to M. Wesmael, who is also known for his entomological papers, especially that on the Instinct of Insects. The researches in Zoology and Comparative Anatomy by Wambeem, in the same Transactions, deserve honourable mention, though they relate principally to *Mollusca*.

The zoological labours of the active spirit of Dumortier are also well known, especially those on the crania of Orang-outangs, and the philosophical inductions which he draws from them. He only admits one species of these animals, notwithstanding the diversity in the cranium, which sometimes

exhibits a simple fronto-parieto-occipital crest, and sometimes presents it of enormous size and double. He shows, that the *Simia* resembles Man in regard to its structure when young, and gradually becomes less human as it grows older, while Man, the older he grows, by the wisdom which he acquires, approaches always more and more to God. Science is also not a little indebted to another Belgian legislator, the active secretary of the Chamber, Baron Dubus, who has given us many descriptions of new species of Birds, and having now distributed them into decades, is about to publish figures of them. Anatomical researches on Man and Animals are daily extended by M. Burgraeve, whose anatomical and physiological museum attracts the admiration of strangers. The uninterrupted researches of the celebrated astronomer, Quetelet, on *Social Physics*, or in other words, the natural history of Man, including his circulation, physical development, &c., must not be forgotten, as they will lead to admirable results. But the most zealous and meritorious of the zoologists of Belgium, whence he diffuses his knowledge to more extended regions, is M. de Selys Longchamps, whose affability and learning the savants of Italy had an opportunity of appreciating at the Congress of Turin. Without speaking of his writings on the *Libellulæ*, which do not fall within our scope, I will commemorate his well known *Etudes de Micromammalogie*, which will throw so much light on the genera *Mus* and *Arvicola*, not to mention his Catalogue of the Mammifers of Europe. He is now extending his researches to the genus *Vespertilio*, and to the very intricate fresh-water Fish of his country, among which he describes thirty species of *Ciprinidæ*. I have lately received from him a valuable letter, in which he admirably establishes the differences between the much confused *Vespertilio nattereri*, *emarginatus*, *mystacinus*, *daubentoni*, and *dasycnemus*, for which he has laid down excellent characters; and he promises me perfect specimens, which I hope to receive in time to lay before this section, as he will be prevented from attending in person. All these undertakings are only a prelude to his greater work, the *Faune Belge*, which we are daily expecting. For the absence from this meeting of those

eminent Belgians, we are abundantly recompensed, by the presence of Professor Morren, whom we all esteem as excelling in many branches of natural science, an active promoter of useful discussions, and admirably chosen by his wise king and by the Academy of Brussels, to represent the science of that learned and industrious nation.

FRANCE.

IT cannot be doubted, that France preserves her ancient scientific renown, notwithstanding the petulance of those who would wish to detract from it. Paris is ever the great centre of attraction, wherefore the attempts of those persons are most praiseworthy, who endeavour to transfer a portion of the light of science from this absorbing focus, to the rays and circumference of the circle, a tendency which we perceive in the annual Congresses, and in the recent establishment of the Provincial Institute, which now has its abode at Mans. There are founded also, in every region of France, new museums and schools, while the old ones are increased and adorned on every side. Bordeaux has, for many years, boasted of her Linnæan Society; she may now be proud of the "Actes" of that society, and of the museum lately entrusted to the care of Gachet. Marseilles daily enlarges her museum, and especially enriches it with specimens from Africa; thanks to the care of the indefatigable Barthelemy de la Pommeraye, who honours this meeting by representing his country, and who is the possessor of many new species, two of which, very interesting from their resemblance to their European congeners, I have described in the *Revue Zoologique*. Avignon too boasts, that amidst her turretted walls rises a museum, which, with many other philanthropic institutions, she owes to the care of her deserving citizen Requien. Arles, the birthplace of Laugier, the sharer of Temminck's labours, although it no longer possesses the celebrated collection which served as a groundwork for the *Planches Coloriées*, still retains a respectable museum, which is especially rich in the products of that French

Africa, *La Crau*. Nismes boasts not only of an interesting general collection, but a special one of the Ornithology of the Department of Gard. Montpellier has not fallen from her ancient fame, and though in the branch of science which now concerns us, she has lost a Dugés, she yet contains several scientific men, including Professor Lallemand, whom we have seen amongst us, and from whom we have some valuable observations on the supposed spermatic Animalcules. Strasburg, a city that shares in the advantages of France and of Germany, deservedly selected as the seat of the tenth scientific Congress of France, possesses a museum which has long been celebrated, as well for the professors which formerly adorned it, as for those which adorn it still, of whom we have an eminent example in our colleague M. Fée. Metz, happily situated on that Moselle, which was long since celebrated by the lyre of Ausonius, boasts of two faunæ in its department, one preferable to the other. Rochefort is the abode of Lesson, who is over influenced by that tendency of strong minds to attempt too much; and if we might express a wish in his behalf, it would be, that he might be enabled to appear to more advantage, by residing in cities better supplied with books and cabinets. His last work treats of Man and the *Simiæ*. The scientific journals are often adorned with his papers, or extracts from them. M. Allard, at Montbrisson, attracts the attention of naturalists, by his collection of the three kingdoms of nature, which receives daily additions and improvements. The nucleus of this collection, was that of Baron Feutrier, which still preserves objects possessed by the famous Buffon.

Not to be unduly prolix, I confine myself to Normandy, in which not only the ancient capital Rouen, but the learned city of Caen, and even the little Falaise, are decorated with Scientific Societies, Transactions, and Museums. That of Rouen is worthily presided over by Professor Pouchet, author of a Treatise on Botany, and of an equally valuable one on Zoology, of which the second and improved edition has been published in the present year; the only work hitherto in which the doctrines of his celebrated master, Blainville, are adequately developed. A devoted friend to this institution,

Pouchet, would have come amongst us three years since, had not a defect in his hearing induced him rather to await at his abode for the volumes of our Transactions. Caen has to boast of Professor Desjardins, of Brebisson, and of M. Caumont, the founder of Scientific Congresses in France. In Falaise resides the most practised ornithologist of France, the Baron de Lafresnaye, worthily connected with the family of Buffon. His classification, founded chiefly on the Habits of Birds, is the work which most particularly distinguishes him.

