

Hospital on May 9th, 1870. He had been ailing for eight months, and under treatment nearly all that time. At first he had had pain in the right side of the head, worse at night, and for four months had had loss of sensation in the right side of the forehead and face, together with ptosis and double vision. The skin of the entire region of distribution of the ophthalmic and superior maxillary divisions of the fifth nerve was insensible to all kinds of impressions. The eyelid could be raised only to a slight extent by the action of the occipito-frontalis. But though the double vision was very marked, there was no perceptible squint, and the pupils of the two eyes were equal. On more careful examination it was found that the two images were not on the same level, one being below and to the right of the other; and subsequently, by causing the patient to look at an object in various ways, so that the eyes were successively directed upwards, downwards, to the right, and to the left, it was clear that the double vision was due to paralysis of the fourth nerve, the two images receding when the eyes were directed downwards, approaching each other when they looked upwards, the pseudo-image going far to the right but coming to near the level of the image proper when the patient looked to the right, and getting immediately beneath it when he looked to the left. There was no acknowledged syphilitic history, but the sallow earthy complexion of the patient, a tubercular eruption near the right eyebrow, and facts in his family history, were considered conclusive as to the syphilitic origin of the disease; and iodide of potassium was given in doses of six grains, quickly increased to twenty grains, the result being rapid disappearance of all the symptoms. The lesion was considered to have been a node or gummy tumour of the fibrous structures surrounding the ophthalmic and superior maxillary divisions of the fifth nerve, in that part of their course between the Casserian ganglion and the exit of the latter through the foramen rotundum. Here the fourth nerve lies close to the ophthalmic and sometimes joins it, so that a single lesion would cause the loss of sensation and the double vision; it does not, however, appear how it could give rise to the ptosis.

Mr. BRUDENELL CARTER said that it was generally advisable in such cases to unite the double images by means of prismatic spectacles, as a means of giving comfort to the patient while he was under the necessary curative treatment. In paralysis of the superior oblique, a prism, with its base outwards and downwards should be placed before the affected eye, and balanced by a plane glass on the other side of the frame.

Dr. BUZZARD thought the subject under discussion of the highest importance, for there was nothing in medicine more remarkable than the rapidity with which this form of paralysis of cranial nerves cleared off under the influence of large doses of iodide of potassium. As had happened in the case related, the syphilitic nature of certain nervous diseases was being continually overlooked, and often he believed because it was supposed that some secondary symptoms must necessarily have manifested themselves if the case were really one of tertiary syphilis. His experience was entirely opposed to this. In a very large proportion, a majority, perhaps, of syphilitic nervous affections, secondary symptoms had never occurred. As regards treatment, he found that it was necessary to continue the use of iodide of potassium for weeks or months after the subsidence of the local paralysis in these cases, or the symptoms were liable to recur, often with increased severity.

Mr. ERNEST HART remarked that the affections of nerves due to syphilis were most eccentric in their character, and that such cases were best treated with large doses of iodide of potassium.

Mr. HULKE said that the greater number of these cases were syphilitic; that they recur frequently if the drug is given up.

Mr. HAWARD suggested that possibly these forms of disease might be due to diseased structures through which the nerves passed, rather than to affections of the nerves themselves.

The PRESIDENT remarked on the importance of recognising the effects of syphilis; that the skin did not always show results of the disease; that the condition of the bones sometimes aided diagnosis, as also the odour of the patient, and a certain grey aspect peculiar to such patients. Smell is frequently valuable as an aid to diagnosis.

Dr. BROADBENT agreed with all the speakers as to the

frequency of syphilis in connexion with affections of the cranium. He had not noticed ulcers of the mouth in connexion with the disease, and had not found it necessary to combine mercury with the iodide of potassium in the treatment. He thanked Mr. Carter for his suggestions, and adhered to his own diagnosis.

## Reviews and Notices of Books.

*The Descent of Man, and Selection in relation to Sex.* By CHARLES DARWIN, M.A., F.R.S., &c. Two volumes. With Illustrations. London: John Murray, Albemarle-street. 1871.

[FIRST NOTICE.]

THE theory of natural selection, on which its author had spent the best years of his life, and brought to bear an intellect of unusual grasp, was propounded with a lucidity of expression and fertility of illustration such as few men possess beside Mr. Darwin himself. The readers of that work knew that he would be compelled to follow out his views to their logical conclusion. He has now done this, and shown how far, in his opinion, they are capable of application in the case of man.

Mr. Darwin's present work is in every way a remarkable book. It is not only the book of the season, but of many seasons beyond the present one. It will be read by those who regard its author's views with something akin to abhorrence no less than by those who are prepared to embrace them as the logical outcome of a bold and speculative mind. To many, the conclusions arrived at will be a matter of comparative or entire indifference, but they will nevertheless journey through these volumes beguiled by the interesting facts and sagacious suggestions that they will encounter at every step. The sole object of the work is to consider, says Mr. Darwin—firstly, whether man, like every other species, has descended from some pre-existing form; secondly, the manner of his development; and, thirdly, the value of the differences between the so-called races of man. He modestly adds that his work contains hardly any original facts, "but as the conclusions at which I arrived, after drawing up a rough draft, appeared to me interesting, I thought that they might interest others." The conclusion, Mr. Darwin tells us, that man is the co-descendant with other species of some ancient, lower, and extinct form, is not in any degree new. Lamarck long ago came to this conclusion, which has lately been maintained by several eminent naturalists and philosophers—for instance, by Wallace, Huxley, Lyell, Vogt, and others, and especially by Hæckel. Mr. Darwin, indeed, states with reference to the last-named naturalist that, if his work "*Natürliche Schöpfungsgeschichte*" had appeared before his own essay had been written, he would probably never have completed it.

