The following officers for 1867 were afterwards elected, namely:—President, Sir John Lubbock, Bart.; Treasurer, Mr. S. Stevens; Secretaries, Mr. Dunning and Dr. Sharp; and Librarian, Mr. Janson.

The President read the following Address:—

THE PRESIDENT'S ADDRESS.

Gentlemen,—

The Reports made annually to the Society by the Council relieve the President from the duty of addressing you on our internal affairs, our progress in the past year, or our prospects for the future; leaving him, therefore, the more free to bring before you the state of our Science itself, the principal observations which have been recorded, the most important works which have been published, and the most interesting discoveries which have been made during the past year.

So rapid, however, is the progress of Entomological Science, that it would be impossible for your President, even if he had the requisite knowledge—which I have not—to give you within the limits of an Address anything like an exhaustive *resumé* of the entomological literature for the past year. This is the less to be regretted because the reports of Pr. Gerstäcker and Mr. Dallas, in Wiegmann's 'Archiv' and the 'Zoological Record,' leave little to be desired in this respect, and we owe those two gentlemen much gratitude for the admirable and careful manner in which their reports are worked out.

The prize offered by the Council for the best Essay on the anatomy, economy, or habits of any insect, or group of insects, especially serviceable or obnoxious to mankind, has been again awarded to Dr. Wallace, whom I have to congratulate on having carried off the prize in two successive years. His memoir on Ailanthiculture, to which the prize was awarded last year, forms the second Part of the fifth Volume of our 'Transactions.' The other Parts published during the year 1866 have been no less than four in number, and contain the following papers:—

1. Characters of a new Genus and Species of Chalcidites. By Mr. F. Walker.

2. Remarks on Capt. Hutton's paper "On the Reversion and Restoration of the Silkworm." By Capt. J. Mitchell.

3. On the British Species of Agathidium. By Mr. D. Sharp.

4. Observations on some remarkable Varieties of Sterrha sacraria, with General Notes on Variation in Lepidoptera. By Mr. M'Lachlan.

5. Description of Papilio Godeffroyi. By Mr. G. Semper.

6. New Genera and Species of Gallerucidæ. By Mr. Baly.

7. Descriptions of new Hesperidæ. By Mr. Hewitson.

8. Longicornia Malayana, Part 3. By Mr. Pascoe.

9. Descriptions of new or little known Genera and Species of Exotic Trichoptera; with Observations on certain Species described by Mr. Walker. By Mr. M'Lachlan.

10. List of the Longicornia collected by the late Mr. P. Bouchard, at Santa Marta. By Mr. Pascoe.

11. Catalogue of Buprestidæ collected by the late M. Mouhot, in Siam, &c., with Descriptions of new Species. By Mr. Edward Saunders.

11. Notes on some Hymenopterous Insects collected by Mr. Peckolt at Catagallo, South Brazil. By Mr. Frederick Smith.

12. Notes on the Butterflies of Mauritius. By Mr. Trimen.

13. New Genera and Species of Psocidæ. By Mr. M'Lachlan.

The various objects, moreover, exhibited at our Meetings, and the observations to which they have given rise—which, thanks to our very excellent Secretary, Mr. Dunning, are carefully reported in our 'Proceedings'—have been both numerous and interesting. I trust, however, that I shall not be exceeding my duties as President, if I point out that the attention of our Members seems to be almost exclusively devoted to Systematic Entomology, and I cannot help wishing that we more frequently received communications relating to the anatomical and physiological departments of our Science.

Nevertheless our Members have been anything but idle during the past year, and our own publications can by no means be taken as a measure of their activity, for the 'Proceedings of the Zoological Society,' the 'Zoologist,' the 'Entomologist,' the 'Entomologist's Monthly Magazine,' and Mr. Stainton's 'Entomologist's Annual' contain many papers contributed by Members of our Society.

