THE DESCENT OF MAN AND SELECTION IN RELATION TO SEX. By Charles Darwin, M. A., F. R. S. In two volumes. Vol. II. New York: D. Appleton & Co. For sale by E. B. Smith & Co.

With this volume Mr. Darwin concludes the work upon which he has been so long and ear. nestly engaged; a work which, however great the differences of opinion it may excite, must be conceded to be one of the most thoughtful as well as remarkab'e of the present age. The first volume, which has already been noticed at some length in these columns, was devoted mostly to an attempt to show by examples, facts and probabilities that man is not a special creation, but is simply an animal, modified by slow degrees, and by various causes and processes extending their operations through long periods of time. Prominent among these modifying causes Mr. Darwin finds "selection in relation to sex," to the explanation and illustration of which he devotes the concluding portion of the first volume and all of the second. The doctrine is an offshoot from the doctrine of natural selection, which means, in the Darwinian dialect, the tendency to the preservation of those individuals of a species who are best adapted to surrounding circumstances. Selection in relation to sex goes a step farther, and is based upon a claimed principle, which will be novel to oppressed and down trodden woman, for it teaches in substance, what many have before held, that the man is what the woman makes him.

Mr. Darwin's strongest illustrations are taken from the birds, among whom, when the female shows her preference for a particularly brilliant style of male dress, the succeeding generations of male birds in a given species become more and more addicted to that style, the cause being that from each generation the female selects the most beautiful specimen, or the one most accordant to her taste. In this manner Mr. Darwin traces the origin, growth and extension of the peacock's gaudy plumage, and, though he hardly brings his doctrine down to the test of direct application to mankind in its present state, he urges very strongly that this sexual selection has played a very important part in the transformation of the brute into the human being.

To assign Mr. Darwin's theories their proper place, and to ascertain their real weight and their bearing upon men's history, is a task requiring too much patient investigation to be attempted here; the author's eminence as a student of natural history, the labor he has bestowed upon his work and the modest earnestness with which he urges his opinions-while they cannot exempt him from the fullest criticism-certainly entitle him to that calm examination which should ever characterize the search after truth. While we have, as before intimated, neither time nor inclination to enter upon this examination here, it may not be amiss to point out the principal difficulties in the way of a general adoption of Mr. Darwin's opinlons. And the first of these is that the facts and illustrations adduced by Mr. Darwin to show man's descent from an animal form, seem to stop far short of conviction, advancing no farther than the outer wall of probability; while "the testimony of the rocks" goes very far to prove that man has been, for ages upon ages, as distinct from the anthropomorphous ape as he now is.

Another great difficulty in the way of accepting the conclusions of this work, is found in the religious opinions so widely held with regard to man's origin and destiny. These views cannot be met and conquered by any argument from mere facts, for one of the principal strongholds of most religious opinions lies outside the domain of the natural sense and acknowledges no submismission to logic. There are other, and perhaps graver difficulties to be overcome before the Darwinian light shall fally shine before men, but the statement even of these shows that the pathway of the new idea is not a paved street, nor even a macadamized thoroughfare, but a rough and thorny road through an enemy's country. Of some of these difficulties Mr. Darwin himself seems not unmindful, and at the close of his work he defines so well his position with regard to certain objectors, that we give him the privilege of closing the discussion in his own words:

work, namely, that man is descended from some lowly organized form, will, I regret to think, be highly distasteful to many persons. But there can hardly be a doubt that we are descended from barbarians. The astonishment which I felt on first seeing a party of Fuegians on a wild and broken shore will never be forgotten by me, for the reflection at once rushed into my mind—such were our ancestors. These men were absolutely naked, ancestors. These men were absolutely naked, and bedaubed with paint, their long hair was tangled, their mouths frothed with excitement, and their expression was wild, startled and distrustful. They possessed hardly any arts, and, like wild animals, lived on what they could catch; they had no government and were merciless to everyone not of their own small tribe. He who has seen a savage in his native land will who has seen a savage in his native land will not feel much shame, if forced to acknowledge that the blood of some more humble creature flows in in his veins. For my own part, I would as soon be descended from that heroic little monkey, who braved his dreaded enemy in order to save the life of his keeper; or from that old baboon, who, descending from the mountains, carried away in triumph his young