That there are still great difficulties to be explained and enormous gaps to be filled in before the descent of man can be taken as proved, we presume no one, and certainly not Mr. Darwin, would deny. We do not know what further consideration and more careful study of Mr. Darwin's views may effect, but at present we fail to perceive how they adequately explain the origin of the different races of men, or how they overcome the difficulties connected with the vast disparity that exists between the size of the brain in man and that of apes, and the absence of the protection of a hairy covering in the former. To some of these we shall have to advert more fully hereafter, but we are compelled to recognise the skill with which he has first separated the several threads of his great skein of facts, and then bound them together as the web and woof of his argument, so as to construct a pattern out of elements of seemingly the most dissimilar character and colour. The wisdom of one age is

often the folly of the next, and many will, no doubt, be ready to prophesy that the wisdom of the Darwinians of this day will be regarded as folly by the philosophers of the next era. The conclusion at which Mr. Darwin has arrived as to man's origin, when put forward in its most naked form, is sufficiently startling, but it is well to confront it boldly, and at once. The evidence at command either is or is not sufficient to obtain a verdict one way or the other, or it is only sufficient to warrant us in considering the descent as yet "not proven." The discoveries of geologists and antiquarians have taught us to believe that we must go a long, long way back, if we would behold the dawning rays of our civilisation. Scarcely have we learnt to regard with complacency the conclusion that the primitive condition of man was one of utter barbarism, than we are told we must trace him still lower, and behold in one of the two great stems of the Simiadæ—namely, the monkeys of the Old World, the probable progenitors of man, the wonder and glory of the universe.

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

We shall have something to say hereafter in reference to these Ascidiæ, and the prominent part they are supposed to have played in the rôle of the animal world; but we can now only find space for the very briefest summary of the evidence of the descent of man from some lower form, as set forth by Mr. Darwin in his opening chapter. After adverting to the homologous structures in man and the lower animals, the miscellaneous points of correspondence between them in the diseases to which both are subject, and which they are mutually capable of giving and receiving—a fact which, he says, proves the close similarity of their tissues and blood, both in minute structure and composition, far more plainly than does their comparison under the best microscope, or by the aid of the best chemical analysis,—Mr. Darwin goes on to indicate that they are liable to be infected with parasites of the same genera or families, that there is the greatest similarity or identity in the law of periodicity regulating several of their functions, and in those relating to the growth, repair, nutrition, and development of their bodies. Mr. Darwin next dwells upon the well-known facts of embryonic development; the bearing of rudimentary organs in man; the remains of a hairy covering; the presence of rudimentary skin muscles, and the occasional power of muscular movement of the scalp and skin; the significant little nodule or blunt point on the helix of the ear, a vestige of formerly pointed ears; the nictitating membrane; the facts connected with the posterior molar or wisdom teeth; the coccyx, or rudimentary tail, and so on. To take any other view than the community of descent

of man and all other vertebrate animals, is to admit, says Mr. Darwin, that our own structure, and that of all the animals around us, "is a mere snare laid to entrap our judgment."

*The Student's Guide to Medical Diagnosis.* By SAMUEL FENWICK, M.D., F.R.C.P., Assistant-Physician to the London Hospital; Co-lecturer on Physiology to the London Hospital Medical College, &c. &c. Second Edition, Revised and Enlarged. London: J. and A. Churchill. 1871.

THE first edition of this book was published in the winter of 1869. It will be remembered that we spoke of it then in terms of commendation, and that we did the volume no more than justice is clear from the fact that it had a rapid sale, so that the first edition was soon exhausted. We pointed out, however, several particulars in which we thought it might still further be improved, and we are glad to perceive that the author has not been above acting on our suggestions. While the general plan of the first edition has been retained, new matter has been added to almost every page, and important additions have been made in respect of the pathology of different diseases. A number of fresh plates, scales of temperatures, tables of differential diagnosis, and a chapter on Skin Diseases, have been added; so that, in point of quantity, the volume is about one-third larger than it was, and in quality twice as good.

*A Lecture on Small-pox, Vaccination, and Revaccination.* By J. DIXON, M.D., L.R.C.P. Lond., &c. Dockhead: Shaw, Printer.

THIS is a very clear and concise lecture, delivered to the working classes of Bermondsey, reprinted at the charge of a penny, and intended to enlighten the ignorant upon the dangers of small-pox, and the advantages of vaccination and revaccination. It is a pity that it has not been published in the convenient form of a tract, and that there is no organisation for diffusing so good an antidote to the abusive nonsense which is issued by the anti-vaccinators. At the present moment the friends of progress and of public health could scarcely render a greater service than that which has been conferred by Dr. Dixon on the poor of Bermondsey—viz., by lecturing and assisting in the diffusion of sound knowledge on the subject of small-pox and vaccination.