With the exception of a paper of my own, to which our late President referred in terms too complimentary on the occasion of his last Annual Address, the Number of the Linnean 'Transactions' for 1866 contains no entomological matter. The 'Proceedings' are, on

the contrary, enriched as usual by numerous contributions, principally from Members of our Society. These comprise Mr. Smith's descriptions of Hymenopterous insects collected by Mr. Wallace in New Guinea, Sumatra, Sula, Gilolo and Salwatty; Mr. Walker's descriptions of Diptera from New Guinea, Salwatty and other Islands of the Eastern Archipelago; Mr. Hewitson's list of the Diurnal Lepidoptera collected by Mr. Wallace in the same Archipelago; Mr. Butler's list of Diurnal Lepidoptera collected by Mr. Whitely in North Japan; and Mr. Pascoe's memoir on the Australian Longicorns. Mr. Blackwall also communicates a short paper on the means by which insects move on dry, polished, vertical surfaces, and brings forward additional arguments in favour of his opinion that this is effected, not by the creation of a vacuum, but by means of an adhesive fluid emitted from the under surface of the feet. Dr. Kirk has a paper on the Tsetse; and Mr. Haliday a short notice of Dicellura, a remarkable genus allied to Prof. Westwood's curious Campodea.

In the 'Quarterly Journal of Microscopical Science' the late Mr. R. Beck, whose death is deplored by all lovers of Science, announced that he had observed a case of agamic reproduction, extending over three generations, in an Acarus belonging apparently to the genus Cheyletus. This is the first time that agamogenesis has been observed in the Arachnida. Mr. Tuffen West has, in the same excellent periodical, two short notices, one on the egg of Scatophaga, and the other on the cast-skin of an Ephemeron. They are illustrated by one of those beautiful plates for which Mr. West is so justly celebrated.

Mr. A. S. Packard has communicated to the Boston Natural History Society an interesting memoir "On the Development and Position of the Hymenoptera." His observations were made on a species of Bombus, and he shows that there are three changes "of skin during the so-called pupa state, in distinction from the larva and imago state, and it is highly probable that there are more. During the larval condition it would be safe to say that there are four distinct moultings. . . . . The genus Bombus, therefore, may be considered to undergo a series of at least ten moultings of the skin, and we are inclined to think further observations will tend to increase the number." Mr. Packard's observations certainly show that the transitions from the larva to the pupa on the one hand,

and from the pupa to the imago on the other, are more gradual than most entomologists would have been inclined to suppose. There is, he concludes, "no pause in the metamorphosis for a special biological design, such as obtains in the Lepidoptera and majority of the lower insects. The terms larva, pupa and imago are not therefore absolute terms." I need hardly say that even to the Lepidoptera the same observations might, in my opinion, be applied.

Mr. Packard is perfectly satisfied that Audouin, Latreille and Newman were correct in believing that the terminal portion of the so-called thorax in Hymenoptera is in reality abdominal. During this stage, he says, "the basal ring of the abdomen is plainly seen to be transferred from the abdomen to the thorax."

M. Balbiani, already so well known for his researches among the Infusoria, has communicated to the 'Comptes Rendus' a very remarkable memoir on the generation of the Aphis. If we consider that almost every one who has studied the anatomy of the Invertebrata must have had his attention particularly directed to the very interesting phenomena presented by the agamic reproduction prevalent in this family, and if we remember the numerous memoirs on the subject by Bonnet, Réaumur, Degeer, Kyber, Duvau, Morren, Steenstrup, Leydig, Leuckart, Owen, Huxley, and many others, we might well have thought that this problem if any in Natural History had been thoroughly exhausted.

Nevertheless, in opposition to the now almost unanimous opinion that the production of young by the viviparous females is a case of parthenogenesis, M. Balbiani comes forward and asserts that the viviparous specimens are hermaphrodites after all.

As regards the first stages in the formation of the egg, up to the appearance of the blastoderm, he agrees in the main with other observers.

Commencing with the viviparous individuals, he has satisfied himself that the whole inner surface of the blastoderm is lined with a delicate membrane, which extends like an envelope round the central vitelline mass. This membrane, with a portion of its contents, bursts through the posterior part of the blastoderm, and protrudes in the form of a hernia. This portion by degrees detaches itself from that remaining in the vitelline vesicle, and engrafts itself to the epithelial cells lining the ovarian chamber. The vitelline vesicle

then separates into two secondary vesicles. These two vesicles or cells are the rudiments of the future male and female generative organs. Each of them becomes gradually covered by a generation of small cells, which, when once produced, continue to increase in size, and multiply on their own account. The group produced by the herniated vesicle engrafted on the epithelium represents the male element, and *gives origin to the fecundating corpuscles;* that which originates from the free vesicle remaining within the blastoderm produces the future female generative organs. The generative vesicle of the male mass increases its size, attaches itself to the female generative apparatus, and becomes the reservoir for the fecundating corpuscles. That of the female group, on the contrary, gradually disappears.

