THÉ DAILY EVENING TELEGRAPH.-PHILADELPHIA, FRIDAY, MARCH 1, 1867

THE AMERICAN MONKEY

His Relations to Humanity.

Prof. Agassiz's Great Lecture on the Monkeys and the Original Inhabitants of South ' America.

The Monkeys of the Amazon and those of Africa.

Natural History of the Beast,

How He Eats, Sleeps, Acts, Breeds, and Grows.

The Theories of Darwin, Humboldt. Cuvier, and Others Examined.

- Mine of Reality and Truth Exposed.
- Etc., Etc., Etc., Etc., Etc., 504 C ...

The large hall of Cooper Institute, New York, was crowded last Tuesday evening with a highly intelligent and respectable audience of ladies and gentlemen, on the occasion of Professor Louis Agassiz's last lecture under the auspices of the "Association for the Advancement of Science and Art," having successively unfolded in a popular form the treasures of knowledge which he had acquired of the Amazon river and the region over which it traverses, obtained by his recent extended survey of that portion of the American continent, so far as refers to the configuration of that immense water basin or inland ocean, its glacial traces, geological structure, land and aquatic animals, and the wealth and variety of its rich tropical vegetation. His lecture last evening had reference to the monkeys of South America and to its native inhabitants, so far as they differ in habits, appearance, and ethnological conformation from the people of other portions of the American continent. On the subject of the monkeys of Brazil and the region of the Amazon, the observations of Professor Agassiz were faithful to nature, and so pointed by an advanced scientific knowledge as to be entertaining and instructive and highly interesting. At a little before So'clock the lecturer was introduced by Dr. Griscom, and proceeded to discuss the subject of his discourse, "The Monkeys and the Native Inhabitants of South America," as follows :--

THE BELATIONS BETWEEN MONKEYS AND MANKIND. LADIES AND GENTLEMEN:-In an unguarded moment I proposed for this evening's lecture the subject which has been announced upon the tickets. If I had considered the matter more maturely, I would probably have abstained from bringing into such public notice a subject respecting which afte so little is known, and with reference to which there are such extreme views entertained by the most competent investigators. As it is, have nothing left but candidly to express my convictions without reticence, and, if I cau, without prepossession. Of course you do not expect that I shall present to you anecdotes concerning the monkeys which I have seen playing among the trees in the valley of the Amazon, nor contrast with them the habits of the native inhabitants; but that I shall take a broader view of the subject, and discuss before you the relations which exist between the monkeys and mankind. This subject for the last ten years has engaged the direct attention o all naturalists, and with reference to which all the investigations made within the lass ten years have been more or less directly connected; for nowadays, when a naturalist studies the anatomy of an animal, it is with reference the possible explanation of the manuer in which that complicated structure was brought into existence. If a naturalist nowadays investipates the embriology of an animal, that is, its bransformations, its successive changes-it is with a view of ascertaining how that law which regulates those changes is stamped upon it as a living being.

cusations which have been made against me in scientific as well as other journals. It has been stated that in my public fectures I make loose statements, which are not accurate in matters of fact; that I allow myself to be carried away by the impluse of the moment; and that my interaction which are statements lacked that precision which entities to respect and confidence. And example the to respect and confidence. And examples of such loose statements are quoted. Now, I will, that you may know within what limit my statements are considerate, just answer a few of these statements. In some of the lectures I have delivered I have stated that vertebrates have four limbs, and that vertebrates have four times, and it is argued that everybody who is familiar with the last records of our science knows that whales and that porpoises, etc., have only two limbs. This I know is the statement of the textbooks, but the text-books are only compilations. second hand, of our knowledge; and if these critics had looked at the original information upon this matter — if they had consulted the work of Rapp upon the anatomy of these animals, or the work on tossil bones by Cuvier, or the most extensive works of natural history, they would have known that rudimental exterior lumbs exist in all these animals, and that they only are concealed by the skin. And I have dissected porpolses enough, and 1 have lately had an op-portunity myself of dissecting other animals on portunity inyself of dissecting other animals on the Amazon, so that I know from personal ob-servation that these investigations of the anato-mists I have quoted are correct when they say that, beside the fully developed pair of timbs which these animals have on the side of the chest, they have a second rudimentary pair con-cealed under the skin, which is imperfectly de-veloped. Therefore I returnate my statement celoped. Therefore I reiterate my statement that it is a natural tendency in all vertebrates to develop four limbs, and that here and there only two are developed, and in some the second pair is concealed under the skin. The others have been ascertained to possess a pair of rudimental

limbs under the skin. So much for that one statement. (Applause.) CONTROVERTED POINTS

