stone, apparently free from silica, and overlying this is the iron series consisting of heavy beds of lean ore, with interstratified beds of higher grade specular ore. The highest part of the ridge contains chiefly 35 to 45 per cent. ores, with some 50 to 65 per cent. ores. The most of the high grade ore is on the northern declivity, where it is covered with soil and some Potsdam Sandstone. The iron lands of the company cover about ten square miles, which is so situated that it extends over some twenty linear miles of the iron belt. Iron is known to exist on seven miles of this, nearly five of which consist of ore mountains fifty to two hundred feet in height. The ores have been found by analysis to contain no injurious elements in sufficient amount to prevent their being worked into the best of iron. On the iron lands and adjoining them, the company own 23000 acres of hard wood land mostly maple, which average 40 to 60 cords of wood to the acre. They also have extensive wood lands on which grow white pines in large quantities. The natural commercial outlet of the region in possession of the company, is on Green Bay at Escanaba, the mean distance to which from the company's iron lands, is one half that between Escanaba and the Marquette district. A railroad from the extreme of the company's district to that point, would be about fifty miles long with a descending grade all the way. Should, however, the Chicago and Northwestern railroad run their line as proposed, north from the mouth of the Menomfnee River, the length of road to be built, would only be about fifteen or twenty miles, without increasing the distance of carriage and the expenses attendant thereon, very materially. Or should the Northern Michigan Railroad from Superior city, run their road along the line giving them the easiest grades, they would pass close by the company's district, and open it up to the commercial world. Besides the iron ores the company has on its lands limestone suitable for fluxes, white and ornamental marbles, roofing slates, and other useful deposits of that class. Analyses of some of the ores, statistics of the cost of production of iron, and more detailed accounts of the occurrence of the ores, accompany the report.

"The Descent of Man and Selection in relation to Sex." By Charles Darwin. 2 vols. 8 vo. New York, 1871. (D. Appleton & Son.)

The chief study of man will continue to be, as it heretofore has been, man; the remarkable work before us however, suggests vividly by what different methods this same study may be pursued. A few years since, man was very generally regarded as a creature in origin and attributes, altogether apart from the rest of creation, a being who might be contrasted but could not be compared with his brute associates. At that time, it would have been deemed folly to attempt to read the history of the first stages of the human individual, in the modifications of structure that obtain in the lowest vertebrates; whilst to attribute to animals generally, the profession of anything more than blind instinct, of any intelligence at all resembling the reasoning powers of man, was regarded as little better than impiety. The progress of knowledge seems to be dispelling this exclusive view of man's relations to the rest of living beings, as utterly illusive, and however little we may be inclined to tie ourselves down to the doctrines of Darwin or any other philosopher, yet it daily becomes more certain that if the history of man's creation is to be rightly interpreted, it can only be so by the light that science and inductive reasoning cast upon it, and not by any a priori assumptions of what he ought or ought not to be. Thus admitting for argument that the development of the human race, as that of the individual, has been gradual, we cannot ever hope to indicate the epoch at which the man-like animal attained to the supernatural characters of a "living soul," any more than we can name the moment at which each individual animal-like fœtus assumes the same responsibilities. In these questions however, we must render strictly to science that which is hers; she is the interpreter of an intelligence higher than our own, and in her own field must be implicitly followed. Darwin's peculiar views unmistakeably enunciated in the present work, are the logical consequences of the train of reasoning followed in his "Origin of Species," but not, in that work, pressed to its inevitable conclusion, namely: that man is descended directly from some man-like ape, and that "with all his noble qualities, with all these exalted powers, man still bears in his bodily frame the indelible stamp of his lowly origin." For the evidence and arguments by which Darwin supports this proposition, we must refer the reader to the book itself, mentioning however, that it cannot be fully and justly comprehended, without a preparatory careful perusal of his previous works. Should Darwin's hypothesis even be generally admitted, we confess that we do not see that it necessarily involves any degradation of our idea of ourselves, if it does tend to narrow the chasm that exists between man and the lower animals, does it not do so rather by elevating our conception of the rest of God's creation than by lowering our idea of man?

The work before us is largely occupied by a second supplementary treatise on "Sexual Selection." Sexual Selection is one phase of Natural Selection, and "depends on the advantage which certain individuals have over other individuals of the same sex and species, in exclusive relation to reproduction." The prominence here given to the elucidation of this principle, is necessitated by the importance which the author assigns to it, as an agent in the gradual modification of the human race. He says, "for my own part I conclude, that of all the causes which have led to the differences in external appearance between the races of men, and to a certain extent between man and the lower animals, sexual selection has been by far the most efficient." Not only is "the greater size, strength, courage, pugnacity, and even energy of man, in comparison with the same qualities of woman," and "the greater intellectual vigor and power of invention in man, probably due to natural selection combined with the inherited effects of habit," but it is not improbable "that by it women have acquired sweeter voices and become more beautiful than men." However much the reader may differ from the views of Darwin, he will not begrudge the time spent upon a careful examination of them; he will be able to discuss them intelligently, and will at least appreciate the enormous mass of observation and erudition, which has been at command in support of them, and from which he will undoubtedly gather much that will make him painfully aware of how little he has hitherto known or thought upon that very important subject, "himself."