The colouring of the two groups is also very different. The female elements remain colourless, while the males cells are either yellow or green.

The contents of these cells become converted into a number of small daughter-cells, furnished with a membrane and a nucleus. These daughter-cells are after awhile replaced by innumerable small dark corpuscles, much resembling minute Amœbæ, but their form does not change. The large mother-cells lose their colour and transparency, *and break up into a sort of powder.* In many cases the Amœboid corpuscles undergo a further evolution into "small unequal bacilli, which are straight or diversely flexuose, immobile and colourless." We might, he adds, "easily be led to regard them as a parasitic vegetable production, if we had not before our eyes all the successive phases of the transformation of these elements." In addition to which he adds that they are readily soluble in alkaline fluids.

It would be a mistake to suppose that the process now described by Balbiani as the male generative organ has altogether escaped earlier observers. It was observed both by Huxley and Leydig, as indeed Balbiani points out, but was regarded as a pseudo-vitellus. I myself had observed a mass of small green cells in the pseudovum of Coccus,* but I regarded them as parasitic vegetable cells, and, as we have seen, the same idea occurred independently to M. Balbiani, but was not adopted by him for the reasons already given. My "green cells," however, do not correspond with the "pseudo-

* "On the Ova and Pseudova of Insects," Phil. Trans. 1859, pp. 362, 363.

vitellus" of Prof. Huxley, but the description given by M. Balbiani of the development of the bacilli suggests, in many respects, a disintegration of the natural tissues, and a development of parasitic growth, rather than the ordinary and natural production of sexual elements.

On passing to the oviparous form we shall meet with additional difficulties.

The "male apparatus," as already described, occurs alike in both sexes, in the males as well as in the females, and with characters scarcely differing from those which it presented in the viviparous specimens. The true male generative organs are homologically the same as the female. There are not two rudimentary organs of which one is developed in one sex and the other in the other; but there is a single original rudiment, which is developed in one manner in the female, in a different manner in the male, and which in both cases contains the so-called "embryonic male organ."

This "embryonic male organ" is evidently, therefore, a perfectly distinct organ from an ordinary testis, and, as M. Balbiani has observed it in other animals besides Aphides, we shall await with interest some further communications on the subject. In the female Aphis he describes it as contained in the ovary, and as producing cells which evidently correspond with the seminal corpuscles of the viviparous form. "These facts," he concludes, "evidently indicate that the egg has already, while in the ovary, undergone a first fecundation, *with which the male has nothing to do*, and the effect of which is limited to the production of the generative elements of the future animal."

Some years ago* I attempted to show that there are two distinct kinds of Spermatozoa among the Annulosa, and I ventured to suggest that their functions were probably different. But however much I might be tempted to claim these observations of M. Balbiani as confirmatory of my views, I cannot but feel that fresh evidence is required that his "embryonic male organ" has really the nature and functions which he attributes to it.

Although our late President, Mr. Pascoe, alluded briefly, in his last Address, to the remarkable discovery made by Prof. Wagner that certain dipterous larvæ possess the power of agamic repro-

* Phil. Trans. 1861.

duction, the fact is one so remarkable that I think I need not apologize for returning once more to the subject. It has been almost an axiom among entomologists that no larva possesses the power of reproduction; and when therefore M. Wagner, Professor of Zoology at Kasan, announced that he had discovered a case of asexual reproduction in the larva of a fly belonging to the genus Cecidomyia, his statement was received with an astonishment bordering on incredulity. Indeed the Editors of the 'Zeitschrift für wissenschaftliche Zoologie,' to whom Prof. Wagner had forwarded his memoir, kept it back for two years, because the statements made by him seemed to them almost incredible. These statements have now, however, been confirmed by other excellent observers, namely, Meinert, Pagenstecher, Leuckart and Von Siebold; and there seems no doubt about the main facts; namely, that the larvæ of certain flies continue, throughout the autumn and winter, to produce a series of successive generations of larvæ, the last of which are finally developed into perfect and sexually mature individuals. The females then, after coputation, lay eggs, and thus the cycle commences again.