After the death of Cuvier, the sceptre of Zoology, which was disputed with him by Geoffroy St. Hilaire, passed into the hands of that family, which, in right of succession, is likely long to retain it. Paris will be indebted to the young Geoffroy for improved arrangements in her museums, which, in the ornithological branch especially, by no means equalled the expectation of excellence, which, in so great a metropolis, we were justified in entertaining. This eminent naturalist, far from being wearied with so many laborious and useful undertakings, is now preparing a work which will serve as a continuation to the great iconographic publication of his father and Frederic Cuvier, holding out to us also the prospect, at some future time, of a general *Species* of Mammifers.

I want words to praise, in adequate terms, the learned and magnificent work of M. Ducrotay de Blainville, another successful rival to Cuvier, which is the result of forty years of unwearied study. In truth, I know not whether most to praise the excellence of the descriptive portion, or the erudition which accompanies the history of science in each department. May we be allowed, however, to wish for a more rigid determination of species in this work? May we venture to say, that in order to avoid too great a multiplicity of genera, he forms some which are wholly inadmissible? It cannot be denied, that he is unacquainted with many species, especially of *Vespertilionidæ*. I may also add, that he has not weighed with much diligence, the characters of several of the genera which he has himself cancelled; such, for instance, as those which he incorporates with his *Subursus*, a word constructed to suit a theory, and certainly not an acceptable one. Among

his scholars, and among those who assist him, the most distinguished is M. Gervais, already well known by several useful memoirs.

The famous Professor Dumeril does not cease from his learned and successful studies. In compiling his universal *Species of Amphibia*, he entrusted a part of the labour to M. Bibron, who, it is only justice to say, has exceeded the expectation of all the cultivators of science, and especially that of his colleague. This distinguished young man, not honoured as yet with chairs or titles, nor enriched by well earned and profitable rewards, will ere long be esteemed one of the first zoologists of France. It is beautiful to observe how at every step of the publication of the *Erpetologie Générale*, the orders there treated of continually improve, as their arrangement proceeds in his hands at the *Jardin des Plantes*. These two naturalists are now turning their attention to Serpents, which will be comprised in two volumes; the publication of the *Batrachia*, which form the concluding volume of the work, being now anticipated.

I may here allude to that most useful undertaking of the publisher Roret (the worthy editor of the collection of *Manuels*), who under the title of *Suites à Buffon*, a name which carries great weight in France, like that of Calepinus in Italy, is publishing a series of excellent treatises on the different branches of natural history. I regret, that this is not the place to speak of those on the *Invertebrata*, and will only remark, that since the death of Desmarest, to whom he had entrusted the class of Fish, the selection of his successor will become a matter of general interest. Three plans would suit me if I were in the position of that editor:—First, to contrive by all means, that the work should be undertaken by Agassiz, who, it cannot be doubted, would render it novel and important in every aspect; secondly, that MM. Dumeril and Bibron, should apply to Fish the same energy and acumen which they have shown in treating of Reptiles, in which case every one might guarantee the value of their labours; or, thirdly, if neither of these two plans were practicable, to entrust it to the ichthyologist of the day, M. Valenciennes, even though

he should only give us a second and improved edition of that truly excellent work, which he had the honour to commence, in conjunction with the great master Cuvier, and which he has now for some years continued alone. This work has now passed the fifteenth volume, and notwithstanding some slight defects, is undeniably beautiful and useful in every way, although the author finds himself tied down to the somewhat antiquated system of the before mentioned master. All the other writings of Valenciennes are equally to be praised, and especially the ichthyologic portion of the distinguished work of MM. Webb and Berthollet on the Canary Islands. To whom shall a chair be given if not to him? It were better for science had he been elected to the Chair of Ichthyology rather than of Malacology, a subject which he ever strives, and successfully, to overtake. The cultivators of science are themselves subject to malignant stars, and no one experienced them more than that estimable friend of Cuvier and Humboldt. Milne Edwards, the last fortunate rival of Valenciennes in the election to the Institute, is ever the chief zoological contributor to the *Annales des Sciences Naturelles*. He has published *Elémens de Zoologie*, but the lower animals seem more particularly to attract his studious inquiries.

M. A. D'Orbigny continues the fine zoological illustrations to his *Voyage dans l'Amérique Meridionale*, in which he has announced so many new species. His not less able brother, with other learned coadjutors, has undertaken a new *Dictionnaire d'Histoire Naturelle*, the two first volumes of which excite favourable hopes. I now lay before you some plates of this work, accurately coloured, by which you may judge of their inimitable high finish, although the work is of a popular nature and moderate price. There has also been published at Paris, a Supplement, rendered necessary by the lapse of time, to the great *Dictionnaire des Sciences Naturelles*, which the articles by Blainville suffice to render precious. The *Annales du Muséum d'Histoire Naturelle* are published from time to time, and are not unworthy of the great collection of memoirs to which they form a sequel. The *Revue Zoologique de la Société Cuvierienne*, edited by Guerin, has now acquired an

European fame and use, no less than the very comprehensive *Magazin de Zoologie* of the same author. The *Comptes Rendus de l'Institut*, the journal of the same name (*l'Institut*), which speaks not only of the French scientific bodies, but of those of the whole world, and the *Eco du Mond Savant*, are so many sonorous trumpets, which proclaim from Paris the progress of the natural sciences.