"State of Rhode Island, &c. Report of the Board of Cattle Commissioners, Jan. 27, 1871." Pamphlet. 8vo, 15 pp. Providence, 1871.

A description of what is known as the "Foot and Mouth" disease, its symptoms, duration, treatment, etc.

"Adventures of a Young Naturalist." By Lucien Biart. 8 vo. 491 pp. and 117 illustrations. New York, 1871. Harper Brothers.

An illustrated work on Natural History, if scientifically accurate and simply written, is regarded by every judicious parent as a great educator in the household. It not only develops a love of books, but it prompts much sensible conversation at home, and what is equally valuable, incites the cultivation of the observant faculties out of doors. When the information is moreover conveyed, as in the book before us, in the form of a narrative given with charming simplicity, and having in places touches of genuine pathos, its value to the youthful mind is greatly enhanced. The scene of this narrative, (which please do not tell us is a fiction,) is in Mexico, a land of wonders to the adult, whether naturalist or poet, and consequently much more a region of marvels to the child. To make sure that in speaking thus authoritatively upon this book, we had not been calculating upon "old heads upon young shoulders," we have submitted the work to a jury of juveniles, who have given a verdict of unqualified approval, and we now therefore say without fear to our friends, "buy the book for your boys," and if you have not lost all the freshness and simple likings of childhood, be yourselves the first to read it.

"On the Genesis of Species." By St. George Mivart, F. R. S. 8vo 314 pp. New York, 1871. (D. Appleton & Son.)

No theories have ever been more bitterly and unscrupulously applied and misrepresented by opponents (and at the same time more injudiciously and even foolishly supported by friends,) than those set forth in Darwin's Origin of Species. We therefore hail with pleasure the appearance, in an American Edition, of the work before us; since it is a thoroughly unprejudiced criticism of some of Darwin's views, and unlike the greater part of the vast mass of literature which those views have called forth, is really a valuable commentary upon them, absolutely necessary to a just comprehension alike of their merits and their defects. We have seen the work advertised as "a refutation of Darwinism;" it could not however be regarded in that light even were all Mr. Mivart's positions accepted as proven, and for ourselves we are by no means inclined to admit the justice of some of his conclusions; its aim being not to altogether upset the theory of Natural Selection as an agent in the development of Species, but to point out that that theory, as enunciated by Darwin, is insufficient by itself to account for all that he ascribes to its agency, and that it therefore requires to be supplemented by the discovery of some complementary laws. This does necessarily imply that the theory is wrong, but as a critic in nature well expresses it, the "theory may be true and yet not adequate."

It is astonishing how many of those who talk so glibly of "Darwinism," are ignorant of the real limitations of the term. The vast majority include under it the whole doctrine of the Evolution of Life, not only as stated in the origin of species, but as revised, enlarged and annotated by the host of commentators upon that work. But the portion of this work which is distinctively Darwin's original conception, (although contemporaneously and independently worked out by Wallace,) is the theory known as that of "Natural Selection," and to this the term "Darwinism" should be restricted. We should never however permit this restriction to make us unmindful of what we owe to Darwin for his masterly exposition of the whole subject of the Evolution of Life. Space will scarcely permit us to notice more than one or two of Mr. Mivart's objections to some of the principles which Darwin has embodied in the Doctrine of Natural Selection. Darwin holds that when the variations, upon which selection acts, do take place, they are at first "slight, minute, and insensible," and here, as his critic very forcibly observes, "Natural Selection utterly fails to account for the conservation and development of the minute and rudimentary beginnings of structures," which in that stage cannot be of service to the possessor, "however useful they may afterwards become." And hence he argues, that contrary to Darwin's opinion, "specific differences may be developed suddenly instead of gradually." Huxley, as long ago as 1860, pointed out this difficulty, and at a later date wrote, "Indeed we have always thought that Mr. Darwin has unnecessarily hampered himself, by adhering so strictly to his favorite "Natura non facit saltum." We greatly suspect that she does make considerable jumps now and then, and he adds, "and that these saltations gave rise to some of the gaps, which appear to exist in the series of known forms," an idea which is embodied in another of Mr. Mivart's objections. We must refer our readers to the original work for other criticisms of the author, which he will find well worthy of consideration, especially when read by the light of Cope's Origin of Genera. We wish, however, to remind the chemist who is interested in biological inquiries, that the question of what originates protective variations in the first place, remains yet in most of its features altogether untouched, and that to this subject, sooner or later, Physiological Chemistry will be called upon to make important contributions. In Mr. Mivart's work,