## New Inventions

IN AID OF THE

### PRACTICE OF MEDICINE AND SURGERY.

#### GRADUATED CHLOROFORM BOTTLE.

THE accompanying sketch will afford a better idea than any written description of a little invention of Mr. J. Astley Bloxam, chloroform administrator and surgical registrar of St. Bartholomew's Hospital, late assistant-surgeon, Royal Horse Guards; consisting of a chloroform bottle, provided with a graduated scale, for the administration of that agent. It is very portable and cheap; and, from the fact of the chloroform being spread over a large surface of lint by its use, there is secured a very considerable admixture of atmospheric air with the chloroform vapour. The chief merit of the bottle consists, after all, in its being so simple in itself, allowing of the administrator of the chloroform to watch the patient attentively, as well as notice the amount



Dr. A. P. STEWART related particulars of a case in which, twelve days after the rigor, a rash appeared on the arms and throat, which, after slight desquamation, was followed by a pustular eruption on the hands and feet, with pain and swelling. He was not aware of any similar case in which the small-pox had been determined in so brief a period.

After some remarks by Dr. SUTTON and the PRESIDENT as to the difficulty of diagnosis in the cases adduced,

Dr. DUFFIN, in reply, remarked that he had been very careful to restrict his paper to circumscribed morbilliform and scarlatiniform rashes, as he was well aware of the terrible importance of the hæmorrhages which sometimes complicate the more general scarlatiniform eruptions. The diagnosis in some of these instances he thought might be assisted by the patched distribution and greater depth of the redness. He had recently seen another instance where the purpuric rash had occupied the triangular space on the thighs and abdomen.

Mr. CHRISTOPHER HEATH read notes of "A Case of complicated Stricture of the Urethra treated by Mr. Syme's Operation for Impermeable Urethra." Mr. Syme's description of the operation was first referred to, and the case was related as follows:—A discharged soldier, aged twenty-eight, upon whom external urethrotomy had been performed in India, had an impassable stricture of the urethra, complicated with perineal fistulæ, and an old false passage of considerable length. The patient had been under careful treatment for six months before he came under Mr. Heath's care; but no instrument could be passed into the bladder, nor was Mr. Heath more successful after several careful trials. He therefore adopted Mr. Syme's suggestion, and introduced a director through one of the fistulæ into the urethra behind the stricture, then passed a steel staff along the urethra and made it meet the director, and thus enter the bladder. Instead of then cutting upon the staff and dividing the stricture, as suggested by Mr. Syme, Mr. Heath preferred to pass Holt's dilator along the urethra and split the stricture; and this was successfully accomplished. The patient made a good recovery, and was taught to pass his own instrument, which he continues to do to the present time.

Mr. MAUNDER, remarking on the general interest of the paper, said that patience, perseverance, and gentleness were required in the treatment of all these cases, and that forcible catheterism was objectionable. He objected to the operation described, would in such a case have performed perineal section, and should be glad to know from Mr. Heath the condition of the patient twelve months hence.

Mr. TEEVAN remarked that the performance of external urethrotomy without a guide was not so difficult as supposed. He objected to a catheter being left in the bladder after any of these operations, as it only tended to set up irritation and promoted the formation of a fistula. The catheter ought only to be passed every other day.

Mr. BARWELL saw no particular difficulty in the operation described, and thought that Mr. Maunder had magnified the obstacles unnecessarily.

Mr. COOPER FORSTER, adverting parenthetically to the long discussion that had ensued, and to the remarkable difference of opinion that existed on this point between surgeons north and south of the Thames, thought Mr. Heath's treatment right and proper. If an instrument cannot be introduced into the bladder through the natural channel, an artificial road must of course be made. The urethra is naturally dilated behind the stricture, and if operative procedures were confined strictly to the median line, no great harm could ensue. He did not believe in the "bristle" scheme; but

Mr. MAUNDER retorted that as, according to Mr. Heath, urine flowed, there must have been a passage.

Mr. HAWARD spoke in favour of puncturing the bladder in cases of impervious stricture.

Mr. CROFT said that Mr. Heath's case was doubtless unique, and demanded a special style of treatment, but that it was his practice to lay open everything, in which plan he had been invariably successful.

Mr. REEVES gave brief particulars of two severe cases that had come under his notice.

Mr. HEATH replied that the operation he had performed was devised by Mr. Syme and not by himself; but he thought

that in the discussion some confusion had arisen between this operation and Mr. Syme's perineal section, which was better called "external urethrotomy." He must say that he thought this latter operation was not so simple or innocent a proceeding as had been stated, for it was well known that Mr. Syme himself had lost cases from hæmorrhage.

Mr. TEEVAN related the treatment adopted in a case of Retention of Urine from Impassable Stricture. The patient, aged forty-six, had suffered from severe organic stricture for ten years, and for retention with dribbling for nearly one year. Complete retention at last set in, when he was taken to a hospital, where, after an unsuccessful attempt to pass a catheter, he got relief from a hot bath and medicines. He afterwards came under Mr. Teevan for his complaint, who tried for half an hour, without success, to pass the smallest catheters and bougies. Another trial two days later met with no better result. The following afternoon complete retention set in, and at 4 o'clock the next morning Mr. Teevan, after a quarter of an hour's trial, succeeded in passing the No. 1 French gauge, smallest filiform bougie. On its withdrawal, ten minutes afterwards, a fine stream of urine began to flow, and continued for an hour, when nearly three quarts of urine had passed. The patient was afterwards cured of his stricture by gradual dilatation with the olivary bougie. Mr. Teevan remarked that he had called the case retention from impassable stricture, as no catheter could be passed for the relief of that retention, and he had brought it forward to show what the bougie could accomplish in an apparently hopeless case for its successful employment. The occurrence of the retention facilitated the passage of an instrument for the relief of the retention, and for the commencement of that treatment of the cause of the retention, which was carried out by gradual dilatation, and he would therefore have been unwise to have missed the opportunity presented by adopting such temporising means as the hot bath, &c. It was also clear that, in this case, the bougie had obviated any recourse to an operation. Another inestimable advantage gained by the bougie was, that the whole treatment had been carried out without the loss to the patient of an hour's work.