M. Bourjeaud de St. Hilaire has given us a new volume on Parrots, being a continuation of those of Le Vaillant, much inferior, indeed, to that of the English artist Lear, yet not wholly deprived of merit. The celebrated Mademoiselle Pauline de Courcelles, now Madame Knip, has commenced, with the literary aid of M. Florent Prevost, a writer not sufficiently active in following the rapidity of her pencil, a new series of Pigeons, not comprised in her former work, the text of which was written by M. Temminck, and of which a second edition is publishing at the same time, as appears by the prospectus which I have laid before you. I should never end, were I to enumerate all the zoological undertakings, and all the zoologists of eminence who adorn the French capital; I therefore take leave of them, briefly alluding to Prince Massena, whose rich zoological collections, we hope, will ere long be made public. The entomologists Dejean and Boisduval, Kiener, profoundly occupied with his *Iconographie des Coquilles*, the encyclopædic Bory de St. Vincent, who is now at the head of a scientific expedition, exploring Algiers (whence we may expect a work of not less interest than the magnificent ones on Egypt and the Morea, gained for science by the arms of France, or than those others which were the fruit of the various voyages round the world, of a Freycinet, a D'Urville, and others), do not permit me to leave Paris without at least mentioning their names.

What shall I say of Lyons? The ninth Scientific Congress of France, there assembled from the 1st to the 12th of the present month, and at which I proposed to myself the honour of attending, did not give me the opportunity of revisiting this illustrious city; but I was consoled, by reflecting how much the clergy of that and other dioceses abound with zealous

cultivators of natural science, and how the co-operation, and occasional presence, of that eminent Archbishop, the Cardinal Bonald, placed in the station of Albo, the first Honorary President, would add to the splendour of those meetings; in which it is daily becoming more fit that the ministers of the sanctuary should take an active part, inasmuch as they lead by a more or less direct path from visible to invisible wonders, and by the ministry of the first-born daughter of God they pay homage to the Maker and Founder of all things. But the volume of Transactions of that most numerous Congress, which is now in the press, will at once give a full account of the state of natural science, and of the ever increasing splendour of the scientific establishments of the second city of France. In what more particularly relates to Zoology, and especially to Vertebrata, the Abbé Croizet, who supplied to Cuvier, to Blainville, and others, so many fossils of his native Auvergne, and who is himself well acquainted with these objects, not only filled with much honour the office of President of the combined sections of Zoology, Botany and Mineralogy, but exhibited many objects of much interest and novelty, and occasionally entered into general discussions on the Animal Kingdom. In that city of Lyons, are the ornithological collections of M. Fleuret, which is very complete in Birds of Europe; that of Dr. Bifferi; and the fine one of M. Boursier, who was deputed by a Lyonese Society to come here, and to whom we owe those fine photogenic drawings, admired in several sections, and well adapted to represent natural objects with ease and fidelity. In his collection are an abundance of rare species of Humming Birds, the new ones of which he has published in beautiful coloured plates, as you see in the specimens which I have presented in his name to the section. Would that my prayers could induce him to publish the wished for Monograph of the gem-adorned family of *Trochilidæ*, for which his collection, united with those of Loddiges and of Leadbeater, which he could easily visit in England, would suffice to supply him with all the materials hitherto known. If a person, who like myself, has given but little attention to this family, might venture to give him advice on the sub-division of these birds, it would be to recommend him

to attach much value to the colours, even more than to the form of the remiges and tail, in forming the various groups. The chief boast of that Congress, as he is of the chairs and city of Lyons, was M. Jourdan, founder of a museum possessing double merits. One of these is, that not being complete by nature, it is made so by the artifice which M. Jourdan has invented, of supplying the absence of the real object by the best figure to be obtained, and where this was wanting by the name. Thus, at a glance of the eye, one beholds the entire state of the Animal Kingdom, and at the same time one perceives what species are wanting to render the whole complete. The other merit of the collection consists in the arrangement according to the nervous system, which M. Jourdan considers the best for the whole kingdom, and for each of its classes. I who follow it in the case of the Mammifers, abstain from repeating the discussions which I held with that eminent professor, but confine myself to laying before you, at his request, an epitome, not only of this, but of the interesting psychological results which he deduces. He considers, that Animals should be classed according to their respective degrees of animation and sensibility. The circulation of the blood, respiration, digestion, generation, do not seem to him to correspond with the degrees which may be measured by means of the above mentioned faculties. The nervous system, on the other hand, is always developed in proportion to the sensibility, and on this, therefore, Jourdan takes his stand. The more abundantly animation is exhibited, the more extensive does the nervous synthesis appear. The fly, for instance, is more animated than the oyster, and thus the advocate of a single series of beings would see assigned to the *Articulata* that pre-eminence over the *Mollusca* which was denied to them by Cuvier. Just as vegetables and minerals have their sovereign characteristic law, so animals have theirs in *animation*, which shows itself by means of the sensations producible, in successive degrees, from the lowest Insect up to Man, who, combining them all, raises them to a yet more elevated point, so that Man, to adopt Jourdan's expression, is an *animal microcosm*. In the three lowest divisions of the Animal Kingdom, the sensations only

indicate instinct, that is to say, the spirit of self-preservation. In the fourth, will, or more correctly, intelligence, begins to develop itself. But in the fifth, composed of the human race, appear free-will, reflection, imagination, and above all, the spirit of perfection, which is not found in any other class. These progressive degrees are completely indicated by the greater or less development of the nervous system. A work on the comparative researches into that system, and which supplies rules for classification, was lately given me by Signor Bazin, entitled "*Del Sistema Nervoso, della vita Animale e della vita Vegetabile.*" These are subjects, on which, as all must see, an hasty opinion cannot be given.

SPAIN.

THE Spanish disturbances do not, as yet, permit that nation to employ itself successfully on studies which require peace and quiet. It is however known, that in certain provinces, especially in Catalonia, new museums are being erected, and that the Academies are beginning to flourish again, two of which, that of Madrid and of Barcelona, we have the pleasure to see here represented.