The second is that I affirmed that fishes have lived (and a long list of other errors is enume-rated), that tishes had existed from the beginning of creation-as early as the other animals while in reality they existed only from the time of the diluvian period. Now how is it with this? If, in the oldest state, the remains preserved were perfect, it might be easy to dis-tinguish a crustacea, a crab, or a lobster from a dish. But in these oldest beds of remains which we have, and which have been interpreted by some as fish, and by others as crustacea, they are only fragmentary spines, such as we have in the fins of some fishes-for instance in the common dogfish (Illustrating on the chart), the dorsal in has in its anterior parts a small bony fin, or spine, which projects in this way (illustrating). On the other hand, way horse-shoe crab has upon the sides the second sucath a series of spines which are somewhat alike in appearance to these spines. (Hustrating.) Now, spines of this kind, resembling fins, are numerous in the oldest beds in which fossil remains have been found, and the question is whether they are the remains of crustacea or the remains of fishes. ome naturalists have affirmed that they are the remains of crustacea. I have affirmed that they are the remains of fishes. And I have based my assertions upon this, the structure of the spines of the crustacea when examined microscopically as to the characters of the sub-stances which forms the shield of the crustacea. The spines of fishes have the characteristic structure microscopically of bones, which is very easily distinguished from every other structure. Now those spines of those oldest deposits have the characteristic structure of bones, therefore I say again that these spines are the spines of fishes, and that I am not wrong when I say that tishes have existed as early as any other kind of animals. (Applause.) But this is no place for a controversy, and I will now turn to the subject of this evening's lecture, and consider with you the question of the relation which exists be-tween monkeys and man. That question is a recent question.

THE QUESTION AT ISSUE A RECENT ONE.

Ancient naturalists did not think of comparing men and monkeys any more, specifi-cally, than they compared men with other animals. The works of Aristotle, in which we have the earliest comparisons of this kind, two thousand years ago, discuss the structure of man as compared with animals, but he does not find a special resemblance between mon-keys and man any more than between man and

finsers, is a hand. The thumb, as a part of the hand, is flexible in another direction from the ingers, and the thumb may be brought into uxtaposition successively with each of the justaposition successively with each of the fugere, while this is utterly impossible with the toes of the foot. They all bend in the same direction—the large toe as well as the others — and the large toe cannot be brought into posi-tion successively with the other toes. Now, then, all animals which have feat at the ex-tremity of their four limbs are quadrupeds, and all animals which have four hands and no feet are movkeys. are monkeys.

MONKEYS HAVE HANDS, BUT NO FEET.

And all monkeys have hands at the end of their hind limbs as well as their fore limbs, while man has a pair of feet and a pair of hands. This is, perhaps, the most prominent difference which may be noticed among these azimals, and the characteristic feature of the great order of monkeys. I must, however, say that there are some slight modifications in this respect among the monkeys, in as far as there are some in which the thumb is so short that it cannot be as regularly brought into juxtaposition with the other fingers as in the hand of man, and there are even monkeys in which the thumb is merely rudimental, so that four fingers are only developed, and the thumb is almost entirely wanting. They again that the same second wanting. Then, again, what constitutes a finger is the position of the nail upon the termination. The last joint of the finger in a perfect hand, the ast joint of every finger has a flat nail covering only the upper part of the joint of the linger, and not extending forward and not bending over the last joint. Now, this is the case with all the nails of our hand, and is the case also with the nails of our foet, but not with hose of the animals, though we find there an mperfect hand, perhaps where the thumb or one or two or three fingers may have a perfect nail, and the others may have curved nails bending over the termination of the finger. This s the case often among some of the monkeys Ve have often such monkeys in which the thumb alone and the first finger have a really flat nall, the other fingers having arched claws bend ing over the termination of the finger. Now again, of the monkeys, we have a great variety as to size. Some of them are not larger than squirrels—not larger often than our small striped squirrels—while others approach in stature, often, man; and all possible intermediate dimensions exist between them. Thus monkeys are scattered over Africa and Central and Southern Asia, but in each of these different parts of the world they present different and special characteristics. The monkeys of the Oid World; that is, those inhabiting the tropical portions of Africa and of Asia, are all remarkable for the great height of the forehead-for the great angle of the face which they pre sent. And naturalists have been in the habit of measuring what is called the facial angle, which is the line passing from the forehead and the upper jaw meeting with another line passing along the base of the skull. In man-in intel-lectual man-that angle is known as the right angle; and the ancients understood that so well that in their statues, when they wanted to ex-hibit the intellectuality of man more promi-nently than any other of the features of hu-manity, they exaggerated the incline of that line, and to their Jupiter, who was the great repre-sentation of creative power, they gave a very great prominence to the forchead, which overstepped the right angles, so that the forehead is made very prominent over the face. So well was that understood as the characteristic feature of the higher organizations of the verte brate type. Now these monkeys of the Old World approach in that respect more to man than any other of the monkeys, and the young ourang-outang in that respect approaches far nearer the characteristics of young humanity than do the adult monkeys approach the char-acteristics of adult man. It is a curious fact that in their early age, when the more characteristic features are not yet strongly developed with the rigidity that marks the features of the adult, animals that are more closely related to one another resemble one another more closely when young than in the more adult state. And we find in this respect among the higher mon-keys a greater resemblance between the young monkeys and the young children than between the adults themselves.