Mr. REEVES had tried these bougies, and had found that they often doubled up.

Mr. MAUNDER had the highest opinion of the value of these French bougies. Experience and skill obviated the occurrence of the incident mentioned by Mr. Reeves.

Mr. CHRISTOPHER HEATH was afraid that, although a filiform bougie might prove successful in Mr. Teevan's hands, yet most house-surgeons would probably fail with it.

## Reviews and Notices of Books.

*The Descent of Man, and Selection in relation to Sex.* By CHARLES DARWIN, M.A., F.R.S., &c. In Two Volumes. pp. 423 and 475. With Illustrations. London: John Murray. 1871.

[SECOND NOTICE.]

WE concluded our first notice by a brief sketch of the principal arguments adduced by Mr. Darwin in favour of the origin of man from some lower animal, and in opposition to the idea of his being the work of a distinct and separate act of creation, many of which being, of course, very familiar to the members of our profession, it is unnecessary that we should enter into any details regarding them.

The bearing of these details is, Mr. Darwin remarks, unmistakable. "The homological construction of the whole frame in the members of the same class is intelligible, if we admit their descent from a common progenitor, together with their subsequent adaptation to diversified conditions. On any other view, the similarity of pattern between the hand of a man or monkey, the foot of a horse, the flipper of a seal, the wing of a bat, &c., is utterly inexplicable." And he goes on to say that, looking at the similarity of embryonic development, especially in the early stages, and the evidence derived from the presence of rudi-

mentary organs, we ought frankly to admit the community of descent of man and all other vertebrate animals; and he prophesies that the "time will before long come when it will be thought wonderful that naturalists, who were well acquainted with the comparative structure and development of man and other mammals, should have believed that each was the work of a separate act of creation." Concluding from the above arguments, then, that there is no essential difference between man and the higher mammals in regard to their corporeal organisation, Mr. Darwin next proceeds to ask whether there is any essential difference in their mental faculties. He points out, as circumstances strongly favouring the view that such differences as exist are differences in degree only and not in kind, the similarity of our senses with those of animals, rendering it necessary that our fundamental intuitions should also be the same; the identity of our instincts with theirs, though veiled and modified in man by the action of reason; and the facility with which proofs may be furnished of the occurrence in animals of mental operations similar to our own, of a more or less complex nature, as those of fear, suspicion, hatred, surprise, sorrow, emulation, jealousy. Mr. Darwin adduces various instances of the possession of a certain degree of what must, we think, be admitted to be reason; and it must not be forgotten that the highest faculties of the mind, embracing self-consciousness, the power of abstract thought, belief in God, &c., exist in a very rudimentary state amongst many savages even at the present day, and require considerable advance to have taken place in the mental faculties; but this advance probably occurred with comparative rapidity when speech, which is so powerful an instrument of the mind, had been acquired. In the exercise of even these faculties, however, man seems to differ in degree and not in kind from the lower animals; and when once acquired they would certainly tend to be inherited, and to undergo further increase by imitation and experience. In regard to the moral sense, the knowledge of right and wrong, or conscience, which is so characteristic a feature of man, and which, in the opinion of many, constitutes the essential and distinguishing difference between man and all the lower animals, Mr. Darwin lays its foundation in sympathy, in the fact of man's progenitor having been as man himself now is, a social animal; and he thinks that it is in a high degree probable that any animal endowed with well-marked social instincts would *inevitably* acquire a moral sense as soon as its intellectual powers had become as well or nearly as well developed as in man. For the social instincts would prompt such an animal to feel sympathy for its fellows, and to take pleasure in promoting the general good of the community, whilst by degrees regret would be felt if such promptings were neglected for the gratification of some passing desire or instinct. When language had once been acquired, public opinion would be expressed, by which the mode of action of each individual for the common good would be directed, and obedience to this expression of public opinion would ultimately be strengthened and promoted by habit.

In reply to the Duke of Argyll's objection that "the human frame has diverged from the structure of brutes in the direction of greater physical helplessness and weakness"—that is to say, it is a divergence which, of all others, it is most impossible to ascribe to mere natural selection,—Mr. Darwin remarks that,

"In regard to bodily size or strength, we do not know whether man is descended from some comparatively small species like the chimpanzee, or from one as powerful as the gorilla; and therefore we cannot say whether man has become larger and stronger or smaller and weaker than his progenitors. We should, however, bear in mind that an animal possessing great size, strength, and ferocity, and

which, like the gorilla, could defend itself from all enemies, would probably, though not necessarily, have failed to become social; and this would most effectually have checked the acquirement by man of his higher mental qualities, such as sympathy and the love of his fellow-creatures. Hence it might have been an immense advantage to man to have sprung from some comparatively weak creature."

His intellectual powers enabling him to fashion weapons of offence and defence would, he thinks, in such cases, counterbalance his comparative inferiority in strength. But even granting that his progenitors were far more helpless and defenceless than existing savages, "if they had inhabited some warm continent or large island, such as Australia, or New Guinea, or Borneo (the latter island being now tenanted by the orang), they would not have been exposed to any special dangers. In an area as large as one of these islands the competition between tribe and tribe would have been sufficient, under favourable conditions, to have raised man, through the survival of the fittest, combined with the inherited effects of habit, to his present high position in the organic scale.