PORTUGAL.

PORTUGAL, of which I might repeat the above remark, has suffered, besides a great loss in the Prince Augustus of Leuchtemberg, the first husband of the Queen, an excellent friend and patron of the unfortunate Wagler. So great were his aims, and his noble intentions for the promotion of natural science, which he cultivated and loved beyond all others, as I could show to you by the epistolary correspondence with which my noble relation favoured me.

ITALY.

COMING to our own Italy, rich in so many branches of learning, that she need not be ashamed if in Zoology she is not equally advanced, we have chiefly to deplore the late irreparable loss of M. Camillo Ranzani, the Bolognese professor, and one of the first zoologists of Europe, who, a few days before his decease, wrote his last Memoir on the Fish of Brazil. There was no subject which he undertook which he did not penetrate deeply on every side. Oh! how much we have to regret, that he did not finish his *Elementi di Zoologia*, and especially the Erpetological and Malacological portions, of which subjects he had a perfect knowledge. Public opinion has already proclaimed, as his successor in the chair of Zoology, Professor Antonio Alessandrini, worthily called the Cuvier of Italy; and this appointment would be the more appropriate, because it seems reasonable to unite the chairs of Comparative Anatomy and Zoology, just as these subjects are united in our present section; whereas, there is little or no connection between Zoology and Mineralogy; both which professorships were held together by the deceased naturalist whom I have above extolled.

Signor Risso, encouraged by the warm and merited reception which he experienced at the Turin meeting, is devoting himself to fresh labours, with the additional experience which he has acquired, and is chiefly occupied with a monograph of the very intricate *Labridæ* of the Mediterranean. The magnificent ornithological collections of the Marchese Costa at Chambery, a city devoted to natural history, increase perceptibly, as do those of the Marchese di Breme at Turin, and of Carlo Durazzo at Genoa; who, while pursuing his researches on the Ornithology of his own country, has this year enriched Europe with two new species, the *Podiceps longirostris* of Sardinia, which is wholly new, and the *Fulica cristata* of Spain, Barbary, Sardinia, and Liguria itself, resembling (at least in appearance), the one figured by Buffon as coming from

Madagascar, a point which remains for verification. It is certain, that by the inspection of Chinese drawings, we learn that this, or another *Fulica* equally crested, inhabits the waters of that region. Nor can we pass over in silence, the growing collections of the University of Genoa; nor the worthy professor who presides over it; nor the unrivalled entomologist, Massimiliano Spinola, whose capacious mind embraces at once the highest philosophy of the science, and the minute details of insects; nor the zealous naturalist Verany, founder of an interesting ornithological collection at Nice, a diligent designer of animals, and second to none in the knowledge of *Cephalopoda*. But in Turin, undoubtedly the most cultivated city of Italy, we need not wonder to see the three chief branches of natural history, respectively superintended by three men, equal in every virtue and talent, a Genè, a Moris, a Sismonda. The first of these, an eminent zoologist, though entirely devoted to editing the Transactions of the Turin Congress, has not wanted time or energy to continue his researches on the Animals of Sardinia, and to enrich the incomparable museum of which I was lately a witness, as well as to study the fresh-water fish of that kingdom, from which great results are promised for Ichthyology. Dr. Bellingeri ceases not to investigate the fecundity of animals, and the development of their intellect, from which researches he deduces many ingenious arguments.

Pavia preserves her ancient lustre, which is amply maintained by Rusconi, always intent on his profound studies, especially on the *Batrachia*, with which he alone has hitherto been dissatisfied; and which will open to us, I feel confident, a new field of knowledge, including the anatomy of the *Pleurodeles* which I discovered in that collection, where for fifty years it lay confused with the Tritons and Salamanders. And now the country of this distinguished man boasts also in respect to Zootomy, of a Panizza, who ever strives for the attainment of fame, formerly by means of medical and now by natural science, and whose advancement is likely to be aided by his ingenious scalpel which he generously dedicates to our instruction, of which his excellent Memoir on the Lamprey is a recent example. The rich collection of Serpents,

in that university, has been rendered more precious by the learned illustrations of them, undertaken by that active disciple of Schlegel, Dr. De Filippi, whose profound knowledge of anatomy, and of comparative physiology, seems to refute the too strong assertion of the Barbassori, that forty years of study, and grey hairs, are necessary to make an anatomist. Milan, which has been generously enriched with the Decristofori collection, so well intrusted to the care of Professor Balsamo Crivelli, is preparing herself to receive, in a suitable manner, the Italian Scientific Congress. And if Dr. De Filippi confines himself to the study of Vertebrate Animals, the city is more than compensated by her eminent students of Malacology, such as the noble Signor Carlo Porro, the able compiler of a classed bibliography of that subject; and of Entomology, such as the noble Signor Carlo Bassi, who from his very infancy gave token that his genius had happily led him to that branch of natural history, in which the serenity of his mind and of his style does honour to himself and to his country.

The Venetian provinces yield in nothing to those of Lombardy, there being one Institute of Science, which is divided in equal proportion between both regions. This is not the place to speak of many eminent men who compose it. In Venice, I will only mention the ornithological collections of Count Contarini, who has made excellent observations on the Birds of that country. The many learned writings of Dr. Nardo, who is always engaged in completing his *Fauna Adriatica*, are familiar to you all, as tending to perfect, in every point of view, the natural system of Ichthyology. Verona has her scientific societies, and thanks to the prudent zeal of her citizens, she even has private parties so arranged as to be useful to science. The Italian Tyrol also boasts of her collections. Even from Chioggia the learned city of Padua attracted to her library Professor Naccari, who, if he has not yet joined this institution, has certainly the merit of having been the first to publish the Embryos of Faunæ in the form of catalogues, and who yields to none in zeal. Belluno, abounding in Birds, has produced a very useful ornithological synopsis;

and in a valuable work of the geological Professor Catullo, is a good list of the *Vertebrata* of that province.