THE NOSE OF THE OLD WORLD MONKEYS.

Another feature of the monkeys of the Old World consists in the construction of the nose, The nose is one of the prominent features of the face all through the higher type of the animals of the Old World, and in man as well as in

though there is a class allied to the macada ound on the opposite shore of Africa. What What distinguishes these monkeys from all other monkeys is the form or shape of their head, which is protruded, like that of the lox, and occasionally called, on that ac-count, the fox mookey. They have a pointed snout, and are more like that animal than monkeys generally are. Their fingers, too, are more numerous, and are provided with claws, rather than the flat nulls of other monkeys, bo rather than the flat nulls of other monkeys, so that we have a fourth group of monkeys, which are characterized by a peculiarity of their structure, easily recognized and unmistakable —the macacus, which inhabit the island of Madagascar and the opposite coast of Africa: the monkeys which resemble the squirrel and which inhabit tropical South America; the monkeys with broad postrils, which inhabit monkeys with broad nostrils, which inhabit South America generally within the tropics, and the monkeys of the Oid World, which are found in Africa and Asia and within the tropics: but not found in Madagascar or Australia. I is a curious thing that they live in a tropical region in which the point tree flourishes, and which is the principal abode of monkeys, as in Atrica-that Australia should be destitute of monkeys, while on the adjoining islands monkeys, not only of the common kind, but the higher kind of monkeys, are found.

THE INFLUENCE OF CLIMATE.

This shows, in my estimation, one thing that all differences which exist among animalcannot be ascribed to climatic influences, or at all events, that climate simply and o itself does not produce animals which are akin to each other, for tarpughout Australia, which exhibits all the peculiar climatic productions of the tropical and temperate zones, has neither monkeys, nor carnivorous animals, nor ruminants; neither deer nor elks, antelopes nor elephants, nor rhinoceros, nor hippopotamus, nor tapirs, nor any of the other large quadrupeds which inhabit everywhere else the tropical regions of the earth; nor are there in Australia any of the ruminants-no giralles, no camels, nor antelopes, nor any of the carnivorous tribes; no bears; no weasels, no foxes nor dogs, nor wolves; no cats, tigers, or lions; none of those tribes, but the whole of the continent is peopled by quadrupeds of a pecuiar kind and altogether confined to itself.

There is the marsupial kind-the kangaro There is the marsupart kind—the kangaroo family—all remarkable for the peculiarity of having, like our opossum, a pouch to carry its young, the only genus found on this continent. All these animals of the marsupial genus have under the abdomen a pouch where their young born in an immature condition, are transferred and where they remain till they reach a greater progress in development. That marsupial group is a peculiar group of quadrupeds known only to Australia, and in their various forms they ape all the other families as common in other parts of the world. Some they call monkeys, though not having any of the characteristics of monkeys, and others they call carnivorous animals, though they have none of the habits of carnivorous animals, and others they class among the ruminants, though they are not ruminants properly speaking. To treat upon this subject would lead me too far from the subject of the lecture, should I enter into a detailed ccount of these animals.

All I want to impress upon you in this con-nection is the fact that in every part of the world there are peculiar tribes of animals, and that these tribes do exhibit such close relations to the climatic conditions, that we cannot with any kind of satisfactory evidence ascribe these peculiarities to other than the climatic influence under which they live. Among those monkeys there are innumerable varieties or species or genera, as you may call them, for the name is not of very great importance here. want however, to make clear the fact what is the notwever, to make clear the fact what is the nature of these differences. Among those monkeys are the ourang-outang, the gorilla, and the chimpanzee, which have hands made in the same manner, and teeth the same, and in which the details of the structure present the same relations, and which are, therefore, considered as one group. The name under which the higher monkeys are generally designated are anthropophagi monkeys, and are called man-monkeys. We have those monkeys in which the snout is

very prominent and large, like a dog, the tall short and the limbs stout, the body large and strongly built; these are the baboons. again there are among them some kind of a different species, differing in size and differing in well as diff noth

have their tenth vertical, the jaw short, and the manner in which the teeth at one upon the other is perpendicular; so that when we close that mouth we bring the lower teeth against the upper teeth in such justaposition that the two sets stand vertically, one above the other. The races of men which have that kind of dentition are called straight jawed races; while there are called straight jawed races; while there are other races—among others, all the inhabi-tants of the South Sea islands and all the in-habitants of Africa and South Atlas—which have their iron theeth inclined, so that the upper treth and the lower teeth when brought against one another form an angle, and the mouth is more prominent; and all the races of men with protruding jaws have also thicker and more pr nent lips. They have also the flat nose, which I have already described, with broad partitions between the nostrils, and the nostrils opening aideways.