"The main conclusion arrived at in this

mountains, carried away in triumph his young comrade from a crowd of astonished dogs—as from a savage who delights to torture his enemies, offers up bloody sacrifices, practices infanticide without remorse, treats his wives like slaves, knows no decency, and is haunted by the grossest superstitions." It is time, however, to take leave of Mr. Darwin, and we do so with the less regret, knowing the intelligence of that public which will read this book, and feeling convinced that, whether his conclusions are entirely justified are not, they furnish food for the kind of thought which shows, as convincingly as anything Mr. Darwin can say, how much man has advanced from his original, whether animal or barbarian. DEtroit Press

## DAY, FEBRUARY 1871.

MR. DARWIN ON "THE DESCENT OF

Mr. Darwin's new volumes on the "Descent of Man," which have just been published by Mr. Murray, form another memorial of that unwearied research and courageous, if hazardous, speculation to which science already owes so much. It is now more than a dozen years since, on a certain evening, two remarkable papers were read to the Linnæan Society. The one was called "On the Tendency of Varieties to depart indefinitely from the Original Type," and had been sent by Mr. A. R. Wallace from the Malay Archipelago. The other was entitled "On the Tendency of Species to form Varieties, and on the Perpetuation of Species and Varieties by Natural Means of Selection," and this communication was known to be a chapter from an unpublished book by Mr. Charles Darwin. In the following year this book was published. The surprise, the opposition, the admiration which it excited were enormous. Many scientific men of the highest standing at once gave in their adhesion, more or less qualified, to a theory which was supported by clear and able arguments, and by a formidable array of Other scientific men looked askance at it; and clergymen of the good old school rushed forward to declare that theology was somehow or other threatened by the destruction of the Divine independence of species. Perhaps the latter may derive some consolation from the fact that Mr. Wallace, the co-originator of the theory, is the author of a defence of miracles against the reasoning of Hume. Be this as it may, the new teaching spread. It has been so generally accepted as to become almost a commonplace. We can scarcely recall the fact that only a few years ago a large number of the scientific men of the country viewed with little surprise Linnæus's time-honoured declaration that genera, as well as species, were primordial creations. They were, of course, familiar with Lamarck's theory of the transmutation of species, and the elaborate treatises which had been written on the fertility of hybrids, and the variations among cultivated plants and domesticated animals; but they still clung, in the absence of clear proof, to the prevalent notion that the plants and animals we see around us were lineally descended from nearly similar plants and animals, the origin of which had been a sudden and simultaneous creation. Mr. Darwin's doctrine of Natural Selection—or, as Mr. Her-bert Spencer prefers to call it, the Sur-vival of the Fittest—boldly, if not altogether successfully, grappled with the first problem of physical nature, and applied a theory to the phenomena of the universe, which, if it does not satisfactorily explain certain strange blanks and abrupt transitions, is in itself at least logically consis-

On the points in discussion between Mr. Darwin and his opponents, it is not our province to say anything controversial. Whether or not his theories are reconcilable with the prin-ciples of Natural Theology, or with a true view of the teachings and limits of Revelation, are questions to which various answers have been given. One thing is certain: false science can be refuted only by true science. Vituperation is worse than useless; it is treason to truth to get into a passion with error. Without entering ourselves upon this thorny ground, we may endeavour within such limits as our space allows to give a brief account of Mr. Darwin's latest book, considered as a phenomenon in literature and a chapter in the history of science. The work may be divided into two parts, though these are intimately related. The one contains an elaborate treatise—full of minute and painstaking observation—on Sexual Selection, which may be considered as supplementary to the theory of Natural Selection; the other consists of an application of the double theory to the question of the origin of man. Let us state in plain words the conclusion at which Mr. Darwin arrives. "Man is descended from a hairy quadruped, furnished with a tail and pointed ears, probably arboreal in its habits, and an inhabitant of the Old World." Mr. Darwin half apologises for having given to his fellow-creatures a pedigree of prodigious length, but "not of noble quality." Lady readers of his book, however, will learn with satisfaction that they are not necessarily related to any existing ape or monkey. On the contrary, it is more probable that the ancestors of the Simian stock (for man is supposed to have diverged from the Catarhine or Old World division of the Simiadæ, which bestows upon us all a pedigree extending rather beyond the time of William the Conqueror) were unlike any man or monkey who can now be found in Shoreditch or the Zoological Gardens. Our progenitors, we are told, probably lived in Africa, and were distinguished by that ornament the loss of which received Lord Monboddo's serious attention. The successive steps by which Mr. Darwin reaches this climax can only be briefly and imperfectly summarised here. the first place, he studies such evidence as is found in the bodily structure of man of his descent from some less highly organized form. He points out the singular presence of rudimentary structures in man which connect the human being with many