Crossing the Adriatic, we see even the semi-barbarous Moldavia, establishing, under the patronage of her enlightened Hospodar, a natural history society, already rich in facts and specimens. Nor is this wonderful, in an age when the Tartar Emperor of China was enrolled in the register of the Academy of Brussels.

Athens, and the Ionian Islands, also nobly strive to cultivate the natural sciences in those countries. Malta has seen the publication of a good Catalogue of the Fish which live around her coasts; and that of the Birds, enriched with notes on their manners, is in preparation by Signor Antonio Schembri.

Sicily, more devoted to these sciences than the continental parts of the kingdom, beholds, on all sides, the growth of new societies, new journals, and new museums. You all know, gentlemen, the name and the activity of the *Accademia Gioenia* of Catania. Messina is distinguished among the Sicilian cities by Luigi Benoit and Anastasio Cocco. The latter continues to throw light, in every way, on the Fish of his own country, as is fully shown by his articles in periodical works, to which I may add the epistolary correspondence with which he obligingly honours me. Benoit has published the *Ornitologia Siciliana*, a truly useful little work, especially in Sicily, although it does not equal the expectations of those who looked for an original work on the Habits of Birds, rather than a repetition of other authors, who were frequently defective in points where it behoved him to have set them right.

Naples being the city in which the somewhat limited zoological science of the continental part of the kingdom seems to be concentrated, has lately beheld the formation of a society of young cultivators of natural science, which has already produced several useful works, and given promise of more. Dr. Oronzio Costa, its founder, who has undertaken a journey to France and Britain, has given us some new numbers of his *Fauna del Regno di Napoli*, so conveniently divided into monographs, which, if of but small interest as regards Mam-

mifers and Birds, is more important for the study of Fish, and especially of the lower animals. He has published, in various journals, articles on natural history, and particularly his *Corrispondenza Zoologica*. To him also we owe the knowledge of the most imperfect of the *Vertebrata*, the fish *Branchiostoma*, described a short time afterwards by Yarrell, in England, under the name of *Amphioxus*, which is deprived of the organ of smell and taste; not, however, of every trace of eyes and of brain, as erroneously supposed by some. In a recently established journal, the *Antologia di Scienze Naturali*, we note, with pleasure, the writings of Signor Piria, and of the equally well known Signor Archangelo Scacchi. Signor Dalle Chiaje, the continuer of Poli, adhering to his anatomical researches, has published the second volume of his complete physiological work, and an interesting Memoir on the *Proteus anguinus*.

Entering the Roman State, we find at Velletri an ornithological collection, the property of a lady, the Signora Contessa Borgia, who employs herself profitably with this science. Stopping too at Terracira, before arriving at this city, I may remark, that if the clear and cultivated intellect of an Elisabetta Fiorini were applied to Zoology rather than to Botany, in which branch she is famed among the highest masters of the science, I could with greater fitness exclaim with Ariosto:—

“ Le donne son venute in eccellenza
D’ogni bell’ arte, in che hanno posto cura.”

In Rome, we have collections of natural history, not indeed despicable, but far from being proportionate to a city, which centuries ago boasted of the famous Kircherian Museum, or to the immense opportunities afforded by the Catholic Propaganda. These collections are daily enriched by the care of Professors Metaxa, father and son, of Dr. Ponzi, and of the indefatigable Signor Riccioli. We owe to the Metaxas an appropriate journal, where not only the medical sciences, but Zoology also has a place, by the publication of interesting memoirs which their zeal collects from all parts of Italy, with additional

materials of their own. Ichthyology, and especially its anatomical department, is illustrated by them in useful papers. The *Giornale Acadico*, the true foundation of which was laid in 1818, by a Lyncean Academy, now existing at Florence, includes many memoirs on natural science, which fell within the scope of its extensive range, unassisted at first by any public money. My own cabinet and my zoological library, which my subject obliges me to allude to, being now transported from the extremity of the Quirinal Hill to the centre of the city, may aid the student, by furnishing him with appropriate books and objects. You are acquainted with my own humble labours, which, by the aid of your intelligence, I shall endeavour to render always less unworthy of your compassion. It is right, that I pass an encomium on the rare collection of that zealous cultivator of science, Signor Lavinio Spada Medici, rich in minerals and crystals, and abounding in fossil bones, collected with much industry. With the death of the meritorious Cavaliere Abate Scarpellini, it is not right that the *Accademia dei Lincei*, which he restored, should also perish, when, by uniting it with another of great renown, through the care of the eminent Lambruschini, the Prefect of the Studies, and by the conspicuous zeal of the eminent Cardinal Giustini Camerlengo di Santa Chiesa, a zeal consistent not only with his personal character, but with the office which he sustains with equal dignity,—it will certainly not descend from the honourable rank in which it was placed by a Federico Cesi, with the aid of so many illustrious men, and especially of a Galileo.

Viterbo possesses the *Accademia degli Ardenti*, which is also concerned with science. Perugia sustains her ancient fame by the men whom she at present boasts of, and by the periodical works which she publishes. In natural history, she derives fame from a Bruschi, the founder of her Botanic Garden, and the author, besides other writings of the most classical work on Natural History that Italy has known; while the total privation of sight, which this learned man labours under, recalls the verse,—

“ Occhio cieco, divin raggio di mente!”