And these differences have been known amon them ever since men have been observed b On the ancient monuments of Egypt there are figures of negroes, there are figures of Egyptians, there are figures of Jews, and there are figures of white men, as characteristic in all these particulars as we see them now; so that for at least as long a time as these monuments have been in existence, these features of hu-manity have remained what they were then, and have retained their peculiarities. Now, then, the question is, How were these peculiarities brought about? Are they innate (that is, are they primordial) or are they the result of change If these conditions are the result of change, then he differences which we observe among keys, why should they not be the result of change also? And if changes as great can take place, why should not changes as little greater occur? and, therefore, why should not all the conditions which exist among living beings be the result of succes-sive changes? It is upon this line of argument that the scientific article has been based which is known as the transmutation doctrine, and which has been discussed for centuries, which has been revived in a more recent form and with more recent argument, by Darwin and which is now being actively agitated among naturalists. Now, I propose to show you on what fallacies this view rests, and I will repeat my statement in another form. The question is whether we are the lineal descend ants of monkeys, or whether we are the chil dren of a creative mind; whether we are the result of a natural evolution, or whether w are the expression of a specific act of creation In establishing the difference, I do not mean to charge those who entertain the idea of the transformation with denying the intervention transformation with denying the intervention of the creative power in the world. I do not charge them with denying the interference of God in nature; but I charge them with denying His imme-diate and direct intervention in the produc-tion of these differences. Whether they sie right or wrong depends upon the interpretation of the facts which we have before us U is now of the facts which we have before us. It is now to the examination of these facts I would call your extention. In the first place, I would say that man is rated in the animal kingdom in a manner which makes it impossible to separate the classes which relate to his existence from those which relate to the animal kingdom When we examine the order of succession o animals through all geological times, we find, from beginning to end, a definite relation to something higher. We find in the last geolo gical epoch man has been introduced; so that in the order of succession of the living races which have at different times peopled the sur face of our globe, we see man announced from the beginning; and we can say as one of the scientific results of the comparison of all these races, that from the beginning man was meant to be at the head of creation, and that upon the plan on which the animals living on our earth are constructed, there is no possibility of s higher being than man bimself: and this generalization can be sustained by an examination of the structure of the brain alone.

Without entering into an extensive argument I will show you that such is the structure of the highest systems of organs in the whole series of animals; that from the fish to man there is on gradual gradation; and that in the structure of man there is such an arrangement that shows that he is the highest and best form of the series which began with the fish. Suppose this to be the brain of the fish (illustrating), we have here as in all brains, a front swelling, from which arise nerves which go to the nostrils, a middle swelling, from which arise the nerves which go to the eyes, and a third swelling, from which arise the nerve which goes to the ear, and then other nerves which go to the different parts, about which I need not trouble vot These three swellings are so constituted that the uppermost is the smallest, the middle occu ples the middle position, and the hindmost is the largest. In reptiles we find that these three swellings have about the same dimen sions-that the front swelling begins to rise so us to stand on a level with the middle swelling which itself is about as large as the hind swelling, which is raised in dimensions from the other. DIFFFEENT THEORIES OF THE CREATIVE METHOD. The transmutation doctrine assumes that animals are derived from one another, and that there is a primitive cell formed from which all animals may have been evolved. The doctrine is that all vertebrates are derived from one primitive vertebrate, that all articulates are derived from one primitive articulate, that al mollusks are derived from one primitive mol lusk, that all radiates are derived from one primitive radiate, and that these four primitive ypes are derived themselves from a primitive cell, formed by the combination of those fortui tous elements which are acting wherever light moisture, and matter are brought into contac with one another. This is a doctrine professed by many eminent modern men of science, on the ground that everything which exists is strated spontaneously by the formation of a primitive cell, under the influence of light acting upon matter. There has recently appeared a most striking production on "the action of light upon matter as originating living beings," which fairly ex-presses the views of that school. Darwin, and other Englishmen of science, entertain the same doctrine in a different light. They assume that the first impulse was given by an intellectual ower, and that this impulse has resulted in the unfolding-in the evolution-out of the first germs created of all that has followed. The doctrine which I support is that it is not only the few that were started in the beginning by the creative act, but the many, and that it was not to one time only that creation has been limited, but that creation has gone on through all ages, and that under the direct influence of creative acts all the differences which exist i nature have been brought about. (Loud ap-plause.) These are generalizations. Now let us see what the facts are; whether they will sustain the German transmutation doctrine, or whether the English doctrine comes nearer to the truth And if neither be shown to be correct then I shall have proved my statement that we are not lineal descendants of monkeys, but that we are the chosen productions of a Divine in tellect, and that we are made in His resemblance But these are interpretations; let us look at the facts once more, and ascertain how closely they approach to my view of the case. Nearly al the radiates, mollusks, and the lower forms o are found in the oldest formations. The first insects we find belong to the carboniferous period, and we cannot find them before. Then mong vertebrates we have fishes from the be ginning. Then we have reptiles from the caroniferous period onward. We have birds from the gurastic period, though that is some-what questionable. We have also all mammalia from that date. During the earliest periods of the earth's his tory, the whole of its surface was covered with water. There was no room for terrestrial ani mals. When land and vegetation began to be extensive, we have the first indication of land animals in the introduction of insects. And nere let me call your attention to another point. Is it because nature has undergone successive changes that animals and plants have made their appearance; and is it physical change which has called them into existence, living beings, or have these physical changes taken place and been directed in such a manner as to prepare a home on which living beings can be distributed? The question is simply this—has the physical world, in ali