I say "certain flies," because it is now almost certain that the different observers have had different species under notice, and Prof. Wagner even believes that he has met with five distinct forms. Two only, however, have yet been obtained in a perfect state, one of which appears to have been bred both by Prof. Wagner and by M. Meinert, the other by M. Meinert alone. The first is a new species, which has received the name of Miastor Metraloas, and is most nearly allied to the genus Heteropeza, from which it is principally distinguished by the structure of the tarsus. The second is named by M. Meinert, Oligarces paradoxus.

Wagner and Meinert believed that the young larvæ originated from the general fatty tissue, and before the appearance of any special generative organs. Pagenstecher first called this in question, and expressed his belief in the existence of a proper "germ-stock" or ovary. Leuckart has clearly shown that this is the case, and that the early stages in the development of the pseudova, from which the secondary larvæ are produced, are the same as in the production of an ordinary dipterous egg. I entirely agree with him when he says that "Every one who is acquainted with the developmental history of insects, or who consults the existing observations on that subject by Stein, myself, Lubbock, Claus, and others, will agree with me when I assert that the germ-balls of our larvæ, with their contents,

precisely reproduce the conditions of one of the so-called germ-chambers from the ovarian tubes of a female insect."

It is therefore evident that the developmental history of these pseudova follows the same course as other insects' eggs, which indeed I have elsewhere attempted to show is the case in all other groups of insects which possess the power of agamic reproduction:

It may be added that the subsequent development accords in essential points with that which has been observed in other insects. Miastor appears indeed to be a very favourable subject for such investigations, and has yielded to M. Mecznikoff the remarkable discovery that the mysterious "polar cells," which have been observed by so many naturalists and in such different groups of animals, re-enter the blastoderm, and finally pass into the germ-stock of the young larva. They thus apparently answer to the so-called "embryonal male organ" of M. Balbiani.

Prof. Leuckart, as we have seen, has clearly shown that the reproductive bodies in the larvæ of Miastor arise in the ovary, that they possess the rounded form, the germinal vesicle and spot, the vitelligenous cells, and in fact "all their first stages of development, in common with eggs." He is not, however, yet prepared to follow out his own views to their logical conclusion, but, as he says, "cannot quite determine to describe them as eggs. . . . . Just as the larval forms of an animal cannot be placed on the same level with the fully developed creatures, and regarded as such, so we must not transfer the denomination 'eggs' to structures which have only their first stages of development in common with eggs." These first stages, however, comprise just the special characteristics; the subsequent changes, such as the development of the chorion, &c., are mere external adaptations for the purpose of enabling the egg to brave its exposure to external circumstances. The ovum in Mammalia needs no such protection, and is not more specialized in this direction than that of Aphis or of Miastor; but no one would deny that the reproductive bodies of Mammalia are true ova.

If, moreover, we examine the reproductive bodies throughout the animal kingdom, we may find every gradation from the most specially developed egg—that, say, of a bird—to that of the viviparous Aphis or Coccus. One great difference between an egg and a bud is the place of origin, to which, as it seems to me, Prof. Leuckart does not attach sufficient importance.

He is, however, inclined to adopt the name of pseudovum for the

reproductive bodies in Aphis and other similar cases, but he blames Huxley for attributing the same term to the "true eggs, which are capable of spontaneous development."