The venerable Colizzi is famed, not only for his voluminous work on Natural Law, but also for his profound knowledge of science, and especially of Chemistry. Besides her public collections, Perugia shows, with pride, the ornithological one of the Marchese Orazio Antinori. Ascoli deserves to be recorded for Orsini and his collections. The same may be said of Sinigaglia, for Procaccini Ricci and his collection of fossils of every class, among which it most concerns us to mention the Fish. The Universities of Macerata, of Urbino, and of Ferrara, have also cause for boasting in regard to natural science. The learned Felsina, with her rich collections, her chairs from which such profound instruction is given, has her *Annali delle Scienze*, abounding with select matter, and her *Atti dell' Accademia*. I will only mention, not to be prolix, the excellent treatise of Professor Alessandrini on the Branchia of Fish, and especially that on the *Heterobranchus*, of which I am surprised that Valenciennes has not availed himself.

Modena, centre of the Italian Society, the birth place of an Amici, the abode of a Marianini, has beheld the publication of the first volume of the *Storia Naturale degli Stati Estensi*, by our colleague, Professor Brignole.

Parma, in whose praise it is sufficient to mention that second Esculapius, Professor Tommasini, an honour of which she has deprived our own Bologna (which boasted of having given him a chair), is also proud of Professor Jan, versed in all the branches of natural science, and long known for his researches made in combination with the zealous Decristofori.

Lucca offers some respectable collections in the royal palace of the Duke. The Zoological Museum of Pisa, in regard of the abundance and beauty of the preparations, and especially of the manner in which it is arranged, deserves to be cited as a model to Florence herself, if not to all Europe. This fine establishment is owing to the care of the truly zealous Paolo Savi, who forwards in every way the munificent views of his sovereign, and who every day strengthens his claims on the Grand Duke's liberality towards this institution, and on the gratitude not of Tuscany only but of all Italy. He is already sufficiently known to the scientific world for his extensive

knowledge of natural objects, and for the remarkable advancement which Zoology has received from him, by the aid of the two other sciences, which with rare success are united in him, Geology, namely, and Anatomy; as is shown by his numerous and highly praised writings, which are particularly remarkable for the clear ideas and correct judgment which distinguish him above others. Nor can I leave Pisa without praising its long established *Giornale de' Letterati*, which now, under a change of title, has become more dedicated to natural science, and in which we have lately perused an interesting Memoir by Pecchioli on the *Arvicolæ*. Sienna, renowned in Italian history, and even the commercial Leghorn, are provided with scientific establishments and with academies, with which the ever smiling Tuscany continually adorns herself.

It would be carrying flowers to the garden, were I to speak diffusely of this city of Florence, which now receives us with so much affection, generosity, and splendour, for you yourselves, with what I may call your *judicium subtile videndis artibus*, have been better able than myself to judge of the happy condition in which, amidst every other science, that of natural history luxuriates and fructifies abundantly; for which I should give renewed praise to the illustrious sovereign, were I not sure, that whatever fell from my lips would be inadequate to his deserts. I feel, however, that I should be justly blamed, if I omitted to say, that Leopold II., devoted as he is to the true progress of the highest studies, spares no anxiety to invite, and liberally entertain, the most eminent men of our common country; for he most wisely considers, that the interests of municipal protection are never to be preferred to the cause of truth and to the glory of the state. You have before you sufficient proof of the warmth of his zeal, not only for the details of science, but for those external matters which serve to embellish her. On the present occasion, he has spared no care to provide for the ornamental and scientific arrangement of the extensive museum in which we are now assembled. For this, a deserved tribute of praise must be given to the learned and modest director, Cav. Vincenzo Antinori, ably seconded by the active curator, Signor Brus-

coli, and by Professors Mazzi, Nesti, and especially Dr. Carlo Passerini, whose accuracy in matters of science, is matched by that strictness of moral character in every social relation which we so rarely meet with.

You have seen with what liberality they have adorned with new and varied improvements this Botanic Garden, which by the active care of the excellent family of Targioni, has arrived at such perfection, and may rival any other in the abundance of species, through the assiduity of the agriculturist, Signor Baroni, who is so eminent for his theoretical and practical knowledge of Phytology. Thus to renew the vigour of scientific establishments, on occasion of these meetings, is certainly not the least of the infinite benefits arising from the institution of Congresses.

And from this third Italian meeting, which we are about to conclude in these revered and hospitable walls,—a meeting which, from the number and eminence of the visitors, has exceeded its predecessors in a flattering degree,—while we derive an ever increasing hope of the rapid advancement of our institution, we have also a fresh evidence, that to whatever honourable enterprise the Italians are summoned, they respond to the call, as they have always responded, when Patriotism attracts, unites, and warms them.

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REPORT
OF THE
FIRST ANNUAL MEETING
OF
THE RAY SOCIETY,

OCTOBER 2, 1844.

SIR PHILIP DE MALPAS GREY EGERTON, BART.

IN THE CHAIR.

WITH
THE LAWS OF THE SOCIETY, LIST OF OFFICERS, MEMBERS,
&c. &c.

LONDON :

C. AND J. ADLARD, BARTHOLOMEW CLOSE.

THE RAY SOCIETY.

The Secretary Dr. LANKESTER, read the following Report :

THE Society whose first Annual Meeting we are met to commemorate, had its origin in a wish, expressed by Dr. JOHNSTON of Berwick, to some of his scientific friends, that some means could be devised for printing such works on Natural History, as stand in need of extraneous assistance to ensure their publication. The scientific value of zoological and botanical works is generally in the inverse ratio to their popularity, and it often happens that the authors of profound scientific researches are compelled, either to make their writings popular, or to incur the inevitable loss consequent on publishing, on their own account, works whose circulation is confined to lovers of science only. In cases of this kind it has been usual to apply for aid to Her Majesty's Government, but though assistance has been occasionally obtained from this source, yet there are many difficulties attending such applications. These difficulties were sensibly felt last year at the Cork meeting of the British Association, when several elaborate MS. works on various departments of Natural History were laid before the Association, and their claims on its assistance were backed by the influence of the Sectional Committees, but, from the limited state of its funds, the Association was unwillingly compelled to withhold the desired aid. Here then were several original researches of great value to science returned upon the hands of their authors, merely because the booksellers would not incur the risk of their publication, while scientific bodies were unable to assist them. To rescue such precious materials from oblivion, is one of the objects for which the RAY SOCIETY was instituted, and it has been ascertained that by applying the whole funds of the Society, with rigid economy, to the printing and issuing appropriate volumes on the plan of the Camden, Sydenham, and other similar Societies, a large dividend of scientific matter may be annually distributed to the Subscribers. In carrying out this project, however, the Society will carefully avoid interfering with the interests of the book trade, or of scientific societies, and to quote the words of our own regulations, "It will be a direction to the Council that they shall not print any thing that appears to them suitable to the transactions of established societies, nor any work which a respectable publisher shall undertake to publish without charge to the author."