its changes, been productive of the organic world, or has there been an intellectual power superintending the whole in such a prothat the physical conditions should be brought about by which the living beings should find an appropriate bome for their growth? In other words, has man spring upon earth be cause our earth had become what it was, or has the earth been prepared for man that he might develop and unfold his capacities in the most appropriate manner upon its surface? Now, if we look at the order of succession in vertebrates, we find an answer to this question. We find, first, that fishes have existed as long as the surface of the earth was under the conditions during which all these aquatic animals could exist. Then reptiles have been called into existence just at the time when the earth had become extensive enough, 'or the land above the sea had become extensive enough, to torm an appropriate abode for these large marsh reptiles of the earliest period. We find afterwards the introduction of birds at the time when the atmosphere had been deprived of the gases which had until this time rendered it impossible for them to exist in it. The accumulation of coal in the beds of the carboniferous period freed the air of all those elements which accumulated in it in the earlier period, and with which the existence of warm-blooded, higher animals would be impossible. There is all physical fact which precedes the introduction of those living animals which require a purer atmosphere, Now the question is, again, has the freeing of the atmosphere of that carbon been the cause of the coming in of birds and mammalia, or have the processes of nature been so directed by a supervising intellect, that at a certain time the atmosphere should be freed of these impure elements, so that higher forms of being might be called into existence? And when we see that there is such a gradation between all, and when we find no intermediate forms from one to another, it seems hardly possible that causes and influences which are ever acting in the same way should have produced those different results. I wish I had time to enter upon an elaborate argument upon this point. I will only sam up my evidence in a few sentences. The physical causes are the same now as they were before, and chemical and physical agencies act now as they acted in the beginning. We have the evidence of it in the identical character of the rocks of the oldest and more recent formations. We have evidence of it in the chemical identity of the materials of which the celestial bodies are made, of which a dis-tinguished man of science has recently given us the most complete observations. The physical world remains the same; the laws which govern it remain the same; and from the beginning until now, they have acted in the same way. Are, then, the different animals which have existed at different times, and which differ in the most varied manner, the result of causes which do not vary, which do not change, which act ever in the same manner? This is contrary to our argumeni, and it is also contrary to any we cannot ascribe diversified results to uni-