Now between a normal egg and the pseudovum of Aphis every intermediate term exists. No important morphological line of demarcation can be drawn. On the other hand, a body which is capable of spontaneous development, whatever its form may be, and whether it is susceptible of impregnation or not, is very different from one which requires impregnation as a necessary antecedent to development. Herein, then, lies a true difference, and I certainly think, therefore that (as, indeed, I suggested in the year 1856) it is convenient to have some term for self-fertile ova, whether susceptible of impregnation or not, whereby they may be distinguished from other ordinary eggs, to the development of which impregnation is a necessary antecedent.*

Prof. Leuckart's criticism, however, derives a certain amount of support from the name which Prof. Huxley has given to these reproductive bodies. The name "pseudovum," or "false egg," may be appropriate enough in the case of Aphis, or Coccus, or even of Daphnia. It is not, however, well adapted to that of Cynips, and still less to those of the bee or the silkworm moth. The so-called "pseudova" in these cases are not "false eggs;" they are, on the contrary, true eggs —and something more. They possess, in fact, all the characters of true eggs, combined with a greater amount of vital energy. "Euova" would seem therefore to be a more appropriate term for them than "pseudova."

Mr. Darwin's last edition of the 'Origin of Species' contains many illustrations from Entomology which were not present in the first. Several of these are of great interest. As an example, I take his remarks on the influence which insects have exercised on the beauty of flowers. If bees owe their honey to the flowers, flowers, on the other hand, it would appear, owe their beauty to the bees. "Flowers," says Mr. Darwin, "rank amongst the most beautiful productions of

* Even here, however, intermediate stages appear to occur. Many cases have been observed in which yolk division commences in unimpregnated eggs, and in insects the embryo is sometimes formed, before the vital energy of the ovum is exhausted and the process stops. It is even stated that young born from agamic eggs are particularly weakly, as if even after birth the absence of male influence showed itself in a want of vital energy.

Nature; and they have become, through natural selection, beautiful, or rather conspicuous, in contrast with the greenness of the leaves that they might be easily observed and visited by insects, so that their fertilization might be favoured. I have come to this conclusion from finding it an invariable rule that when a flower is fertilized by the wind it never has a gaily-coloured corolla. Again, several plants habitually produce two kinds of flowers; one kind open and coloured so as to attract insects; the other closed and not coloured, destitute of nectar, and never visited by insects. We may safely conclude that if insects had never existed on the face of the earth, the vegetation would not have been decked with beautiful flowers, but would have produced only such poor flowers as are now borne by our firs, oaks, nut and ash trees, by the grasses, by spinach, docks and nettles." Moreover, we obtain from these facts the best evidence that insects possess the faculty of perceiving and distinguishing colours. For as regards the vision, and indeed the other senses of insects, we have yet much to learn. We do not yet thoroughly understand how they see, smell, or hear; nor are entomologists entirely agreed as to the function or the structure of the antennæ. This interesting subject offers a most promising field for study, and I would particularly call the attention of entomologists to a remarkable memoir by Hensen on the auditory organ in the decapod Crustacea, which first appeared in the 'Zeits. f. wiss. Zool.,' vol. xiii. p. 319, and of which an abstract has been given in the 'Quarterly Journal of Microscopical Science,' vol. v. p. 31. Hensen has shown that (as had been stated by M. Faivre) the otolithes in the open auditory sacs of shrimps are foreign particles of sand, *introduced into the organ by the animal itself.* He proved this very ingeniously by placing a shrimp in filtered water without any sand, but with crystals of uric acid. Three hours after the animal had moulted he found that the sacs contained many of these crystals.

M. Hensen has also shown that each hair in the auditory sac is susceptible of being thrown into vibration by a particular note, which is probably determined by the length and thickness of the hair. It may be experimentally shown that certain sounds throw particular hairs into rapid vibration, while those around them remain perfectly still.

M. Baudelot has published, in the 'Annales des Sciences Naturelles,' a short memoir on the influence of the nervous system on the

respiration of insects. M. Faivre had attempted to show that the respiratory movements depend entirely on the metathoracic ganglion, and that the posterior part of the ganglionic chain acts merely as a conductor. M. Baudelot has arrived at a very different conclusion: he experimented on the larva of the dragon-fly, and after cutting off the head found that for six hours the respiratory movements were strong and regular, while even after a lapse of twenty-one hours they were apparent, though weak, nor did they cease entirely until twenty-seven hours after the operation. Secondly, he bisected a specimen immediately behind the metathorax, notwithstanding which respiratory movements were continued in the abdominal portion for something more than twelve hours, and in one case even for twenty-four hours. Moreover, he arrived at similar results in the dragon-fly itself, and he concludes therefore that the respiratory movements of insects are not, like those of Vertebrata, under the rule of one special part of the nervous system, but that each ganglion acts for itself as a centre of force.