The RAY SOCIETY does not, however, confine itself to printing original matter, but will include in its objects the editing, translating, and reprinting of rare or inaccessible works of really scientific value.

Aware how imperfectly the majority of British naturalists are acquainted with the state of their science in foreign countries, the Council considered that they could not better occupy their first volume than by giving translations of several recent Reports on the state of Zoology and Botany, which have appeared on the continent. It was hoped that this volume could have been got ready in time for the present meeting, but although every exertion has been used, we shall be compelled to await its appearance a few months longer. Some of the proof sheets have however been bound into a volume, to serve as a specimen of the form in which it is proposed that the works shall be issued.

In preparing works for our future volumes, a very numerous list of proposed publications has been laid before the Council, among which it has been decided to publish the following at an early period.

I. Memorials of JOHN RAY; consisting of the 'Life of JOHN RAY,' by DERHAM; the 'Biographical Notice of RAY,' by Baron CUVIER and M. DUPETIT THOUARS, in the Biographie Universelle; published and unpublished Letters of RAY, &c. Edited by E. LANKESTER, M.D.F. L.S.

II. 'Iconographia Linnæana,' to be published in parts, and to consist of Illustrations of the original specimens in Zoology of Linnæus, at present existing in the Museum of the Linnæan Society. Edited by Professor BELL, F.R.S., and Professor FORBES, F.R.S.

Of this the Council intend publishing a part yearly or half-yearly, as their resources will permit.

III. A 'Monograph,' with coloured drawings, of every species of the British Nudibranchiate Mollusca, by Messrs. ALDER and HANCOCK; in parts.

Without pledging themselves to publish all the following works, the Council present the names of some which have been brought before them for consideration:

1. A Translation from the Greek, with Notes, of the Works of ARISTOTLE on Animals, and of DIOSCORIDES on Plants.
2. A Translation from the Spanish of Azara's Birds of Paraguay.
3. An edition of the 'Systema Naturæ' of Linnæus.
4. A Translation from the German of the 'Principles of Philosophical Botany' of Dr. J. M. SCHLEIDEN.

In regard to the portion of our publications which are now in actual progress, we have to express our thanks to W. B. MACDONALD, Esq., to Dr. LANKESTER, and to H. E. STRICKLAND, Esq., for their assistance in translating and editing the several Reports on the state of Zoological and Botanical Science, which will occupy the first volume.

We are happy to announce that upwards of 400 Members have already joined this Society, and additional names are daily added to our list. We feel confident that as soon as its objects and merits become known on the Continent, a large number of foreign naturalists will join our ranks. We would urge on all well wishers to the RAY SOCIETY, the importance of making it extensively known and supported by their scientific friends, as its utility to science, and its advantages to each individual Member, will be exactly proportionate to the amount of its annual income.

The Treasurer's Accounts were then laid before the Society, an abstract of which follows :

The RAY SOCIETY in Account with J. S. BOWERBANK, from
MARCH 13, to OCTOBER 3, 1844.

			£	s.	d.				£	s.	d.
Stationery, Stamps, and Postage	.		2	14	6	Cash from 225 Sub-			236	1	0
Dr. Johnston's Account	£6	10 0				scribers	.				
Ditto P. O. Orders		1 3									
			6	11	3						
Dr. Lankester's Account		11 13 2									
Ditto ditto		9 13 5	21	6	7						
E. Newman's Account		5 6 0									
Ditto ditto		5 13 6									
Ditto ditto		5 5 0	16	4	6						
			46	16	10						
Balance	.	.	189	4	2						
			£236	1	0				£236	1	0

The above Accounts, extending from March 13 to October 3, 1844, have been examined by us, and compared with the vouchers, and found to be correct.

Nov. 15, 1844.

(Signed)

EDWIN J. QUEKETT,
ROBERT WARINGTON.

1. Moved by Lord NORTHAMPTON; Seconded by the DEAN of Manchester;

That the Report now read, be received and adopted.

2. Moved by R. I. MURCHISON, Esq.; Seconded by Dr. HUGH FALCONER;

That the thanks of this Meeting be given to Mr. BOWERBANK, Treasurer; to Dr. JOHNSTON, and to Dr. LANKESTER, Secretaries, and to the Local Secretaries, for their services.

3. Moved by Sir HENRY DE LA BECHE; Seconded by Professor ANSTED;

That the following gentlemen be the Council for the ensuing year.

CHARLES C. BABINGTON, ESQ.

J. H. BALFOUR, M.D.

ROBERT BALL, ESQ.

THOMAS BELL, ESQ. F.R.S.

REV. M. J. BERKLEY.

GEORGE BUSK, ESQ.

J. DALRYMPLE, ESQ.

C. DAUBENY, M.D. F.R.S.

SIR P. G. EGERTON, BART. F.R.S.

EDWARD FORBES, ESQ. F.R.S.

R. K. GREVILLE, ESQ.

SIR W. JARDINE, BART.

REV. L. JENYNS.

RICHARD OWEN, ESQ. F.R.S.

JOHN PHILLIPS, ESQ. F.R.S.