form causes; we cannot ascribe as cause to cer-tain effects agencies the action of which is known to us. Those who are acquainted with the effects of light and magnetism and heat apon matter, and what are the possible combinations between chemical agents, know per-fectly well that these various combinations, various actions, are different from the these actions which we now witness in the animal kingdom. Therefore I say it is not logical to ascribe the living beings to those causes, and transcribe the diversity which exists among living beings to causes which at one time existed. I say that uniformity of nature should produce uniformity of action. I can conceive only one possible cause for this diversity-the intervention of mind. We all know perfectly well, in our own case, how the human mind wer, in our own case, now the human minu acts—how free it is, how it can mani-fest itself, and abstain from manifesta-tion. We know perfectly well how in this manifestation we can recognize the stamp of Him from whom it comes. We know perfectly well that in the different works of an outfat we can recognize his pendice more highly and the start works of an artist we can recognize his peculiar ways, his peculiar mode of manifesting himself, the pecu-liar stamp of his mind. So in the case of the poet and the painter, and the sculptor and the architect. Why should we not have something of the same kind in nature? Our mind is truly not a manifestation of matter; it is something independent of it, to the extent to which we know its ireedom, and the extent to which we can maintain its independence from surrounding influences. And to that extent and in similar manner do I conceive the intervention of mind in the production of living beings through all times, and a plan laid out and carried out from beginning to end with reference to that end. And that there is that reference to the end as it is in man, as seen in the relation which man bears to the lowest form-the fish-that there is such a reference to man is seen in the gradation which we observe through all times from the begin-ning to the end. And that this cannot be the result of simple influences-of physical condi-tions-is further shown by the fact which is constantly recurring of the transformations reproduced every day through the whole ani-mal kingdom in the production of new indi-viduals. And here I come to the closing evi-dence I have to submit. There are several hundred thousand different kinds of animals living on this globe, of all types of the animal king-dom. Now every one of them has its line of development, and each passes through a cer-tain number of changes. Every sparrow begins with the egg, and goes through the changes which are characteristic of sparrow life until it is capa-ble of reproducing itself in eggs, which will go through the same changes. Every butterfly arises from an egg, which produces a caterpil-lar, that caterpillar becomes a chrysalis, and that in turn becomes a butterfly, and thus changes until it is a perfect animal, capable of producing another egg. So it is with every living being. There are those which are low and those which are high; there are those which belong to the lowest type of their class and these which belong to the highest; in fact, the animal kingdom, as it is now, is constantly undergoing greater changes every year than the whole animal kingdom has passed through from the beginning until now, and now, we never see of swerve from the yet. we one those animals line appointed for it, and change into something that is not like itself. This is the great fact. Every living being reproduces itself under conditions which are the same now as they were in the beginning of the world till now, and yet they do not change. Why? Because by nature they are not changeable. That is what we must infer, and if those which live now are not changeable. and if those which live now are not connectable, and do not pass from one into another, though they represent all the changes which animals can pass through, is it logical to assume that those of earlier ages have become other than what we see the animal to be now in consequence of changes, and that the laws of nature have changed in such a manner that that which does not take place now should have taken place in earlier times? I say just as much as the cycle which every animal passes through in undergoing its development from the egg to its periect condition processes according to its appointed law impressed upon it by the Creator: just so the various forms, the Creator; Creator; just so the various forms, the remains of which we find through all ages buried in the rocks, are appointed forms, which have never changed spontaneously from the beginning, and are simply the steps through which it has pleased the Creator to carry the animal kingdom until it reached man, the being which is framed in His image, which is endowed with a spirit akin to Him, by means of which alone he is capable of understanding nature. Were we not made in the image of the Creator, did we not possess a spark of the Divine spirit which is our godlike inheritance, how could we understand nature ? hoow could we stand in such a relation to the whole world that it should such a relation to the whole world that it should not be a scaled book? It is because we are akin not only to the physical and the animal kingdom, but also to the Crestor Himsel', that we can read the world and understand that it comes from God. (Loud applause.)

THE RECENT INQUIRIES OF SCIENCE.

When naturalists nowadays investigate the geographical distributions of animals upon the surface of our earth, it is with a view of ascertaining, if it can possibly be done, in what way the diversity which prevails all over the globe has been produced, what is the primitive origin of this great diversity. When geologists inves-tigate the fossils, the remains of which are buried in the strata of our earth; when they trace the order in which they have followed one another in the course of time, it is at present with a view of ascertaining how this succession has been induced, which were the first, which have followed, and in what relation they stand to one another. And when men investigate th differences which exist among their fellow-men it is with a view of ascertaining whether men originated from one primary cause, or whether there is a multiple origin to humanity. You see whenever naturalists nowadays approach their subject, it is everywhere with one view-to ascertain, if it can be done, in what way things originated and what is the primary cause of the differences which we observe among them. And the subject is just opening. We have hardly ng them. And any result to present. On the contrary, we have extreme views clashing with one another, as much so as the views which divide men concerning matters of their salvation, which interest men with reference to their social organization. For we have schools in natural history, as there have been schools in philosophy. We have, as it were, sects, as we have denomina. tions among Christians, and no one has a right to present his view of the subject as the only correct one. His obligation is to present his wiews and to discuss his arguments in the hope of pressing his views, if he is deeply convinced of their accuracy, upon his hearer, but not with the pretension that he has found the final solution of the problem. There is a great change in that respect. A great change has come upon men in that respect. It is no longer possible for any man, or for any set of men, to assume that the truth is with them exclusively. Men have learned that there is only one common foundation for their beliefs, however much they will differ from one another in their reli-gious practices. Men have learned that there is only one source for their knowledge, which is only one source for their antowiedge, which is nature, however much they may differ in their interpretation of nature's facts. And it is with that consciousness that I will present this evening my view upon the subject of the rela-tion which exists between man and monkey; urging those views which are my convictions but urging them with the consciousness that there are other views entertained by others. (Applause.) I wish, however, to begin my statements with a clear record, and therefore I want to make a few statements concerning ac-