The formation of the various races of man Mr. Darwin thinks impossible to be accounted for by the direct action of the conditions of life, which indeed his mental powers enable him to battle with and overcome, nor by the effects of the continued use of parts, nor through the principle of correlation, but may be explained on the theory of sexual selection, and to the consideration of this subject a great part of the first and the whole of the second volume are devoted. He shows by an astonishing mass of evidence this agency to have exercised a most important influence in almost every class of the animal kingdom, in improving the physical strength, voice, and beauty, as well as the mental attributes, of both sexes, though more frequently of the male than the female; since it results essentially from the rivalry in fighting, song, or beauty between the males for the possession of the females. Such modifications of endowment may actually be in some instances, as in the brilliant plumage of many male birds, opposed to the survival of the fittest, by rendering the owners more conspicuous, though on the whole it may tend to the improvement of the race. Oftentimes such sexual characters appear only in the adult male, and in him may even be limited to the breeding season; but they are occasionally exhibited in a subordinate manner by the female. He traces the chief differences observed in the races of man to the action of this sexual selection exercised throughout many generations by both sexes, as in the matter of colour and form.

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*Strange Dwellings: being a Description of the Habitations of Animals.* Abridged from "Homes without Hands." By the Rev. J. G. WOOD, M.A., F.L.S., &c. With Designs by W. F. KEYL, J. B. ZWICKER, and E. SMITH. London: Longmans, Green, and Co. 1871.

A FIRST-RATE book to put in the hands of a boy, and by no means a bad one in the hands of anybody. It is clearly written and effectively illustrated; and, considering the nature of the subject, it could scarcely fail of being interesting.

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THE Islington Medical Society, at a recent meeting, presented its Honorary Secretary, Mr. George T. Keele, with a very handsome silver kettle, in some acknowledgment of his services for several years. The present was one that could not fail to be very gratifying to Mrs. Keele, as well as to her husband, for, in point of fact, it was a thing of great beauty. But those who know Mr. Keele, and the courteous and efficient way in which he has discharged the duties of secretary to this pleasant and useful suburban society, are all agreed that the testimonial is a just and well deserved one. The presentation was made in very apt terms by Mr. Clifton, and fittingly received by Mr. Keele.

taken in very minute quantities. The alcohol is exhaled by the breath as it passes from the bodies of animals, and communicates to the breath peculiar odours, like the odour met with in wasting diseases. From this fact the author drew a suggestion for a new line of research in diagnosis—viz., the detection of organic sulphur compounds, derived from the blood, in the air expired from the lungs by diseased persons. Sulphur compounds liberated in the alimentary canal seemed harmless—i. e., were not absorbed; but it was now quite certain that when some of them are actually introduced into the circulation, even in minute quantities, and are diminishable by exhalation from the lungs, they produce muscular debility, feebleness of the heart, and mental depression. We may therefore infer that the formation of sulphur compounds within the circulation from diseases, might account for some examples of excessive temporary prostration for the cause of which we have as yet no satisfactory explanation.

Mr. GAY called the attention of the Fellows to a very ingenious contrivance, made by Bower, for allowing a patient with injury of the lower limb to take exercise. It is called the "invalid bicycle." It consisted of a frame on wheels, with a movable rest for the unsound limb, crutches, &c. The patient progressed readily by pressing onward with the sound limb.

### PATHOLOGICAL SOCIETY OF LONDON.

TUESDAY, MARCH 21ST, 1871.

MR. J. HILTON, F.R.S., PRESIDENT, IN THE CHAIR.

Two reports were read: the one on Dr. Hawkes' Cystic Tumour of the Brain, which Drs. Dickinson and Powell regarded as having originated in an aneurism; the other by Dr. Cayley and Mr. Arnott on Mr. De Morgan's case of Lymphadenoma.

Mr. SPENCER WATSON exhibited a small Tumour from the cheek of a woman sixty years of age, which had, in addition to the ordinary microscopic characters of epithelioma, cystic cavities, containing clear watery fluid and free intra-cystic growths. After removal the wound healed kindly, and there had been no return of the disease.

Dr. PAYNE exhibited some interesting specimens of Cancerous Growths in the Veins and Endocardium, apparently secondary to disease in the lower vertebræ. There was thrombus of the inferior vena cava, containing small cells and nuclei coloured by carmine, the bodies of the adjoining vertebræ being cancerous, together with the liver. The endocardial growths were found on both sides of the heart. Dr. Payne believed that the springing up of the growths in the endocardium could not be explained by the migration of cancerous particles, but by infection of the blood-current by fluid derived from the seat of the thrombus.

Dr. DOUGLAS POWELL thought that the endocardial growths were beneath the endocardium; but from this Dr. Payne dissented.

Mr. ARNOTT did not think it necessary to raise the question of the migration of actual cancerous particles, since many cases had occurred where secondary deposits could not be explained by this occurrence.

Mr. HULKE was also unable to see, supposing that an infecting fluid was poured into the blood-current, why certain spots and not others should become the seats of cancerous growths; whereas, if secondary deposits arose from the migration of solid particles, it was easy to understand the fact of one place being affected and another not.