other animals-one of these consisting of certain

physiological indications that Lord Monboo was not very far wrong, and another being the Then he brings forward the traces of corre spondence between the ape and the man; among them being a statement which proves that the is some meaning in the schoolboy references the time "when monkeys smoked tobacco." baboons, we are informed, are fond of beer When they drink too much, they have a headache next morning, and relish the juice of lemonsprobably the nearest approach to brandy and sodawater which the African experimentalist could devise. One monkey, after having become intoxicated with brandy, would never touch it again—thus, adds Mr. Darwin, proving himself wiser that many men. But it is in the direction of his mental powers and his moral sense that the important difference exists between man and the brutes. The interval between the highest type of monkey and the lowest type of savage Mr. Darwin admit to be immense-greater, indeed, than that between Shakespeare and a microcephalous idiot but he maintains that it is a difference not in kind, but in degree. He gives a thousand instances of the intellectual and emotional peculiarities of the lower animals; and affords us amongst other things, some remarkable details about the characteristics of our kinsman the monkey. In the Zoological Gardens he once saw s baboon which always got into a furious rage when the keeper took out a book and began to read aloud -though whether the baboon objected to the sentiment of the book, or to the pronunciation of the keeper, we are not told. An ape whose acquaintance Mr. Waterhouse was permitted to make, sang excellently; and that gentleman are the company of the contract of the con describes, with almost a pathetic fondness, the accurate manner in which the monkey got through its scales, and hit the correct intervals, a many description Then it is a great mistake to suppose that the monkeys do not use tools. The chimpanzee cracks at the send level nuts with a stone. The orang is acquainted with the next the level level. the use of the lever. In their wars, the baboons it had all the hurl down stones on their enemies, just like the like the like the Swiss mountaineers—and, by the way, any one mind to interest who has seen a body of Swiss soldiers, will draw and the said to his own conclusions. Another monkey covers himself at night with the leaves of the Pandanus. All this is cheering. We judge of a man by the company he keeps, and sometimes by the condition of his forefathers. We are glad to leave that the leaves are so kinds to learn that the lower animals are so kindly, prudent, social, affectionate; and, indeed, after having read various works on the subject by him dust it various writers, one almost feels bound to protest limbs and and against the theory that there is any affinity between man and the ape—as an injury done to the

We cannot enter here into even the briefest description of the picture of the rise and progress of man drawn by Mr. Darwin in these two striking volumes, nor yet of his theory on the development of the intellectual and moral faculties during primeval times. Of course, he gets rid of the conventional barrier erected between instinct and reason. Mr. Herbert Spencer has clearly shown how an animal driven by necessity to supply certain wants, induces in itself a certain modification of structure, which tends under similar conditions to become hereditary, and in its turn produces an organic function which may be attributed to instinct or any other hypothetical source. Mr. Darwin's chapters on man as a thinking animal are full of admirable illustration, and show a firm intellectual grasp of the subject. No less full of careful observation, lucid statement, and clear reasoning are his chapters on Sexual Selection, and the influence of that pri the races of mankind. As for his general condusion on the subject of the Descent of Man, he and ticipates that it will be unpleasant to many people who, however, ought to reflect with pride on the fashion in which man has reached the top of the organic scale. What was it the good Herr Teufelsdröckh said of the ancient savage, "glaring flercely from under his fleece of hair "Reader, the Heaven-inspired melodious Singer loftiest Serene Highness; nay, thy own amber-locked, snow-and-rosebloom Maiden, worthy to glide sylphlike almost on sir, whom thou lovest, worshippest as a Divine Presence, which, indeed, symbolically taken, she is—has descended, like thyself, from that same hairmantled, flint-hurling Aboriginal Anthropophagus!" It is needless to say, however, what an advance even the Anthropophagus was what an advance even the Anthropophagus was on the Catarhine or Old World Simia.

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\* The Descent of Man, and Selection in relation to Sel. By Charles Darwin, M.A., F.R.S. 2 vols, London: Murray, 1871 Muray, 1871