the other vertebrates-the other warm-blooded vertebrates; and the reason why is obvious. In those days the only monkeys known were three—the pythecus, as Aristotle calls him; the common monkey of Northern Africa, was frequently, no doubt, brought to Greece, as nowadays it is frequently brought to the southern parts of Europe; the other was the guenons, or the red monkey of North Africa. which is quite common on the coast Barbary, and which is a long-tailed monkey of reddish color, with pointed shout, somewhat like the common monkeys we obtain from South America, but different from them in many respects in the peculiarities of its face, of its teeth, and the like. Then the third kind of monkeys known to the ancients was the aboon, of which representations are to be seen n the ancient Egyptian monuments. Now, neither of these monkeys has anything particularly human. The baboon has a head not unlike that of a buildog, and was called by the ancients anocephalus, or dog-head, on account of that peculiar constitution of its head. But after the passage to the East Indies around the Cape of Good Hope had been discovered, naturalists became acquainted with several kinds of monkeys from the East Indies and from the west coast of Africa, which extend far above those known to the ancients; and among them none are more striking than the ourang-outang of Borneo, Java, and Sumatra, and the chimpanzee of Senegal and the cast coast of Guinea. Those two monkeys excited the curiosity of amatomists, and called forth at once comparisons with man, in consequence of the higher form of the head and the peculiar development of the face of these apes. And from that time comparisons between monkeys and man have been intro-duced in all treatises on natural history. All of these comparisons have always had for their objects to establish the differences which exist between one as compared with the other. Re-cently, a third kind of monkey, closely aliled at the preceding, has been found in the lagoons and on the more southern parts of West Airica, and that species has been described under the name of gorilla.

THE GOEILLA ENOWN TO THE ANCIENTS.

It is now ascertained that that animal was lready known to the Greeks, though very imperfectly, for an allusion is found in their lite-rature to a kind of small, hairy men observed on the west coast of Africa, which could not speak and which were very savage and untama-And now that the gorilla is known, it cannot be doubted that the animal mentioned was this kind of monkey. Now the question is what are the structural relations which exist between these monkeys and the other monkeys, and all monkeys taken together and mankind.

DISTRIBUTION OF THE MONKEY TRIBE.

Before I proceed to compare them more closely, let me say a few general words concern-ling their distribution. All monkeys known are to be found within the tropics. It is only ou the border of the iropics, in the parts adjoining the warm temperate zone, in the Old World, that on the southern extremity of Spain, on the rocks of Gibraltar, a few membry of Spain, on the rocks of Gibraltar, a few monkeys have been observed. and in the southernmost parts of Japan. Other-wise the home or the monkeys is within the tropics, with the exception of Australia, in which none exist at all. But monkeys are not which none exist at all. But monkeys are not the same in different parts of the world, and there is a wide difference among them. In the first place, as a natural group, distinct among the other mammalia, monkeys are charac-terized by an austomical fact which is very striking. They have all four hands, while other animals have four feet, and man has twoffeet and two hands; and the difference which characte-rizes a hand and a foot is very obvious. A limb rizes a hand and a foot is very obvious. A limb terminated with fingers which are all on one level, and which all bend in the same direction. is a toot. A limb which has a number of fin yers bending in the same way, while one finger may be opposite to the other, and successively e brought into contact with each of the other