Dr. PAYNE likewise showed a specimen of Diseased Suprarenal Capsules from a case of Addison's disease. With the exception of some slight discoloration of the axillæ, the only parts of the skin discoloured were the penis and scrotum; the pia mater of the cord in its upper part was darkened by deposit of pigment. The buccal cavity, Dr. Payne said, in answer to a question from Dr. Cholmeley, was not examined for discoloration.

Dr. FAGGE mentioned the fact of discoloration of the pia mater having been observed at Guy's.

Dr. GREENHOW said the pia mater was free from pigmentation in some cases. He regarded the disease as a neurosis, and the pigmentation was always intensified after exacerbations of the disease.

Dr. CAYLEY had seen the buccal mucous membrane discoloured without any other symptoms of Addison's disease being present.

The PRESIDENT observed that pigmentation of the skin of the scrotum and penis was common in old people.

Dr. CLAPTON exhibited an Atrophied Cerebellum taken from the body of a female aged thirty-eight, and weighing thirty-eight ounces, being itself hard and deficient in nerve-tissue. Both sides were symmetrical; the pedicles were intact. When admitted into St. Thomas's Hospital the patient exhibited a very peculiar manner and unsteadiness of gait. She was pregnant, and died suddenly. It was ascertained that the patient was well up to the age of four, when she had measles, which seemed to start the development of the disease from which she subsequently suffered. Up to fourteen years of age she could not feed herself or walk well.

Dr. DICKINSON referred to similar cases in which paraplegia was present.

Dr. FAGGE mentioned a case of Atrophy of the Cerebellum, the result of embolism.

Dr. BROADBENT inquired if the patient could speak or write after the age of fourteen, to which Dr. Clapton replied in the affirmative.

Mr. HULKE was of opinion that if the condition of the cerebellum were due to atrophy the skull would not have adapted itself to the cerebellum as it had done.

Mr. MARCUS BECK exhibited a Myeloid Tumour of the Head of the Tibia, which was entirely involved in the disease. The joint was, however, free; and the cartilages were unaffected. Mr. Beck read a full account of the microscopical characters of the tumour. The patient was a sailor, thirty-one years of age, who had some time previously received an injury to the part. The limb was amputated.

In answer to the question of return of the disease raised by the President, Mr. WEEDEN COOKE did not think that myeloid disease generally returned.

Mr. HULKE was of opinion that the more the spindle-cell element was present, the more likely the tumour was to return.

### Reviews and Notices of Books.

*The Descent of Man, and Selection in relation to Sex.* By CHARLES DARWIN, M.A., F.R.S., &c. In Two Volumes. pp. 423 and 475. With Illustrations. London: John Murray. 1871. [CONCLUDING NOTICE.]

THE difficulties that stand in the way of Mr. Darwin's views may be divided into two groups: first, those which are opposed to the general theory of evolution; and, secondly, those which have a more limited and special application to the development of man from one of the higher mammals. The former class of objections and difficulties has been most ably colligated by Mr. St. George Mivart in his "Genesis of Species"; and we may just allude to the principal ones here, since they of course bear directly on the evolution of man. It is, then, difficult to explain the advantage that would be gained by the first slight and rudimentary departures from the ordinary type, even when the perfected organ or ultimate result is obviously extremely beneficial: the advantage, for instance, of the first slight translation of the eyes of flat-fish towards one side of the head; of the early and of the ultimate stages of mimicry; or, in the case of man, of the first deficiency of hair on the body, or the first steps of the passage of the posterior extremities from hands or grasping organs into feet. Such a transition as this last would apparently diminish the chances of escape from its enemies of the animal in which it occurred more than the newly-forming feet would prove of service to it, and would hence lead to its extinction in the struggle for existence. Another difficulty presents itself in the occurrence of special and singular modifications of structure—such as the neck of the giraffe,

which, if arising, as supposed, by the "survival of the fittest," might have been expected to occur in other mammals inhabiting the same region. In the case of man, we might take as an illustration the absence of hair, which is so difficult to explain on the theory of "natural selection" that Mr. Darwin is obliged to regard it as a consequence of the operation of a totally different law—that of "sexual selection." Again, even admitting the existence of a certain amount of variability in the various members of the animal kingdom, it seems doubtful whether any chance variations of a beneficial nature would not, unless many happened to occur at the same time, be utterly borne down and overwhelmed by the infinitely greater numbers of the ordinary type into which the variations would speedily merge. A great difficulty exists in the necessity for admitting, in some instances at least, the occurrence of concordant and mutually adapted variations, of which no better example can be given than that of the early parturition and mobility of the larynx of the young kangaroo, coinciding with the development of the mammary gland and of a muscular apparatus for discharging the secretion in the mother. The comparative scarcity of fossil remains indicating the former occurrence of intermediate grades of organisation between many well-defined types—as, for instance, between reptiles and birds, or between bats and other mammals; the stability of species; the infertility of hybrids; and the sterility of the working bees and ants, which can consequently leave no offspring behind them to inherit their habits and instincts,—are also all more or less difficult to explain on the theory of "natural selection." These, with some others, will be found in Mr. Mivart's work. There are others, however, as we have said, that are especially applicable to the view of the origin of man from the *Quadrumana*. In the first place, Mr. Darwin admits that there is a prodigious interval between the mental powers of the lowest savage and those of the highest ape. It constitutes, therefore, a difficulty to explain how it is that some of the types representing intermediate stages of development between man and the apes have not come down to our day in the living state, or, at least, have not been discovered in a fossil condition; for it is obvious that their progeny, on this theory, could not have succeeded in the battle of life if they had not been themselves better adapted to surrounding conditions than the apes themselves; yet the latter have survived, whilst the intermediate steps have died out and left no trace behind, for it has been shown that the oldest human skulls discovered are not materially inferior in capacity to those of man at the present day. It must be admitted, however, that in regard to fossil information our knowledge is extremely defective, and that those parts of the world which were probably the theatres of the earliest history of man—as Africa and Asia—have been as yet most imperfectly explored with this object in view.