J. T. ROYLE, M.D. F.R.S.

PRIDEAUX SELBY, ESQ.

HUGH E. STRICKLAND, ESQ.

W. THOMPSON, ESQ.

N. B. WARD, ESQ.

4. Moved by A. STRICKLAND, Esq.; Seconded by Professor ALLMAN;

That the thanks of this Meeting be given to the Chairman, Sir PHILIP DE MALPAS GREY EGERTON, Bart., for his kindness in presiding on the present occasion.

LOCAL SECRETARIES.

Aberdeen	Dr. Dickie.
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 Meggy, George, esq. Chronicle Office, Chelmsford
 Melrose, Jonathan, esq. Writer, Coldstream, Berwickshire
 Mercer, James, M.D. F.R.C.S.E. 50, Northumberland st, Edinburgh
 Meynell, Thomas, esq. York
 Miers, John, esq. Temple lodge, Hammersmith
 Miller, O. T. esq. Royal Marine Infirmary, Plymouth
 Miller, George, esq. M.R.C.S.E. Emsworth, Hants
 Mitchell, Alexander, esq. 20, Upper Kirk gate, Aberdeen
 Mitchell, D. W. esq. 5, Mortimer street, Cavendish square
 Mitchell, Dr. Mauchline, Argyleshire, N.B
 Mitford, Captain, Hunmanby, Yorkshire
 Moggeridge, Matthew, esq. Swansea
 Moon, William, esq. surgeon, Tottenham, Middlesex
 Moore, J. C. esq. 37, Hertford street, May Fair
 Mordaunt, John, esq. Ashton Water, near Bristol
 Morris, Beverley, M.D. York
 Morris, John, esq. 6, Lower Durnford square, Stonehouse, Devon.
 Munford, Rev. George, East Winch Vicarage, Lynn
 Munn, W. A. esq. Knowley house, Feversham, Kent
 Munro, Miss, Fritham, Stoney cross, Hants
 Murchison, R. I. esq. F.R.S. &c. Belgrave square
 Murdoch, W. M.D. 320, Rotherhithe street
 Murray, Patrick, M.D. Scarborough, Yorkshire

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 Nasmyth, Alex. esq. F.L.S. G.S. &c. 13, George st. Hanover square
 Naylor, G. F. esq. Asylum, Wakefield
 Neill, Patrick, LL.D. F.R.S.E. L.S. &c. Cannon Mills, Edinburgh
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 Neville, Henry, esq. Hervey hill, co. Londonderry, Ireland
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 Newcastle Literary and Scientific Society
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 Newnham, W. O. esq. St. John's College, Cambridge
 Newnham, William, esq. Farnham, Surrey

Newport, George, esq. Pres. Ent. Soc. Southwick st. Cambridge ter.
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 Northampton, the Marquess of, P.R.S. &c. 145, Piccadilly
 Norwich, the Lord Bishop of
 Nunneley, Thos. esq. Surgeon, Leeds.
 Nutford, Capt. Hunmanby, Yorkshire

Ogle, W. esq. Catherine Hall, Cambridge
 Ogilvie, J. F. esq. Morningside Lunatic Asylum
 Owen, Professor, F.R.S. L.S. &c. Royal College of Surgeons

Parker, C. L. esq. Oxford
 Parkinson, esq. F.L.S. Cambridge terrace, Hyde park
 Parnell, R. M.D. F.R.S.E. &c. 50, Rankeilior street, Edinburgh
 Patisson, Jacob L. esq. LL.B. Witham House, Witham
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 Paxton, Jas. M.D. Rugby
 Pearce, J. C. esq. Bradford, Wilts, near Bath
 Percival, W. esq. 1st Life Guards, Regent's Park Barracks
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 Plomley, Francis, M.D. Ph.D. F.S.A. &c. Lydd, Romney Marsh, Kent
 Pollexfen, Rev. J. H. Bradford, Yorkshire
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 Power, Thomas, M.D. St. Patrick's hill, Cork
 Price, William, esq. Leeds
 Price, Thomas T. esq. Surgeon, Hereford
 Prower, Rev. J. M. Purton, near Swindon, Wilts
 Phillips, Professor John, F.R.S. G.S. &c. Dublin
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 Prestwich, Joseph, jun. esq. Mark lane.

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 Quekett, E. J. esq. F.L.S. 50, Wellclose square

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 Rohloff, — esq. Plymouth
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 Rothery, H. C. esq. B.A. 10, Stratford place
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 Salter, T. Bell, M.D. F.L.S. Ryde, Isle of Wight
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 Stewart Allan, M.D. 50, High street, Paisley
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 Tweedy, M. esq. Alverton, Truro
 Twining, William, M.D. 13, Bedford place, Russell square
 Twiss, Travers, Dr. Prof. Political Economy Univ. Coll. Oxford.
- Varenne, E. G. esq. Kelvedon, Essex
- Waller, Edward, esq. Finnow House, Burreisakane, Ireland

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 Walmsley, V. O. esq. Westwood House, near Wigan, Lancaster
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 Warren, T. W. esq. 40, Blessington street, Dublin
 Warwickshire Natural History Society
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 Winterbottom, P. M. M.D. Westoe, S. Shields
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Wood, Neville, M.D. Lower Belgrave street, Belgrave square
Wood, Samuel, esq. A.M. M.B. Avenue House, Bandon, co. Cork
Woodd, Basil, T. esq. F.L.S. &c 14, Great Cumberland street
Woodford, Dr. Taunton
Wooley, J. esq. Trinity College, Cambridge
Wright, C. P. esq. 6, Glasshouse street, Regent street
Wright, G. P. esq. Auburn Cottage, Hawley road, Kentish town

Yarrell, William, esq. F.L.S. z.s. &c. Ryder street, St. James's street
Young, James. esq. Hull
Young, Dr. J. F. F.z.s. &c. Upper Kennington lane