Prof. Faivre has also published, in the 'Annales des Sciences Naturelles' (New Series, vol. i.), some interesting investigations into the nervous system of insects. It is hardly necessary for me to remind the Society that we owe to our great entomologist Newport the interesting discovery that the nervous column in Articulata consists of two parts, an upper band with motor functions, and a lower ganglionic cord of sensitive nerve matter. He suggested, moreover, that the nerves had a double origin as well as a double function.

M. Faivre has succeeded in proving by experiment the accuracy of these views. After carefully exposing the prothoracic ganglion, he found that on irritating the under surface of the ganglion he obtained unmistakeable signs of pain, indicated by general movements; while irritation of the upper surface merely produced movement in the corresponding leg, action on the right side of the ganglion always affecting the right leg, that on the left side the left leg. But further than this M. Faivre found it possible to isolate the power of motion from that of sensation, so as to paralyze either at will without affecting the other. If he made a longitudinal section through the *upper* part of the ganglion on the side, the leg on that side lost all power of motion. If the insect walked the leg took no part in the movement, and if the leg itself was pinched it remained equally motionless. Yet its sensibility was unimpaired, and any irritation of it produced reflex

actions *in the other legs*, and all the usual signs of discomfort, excepting indeed in the leg itself. Thus then the excitability was destroyed, though the sensibility was unaffected. After awhile, however, the former gradually returned.

M. Faivre was also able to effect the converse operation—*i. e.*, to destroy the sensibility without affecting the power of motion. To do this it was necessary to cut the inferior side of the ganglion, and especially to avoid going deep. In this case, as in the preceding, action on the right side of the ganglion affected the right leg, that on the left side the left one. Under these circumstances if the paralyzed leg is pinched no movements are produced either in it or in any other parts of the body; while, on the contrary, the paralyzed leg does move in the same manner as the others, under the stimulus of irritation applied to *any other* part of the body. Thus then if a superior longitudinal section be effected through the side of the ganglion, the leg is rendered motionless, but other parts can be stimulated through it. On the contrary, if an inferior longitudinal section be made, the leg can be moved by stimulus applied elsewhere, but is rendered incapable of transmitting sensation.

There is yet another manner in which the ganglion may be treated. If a lateral longitudinal section be carried through each side, the corresponding legs are completely paralyzed; and yet, the conducting properties of the ganglion being unaffected, irritation of the antennæ produces evident movements of the posterior feet, and, *vice versa*, irritation of the posterior legs produces movements in the head.

M. Faivre has made several experiments on other portions of the nervous system. The supra-œsophageal ganglion he finds to be quite without sensation. It may be pinched, pricked or torn, without any pain being manifested, thus presenting a remarkable contrast with other ganglia, and a not less remarkable analogy with the cerebral hemispheres of the, so-called, higher animals. It is curious that the commissures appear to gain sensibility as they quit the brain and approach the first subœsophageal ganglion.

The subœsophageal and other ganglia, so far as they have been examined by M. Faivre, present the same phenomena as the prothoracic; that is to say, they are motor above and sensory below; and an injury affects always the corresponding side of the body. He found the mesothoracic ganglion the easiest of all to examine, it being necessary for the purpose to remove only the membrane which unites the ventral surface of the prothorax with the mesothorax.

Finally, M. Faivre draws these principal conclusions:—

First. That even among the lower animals the distinction between sensibility and excitability holds good, proving thus the constancy and the generality of the physiological plan upon which the nervous system is established.

Secondly. The ganglionic chain of insects is the analogue of the spinal chord, and like the latter is divisible into motor and sensitive portions.

These investigations show clearly the correspondence which exists between the nervous system of insects and that of the higher animals.

Strictly perhaps the struggles and contortions of an insect when it is wounded are no absolute proof that it is capable of suffering, yet there are few who can entertain a doubt on the question. And so also, strictly speaking, no proof has yet been adduced that insects possess the gift of reason; still the study of their actions and habits leaves, to my mind, as little doubt in the one case as in the other.