Another difficulty, undoubtedly, presents itself in the enormous lapse of time that this theory requires; for if with their highly-developed brains the independent progress of the savage is so extremely slow as to appear almost stationary, we may reasonably ask what must have been the rate of advance of our progenitors, whilst still low in the scale of organisation, before such an animal as an amphioxus, for instance, could have acquired the psychical attributes of even the lower classes of the *Mammalia*. The case of the ant amongst the *Insecta* seems almost to prove too much; for it shows that an increase in activity and in the number and variety of its instinctive powers may coincide with contraction of the brain to an almost infinitesimal size; and it may reasonably be asked, if beings so low in the scale have acquired such powers, how comes it that the far larger and higher development in the brains of the su-

perior animals has not been accompanied by a corresponding increase in their intellectual faculties?

Another point, also, to be noted is, that our knowledge of the variability of the higher apes is extremely limited, and that for anything we know to the contrary, their organisation may be as inflexible as is that of the goose amongst birds. The whole of the evidence appears to show that the varieties of man are not specific, but only racial: the essential proof of which lies in the circumstance that every race is capable of producing fertile offspring with every other; while we know that there are very great physiological obstacles to the intermixture of distinct species, for not only are the adults in such crosses infertile, but it has been shown that an extraordinary fatality attends the early stages of development.

The weakest, as it is the most important, link in the whole argument, is the account of the mode of development of the moral sentiments—a subject that has received very inadequate treatment at the hands of Mr. Darwin. It is on this point, we apprehend, that those who hold and those who oppose Mr. Darwin's views on "natural selection" will diverge. Many enlightened men beyond the limits of our profession, and with little knowledge of anatomy and physiology, will be disposed to admit without questioning the truth and accuracy of all Mr. Darwin's propositions in regard to the unity of type perceptible in the bodily organisation of man and the lower animals; but we apprehend the great majority will at once dissent, without the production of much more varied and profound evidence than Mr. Darwin has adduced, from his view that man's psychical endowments are in any way comparable with those of even the highest apes. The very conditions of life require the possession by every animal of a certain degree of reasoning power, or of that kind of intellectual endowment which is commonly called instinct. Without such power it would be impossible that either the individual or the race should be preserved, that food should be obtained, enemies eluded, or the young reared. These faculties, these instincts, man possesses in common with other animals; but the universal experience of our species leads to the belief that we possess psychical attributes of far higher nature, to which our instincts are subordinated, and which, from the earliest periods of our history, have been considered to be destined to direct and govern our instincts. The facts in our possession are assuredly not adequate to enable us to determine that the inner consciousness of right and wrong is derived from sympathy alone. Mr. Darwin has failed to furnish any satisfactory clue to the mode in which the moral sentiments have been acquired, or how such an animal as an ape, whose whole faculties are absorbed by the observation of external nature, came originally to possess an introspective power, or to be able to call up by spoken words in the mind of another the images of things not seen. In our opinion, Mr. Darwin has still to show that moral sentiments, comparable to our own, exist in animals, even in the highest; and the difficulty of conceiving of an animal acquiring an abstract idea, is, to our minds, at present insuperable. But with this the theory of the descent of man from the ape must stand or fall.

It is of course inevitable that, in the present state of our knowledge, the views put forward on such a subject should in many instances be of a purely hypothetical or speculative character, and should do little more than show that certain facts can be explained on this theory which are difficult on any other. The more numerous these become, the stronger of course is the support which the theory receives; but it must not be forgotten that, where the field for speculation is so wide, different, and indeed opposite, views may be taken of the meaning and value of the same facts. Thus, to take

one instance only, in regard to the bright colours of some fishes frequenting coral reefs, whilst Mr. Wallace conceives that they are thus enabled to escape detection—living as they do where brightly coloured organisms abound—and hence to increase and multiply, Mr. McClelland holds that they are thus rendered more conspicuous to enable their numbers to be kept in check by the birds to which they serve as a prey. We must acknowledge, however, that Mr. Darwin disarms criticism by the candour and freedom with which he adduces arguments in opposition to his views, whilst he displays equal acuteness in disposing of them.

The chapters on Sexual Selection are most valuable and interesting additions to our knowledge, and Mr. Darwin in them fully sustains his reputation as a keen and excellent original investigator of nature; and we regret only that the limits of our space prevent us from considering them in detail; but we have said enough, we hope, to lead everyone interested in the subject to read the volumes for himself.

In conclusion, we must thank Mr. Darwin for having brought together an immense mass of facts bearing on the subject of the Descent of Man, and for having arranged them in a highly interesting manner. At present it can only be said that the ground has been broken, and it remains for future observers, by the careful examination of nature, to modify or annul the conclusions at which Mr. Darwin has arrived. So far as our present knowledge extends, it has been found that species, however they may admit of variation, are yet fixed and persistent. In arguing from the actions of animals to the mental states of which those actions are supposed to be the expression, Mr. Darwin has to put himself behind, as it were, their consciousness, and, for all we know to the contrary, his interpretation of their motives and mental states may be altogether incorrect. Could such animals imitate Balaam's ass, and render us their own account, it might be widely different from that afforded by Mr. Darwin. The rôle, again, which he makes Ascidians play in the development of the animal world may or may not be true; but it seems to us to be a matter of pure speculation.

While he has strung together by his hypothesis a number of small but significant facts that seem to point in one direction, it must, in our opinion, be confessed that he has failed to diminish the weight of a large number of other facts that point in an opposite one. Even granting his view to be correct, there are still enormous gaps to be filled up; and, so far as the positive evidence at our command extends, we have no assurance that the results of future discoveries will prove more successful than the past have been in diminishing the distance which removes man from all other animals. Until Mr. Darwin can overcome the strong evidence that undoubtedly exists adverse to his views, he cannot hope to carry conviction to the minds of those even disposed to accept the bold flights of a speculative mind. To those, on the other hand, who would require testimony of the strongest possible kind to substantiate views so utterly opposed to their conception of man's mental and moral attributes, and the responsibilities which the possession of them necessarily entails, Mr. Darwin's array of facts must appear quite inadequate, and his reasoning from them inconclusive, if not altogether false.

*Plain Facts on Vaccination.* By G. OLIVER, M.B. Lond., &c. London: Simpkin, Marshall, and Co. 1871.

We are inclined to agree with the author in thinking it more than probable that the prejudice with which a portion of the public regard vaccination is born rather of ignorance of the real facts of the case than of any knowledge of the subject. The author's object in writing this little book was to furnish a simple and reliable summary of facts bearing

upon all sides of the question, and in this he has succeeded. The objections to vaccination, and the various disputable points, are fairly put forward, and the subject is, in fact, treated in a judicial manner. The pamphlet was designed for the public, but practitioners who may not have the requisite leisure to refer to the larger works on the same subject, will also find it useful in giving them a handy collection of facts.

## Foreign Gleanings.

### HYPODERMIC INJECTIONS OF CALOMEL IN SYPHILIS.

THE *Lyon Médical* (Feb. 19th, 1871), quotes from the *Rev. Clin. de Bol.*, 1871, some cases thus treated by Dr. Soresina. Sometimes a couple of injections of calomel suspended in glycerine were sufficient. The cases were eight in number, and ran in the following manner:—1. Complete paralysis of the third pair of the left eye, with a few other syphilitic symptoms; cure. 2. Punctated keratitis, left syphilitic iritis, plastic exudations in the lower part of the pupil, posterior synechia with irregular pupil; cure. 3. Double retino-hyaloiditis, complete amaurosis on the right side, left amblyopia with strabismic deviation of the axis of vision when the eye was fixed, and loss of central vision; improvement, with recovery of central vision on the left side, and perception of light on the right side. 4. Syphilitic neuro-retinitis; cure. 5. Double syphilitic iritis with posterior synechia; cure. 6. Syphilitic iritis; cure. 7. Posterior syphilitic iritis; cure. 8. Amaurosis on the right side, left amblyopia from progressive atrophy of the ocular extremity of the optic nerve; slight improvement, followed by a stationary condition. These results are so fine that the mind feels in doubt. Nothing but a most detailed account of the cases would be satisfactory.

### STRANGE COURSE OF A UTERINE SOUND.

When a medical man introduces, by way of diagnosis, Simpson's sound into the uterus, he hardly expects to feel the end of the instrument just below the umbilicus. Hildebrandt some time ago published two cases (*Allg. Med. Cent. Zeit.*, No. 91, 1868), in which this happened, and the patients were no worse for it. Now we find, in the *Berl. Klin. Woch.* (No. 16, 1870), Dr. Hoening, of Bonn, publishing an analogous case. The authors differ as to the supposed cause of this curious travelling of the uterine sound, Hildebrandt thinking that the instrument had passed through one of the Fallopian tubes, and Hoening that the sound pushed upwards the walls of an atrophied uterus. It would be interesting to inquire whether, in this country, such a phenomenon has been observed. The fear and apprehension of the operator may, however, be easily conceived, when he is under the impression that he has perforated the fundus. Too much care, however, cannot be taken by those who use the sound, for it is no secret that in some instances it has inflicted considerable injury.

### TRANSPLANTATION OF BONE.

Will a plug of bone, removed by the trephine from the skull of an animal, when introduced into a hole made in the skull of another animal of the same species, unite with the margin of the just-mentioned foramen? M. Philippeaux (meeting of the Biological Society, February 19th, 1870) tried the experiment upon several guinea-pigs (so long ago as 1860), which were killed twenty, twenty-five, and thirty days after the operation. Almost complete union had taken place. Ollier had experimented in the same direction, but upon the same animals. It would be well if these experiments were not too often performed. But now that transplantation of soft parts is claiming so much attention, perhaps bone will be transplanted in case of ununited fracture or necrosis.

### THE FISHY TASTE OF OIL MODIFIED BY COFFEE.

Carlo Pavesi mentions, in the *Journ. de Pharm. de Turin*, that twenty parts of cod-liver oil should be mixed with one of burned and ground coffee, and half a part of purified ivory black. This mixture is placed over a water-bath (50° or 60°) for a quarter of an hour, the bottle being well corked to prevent the escape of the volatile principle of the