Trees must be judged by their fruits and animals by their actions. Look, then, at the ants: they build houses, they keep domestic animals, and they make slaves; if we deny to them the possession of reason we might almost as well question it in the lower races of Man: insects cannot speak, indeed, but they evidently communicate by means of their antennæ, just like certain North-American Indians who cannot understand one another's language, but who can yet converse together with ease and fluency by a code of signs which are the same over a large area and among tribes whose spoken languages are entirely dissimilar.

In the face of the facts recorded by the Hubers and other observers, nothing but the force of preconceived ideas could make us hesitate to regard the ant or the bee as reasoning beings.

It is manifestly unfair to compare an insect with man, or even with the horse or dog. Reason is based on experience, and this the insect can never acquire owing to the shortness of its life. If the comparison is made at all, the ant or bee should be compared with a puppy or an infant, and it may well be questioned then to which an impartial observer would attribute the highest nervous organization. Every one knows that the movements of the body can be regulated only by long practice; a baby cannot command its arms or legs any more than its thoughts, and the power of regulating them is acquired as gradually in the one case as in the other.

Although, therefore, it cannot be denied that on the whole even the lowest savages have made more progress and shown more ingenuity, in many cases, than the ant or the hive bee, it may well be questioned whether this is owing to any superiority in their nervous organization, and whether it may not be accounted for by other causes, and especially by the shortness of insect life, which offers an insuperable obstacle to the accumulation of experience.

Of all living animals the chimpanzee and the gorilla, in their bones, muscles, viscera, &c., most nearly approximate to man, and the "determination of the difference between Homo and Pithecus" is, in the words of Prof. Owen, "the anatomist's difficulty;" but if we judge animals by their intelligence, as evidenced in their actions and mode of life, we may fairly claim for Entomology a high rank in Biological Science, for in that respect it is not the gorilla or the chimpanzee, but the bee, and, above all, the ant, which approach the nearest to Man.

A vote of thanks to the President was carried by acclamation.

A vote of thanks to Mr. Edwin Shepherd, on his resignation of the Secretaryship, an office which he had held for twelve years, during seven of which he was the principal acting Secretary, was carried by acclamation; and thanks were also voted to the other officers for 1866.

Abstract of the Treasurer's Accounts for 1866.

RECEIPTS.

	£	s.	d.
By Balance in hand, January 1st, 1866	11	14	10
Arrears of Subscriptions	22	1	0
Subscriptions for 1866	153	6	0
Admission Fees	25	4	0
Compositions	31	10	0
Tea Subscriptions	10	15	6
Sale of 'Transactions,' at Rooms £49 15 3			
„ at Longmans' 37 8 1			
	87	3	4
Dividend on £109 14*s.* 9*d.* Consols	3	5	10
Donation from W. W. Saunders, Esq.	5	5	0
	£350	5	6

PAYMENTS.

	£	s.	d.
To paid arrears for 1865:—Rent to Christmas	11	5	0
Fire Insurance to Lady-day, 1867	1	4	0
Librarian, 53 attendances	18	11	0
Tea, 13 Meetings	13	13	0
Attendance, Coals, Collector's Commission, &c.	5	2	4
Parcels, Postage, Stationery, &c.	11	11	4
Removal of Library	2	4	0
Printing 'Transactions,' 5 Parts	112	10	3
„ 'Proceedings,' Circulars, &c.	12	6	9
Plates for 'Transactions,' Engraving, Printing and Colouring ...	74	19	3
Books purchased	24	12	0
Bookbinding	11	8	6
Rent, 3 quarters, to Michaelmas, 1866	33	15	0
Prize, for Essay on Ailanthiculture	5	5	0
Balance in hand	11	18	1
	£350	5	6

Liabilities and Assets of the Society.

Liabilities.

	£	*s.*	*d.*
Rent to Christmas	5	0	0
Loan from Mr. Dunning ...	45	0	0
	£50	0	0

Assets.

	£	*s.*	*d.*
Arrears of Subscriptions :— good,—(say)	17	17	0
Ditto, doubtful, £31 10*s.* 0*d.*			
Consols, £109 14*s.* 9*d.* (say)	100	0	0
Cash balance in hand	11	18	1
	£129	15	1
Less amount of Liabilities	50	0	0
Balance	£79	15	1