monkeys we find a most characteristic difference between the different representatives of these two great groups-a marked and striking difference in the form of the nose. The white man has a prominent, aqualine nose, and in the shape of the nostrils, which are opened from forwards and backwards, and not sideways, so the point of the nose is the most prominent portion of the face. Other races of men have, on the contrary, a flattened nose, and their nostrils open in sideways, so that the nostrils open nom the side outwards. Some naturalists observed in the monkeys of the Old have World that they have narrow nostrils, and that their nostrils open inwards, as in white men. and from forwards and backwards, and that that portion which divides the nostrils is very nar-row. Then, again, it is observed that among the wonkeys of the Old World we find a large number of them destitute of tails. Neither the urang-outang, nor the gorilla, nor chimpanzee has any caudal appendage. In the islands of the coast and the locasts of Malacca there are large tribes of monkeys with exceedingly long arms, but all destitute of tails. Among the large number of monkeys that inhabit and roam over the continent of Africs we find the baboon short-tailed species. It is only among the more slender kinds of monkeys inhabiting the Old World that we find those monkeys that have as long tails as the monkeys of Africa generally have. Then, again, among those monkeys that we find in the Old World we find monkeys in the New World not only generally smaller, but having a prolonged shout; but their facial angle is longer than the facial angle of the more bags of the state of the of the monkeys of the Old World. And what is a most curious fact is that their nostrils are broad, and that portion between the nostrils remarkably broad, so that the nostrils open in a manner sideways. And among these again we find a large number of monkeys which have remarkably long tails, and some of them even with tails which terminate with a naked surface which this which terminate with a naked sorrad-underneath, which they can use as an addi-tional limb; and these monkeys have so much dexterity in the use of the tail that they can seize the smallest objects with it with as great precision as with their hands. All monkeys with such prehensile tails are peculiar to South America, and not one species of monkey in the Old World has that peculiarity. Even those monkeys that have prehensile tails have them covered all over with hair. There is a certain number of monkeys in Section 1. number of monkeys in South America which have somewhat long tails, but there is not one in the whole continent of America entirely destitute of caudal appendage. So that you will see that we have two well-marked groups of monkeys inhabiting the Old and New Worlds, their distinguished features consisting of the peculiar form of their process and distinof the peculiar form of their noses, and distin guished by their size. There are two other amilies which have also special marks of difterence. There is the large squirrel monkey, which inhabits only the tropical portions of South America, and the valley of the Amazon, and the northern portions of Brazil, and which differs from all other monkeys in having its differs from all other monkeys in having its eeth provided with numerous prongs, grinding ceth, somewhat like the moles, the other naving small, imperfect hands, more like a paw than the hands of other monkeys, and yet so like fingers that they clearly and unmistakably show that they are monkeys.

DENTAL PECULIARITIES.

Another difference that I have not yet men Another difference that I have not yet men-tioned as between the monkeys of the Old World and those of the Old World consists in the dentition. Man has five grinders above and below, and on the right and left, making twenty in all. And so, too, have all the monkeys of the Old World. But the monkeys of the New World have all one tooth more on each side, above have all one tooth more on each side, above and below, the number of their grinders being twenty-four in all. There is also another class of monkeys having only twenty—five on each side. The only four groups known are the macacas, which inhabit Madagascar, and are exclusively found in numbers on that island,

hair over the head and neck, in the mane and so forth. We have another group of long-tailed monkeys of the Old World, remarkable for their slender forms and great length of their tails and the greater prominence of their snouts, their teeth, and the like. But among them, again, there are a number of different species, occupying different portions of the Old World. of Africa and Asia. And so it is with the mon-keys of the New World. In South America we have some monkeys with prehensile tails, but in which the tail is covered with hair. MEN ARE NOT DERIVED FROM A COMMON STOCK.

Now I hold that idea of the community of origin of man and monkeys and other quad-rupeds is a fallacy, the foundation of which I shall try to explain presently. But if it is an error to consider man as derived from monkeys we must admit that men are not derived from a common stock, because the differences which exist among men are at the same time quite a triking as the differences which exist between monkeys and between the lower animals. Let me point out these differences. Let me first say in what all men agree and in what all men differ from monkeys. All men agree in having four limbs, one pair of which terminates with feet and the other terminates with hands. Al men are endowed with the ability of standing erect, and their constitution is such that the erect position is not an acquirement resulting from education, and is not the result of the successive chain, but is one of the constituted eculiarities of the human frame. The whole of the backbone is so organized that man can carry with ease his heavy, broad head only in a vertical position. He has not, as animal-have, a ligament with which he may support the head in a horizontal position with ease, but the head must be balanced on the top of the vertica column, in order that it may rest and be moved with facility in every direction. Then man has limbs on the sides of the chest so organized that be can move them in every direction, and touch every part of his body with them; and that pair of limbs terminates with the most perfect hand cnown in nature, and that hand is so constituted as readily to carry out the mandate of the mind. It is brought into the service of the intellect, and is no longer an organ of locomotion, as is the case in the monkey. All these peculiarities are characteristic of all men, and between monkey and man there is no structural transi ion. There is no gradation from the highest monkey to the lowest race of man. All those attempts at bringing man closer to the monkey by the lower types of humanity overlook these fundamental conditions which make man, however low and infirm, a man, and which separate him from the monkey, however high as a mon key he may stand. (Applause.)

DIFFERENCES IN THE HAIR OF MEN.

But while we recognize certain structural attributes as particularly human, let us not overlook the great conditions which exist among nen both in structure and attainments. first place in color the differences are obvious, ut they are comparatively of slight importance. Next in hair there is a marked difference. The dowing straight bair of the white race is very different already from the stiff and wiry hair of the Indian; and when we begin to compare that hair with that of the Australian or with that of the Malay or with that of the Feejear Islander, or still more strikingly with that o the negro, we find differences which are marked. The hair of the white race is cylindri-cal; the hair of the negro is flat, it is woolly, it is curly; and these pecultarities are not pecultarities brought about by climate-for white men have existed in close proximity with negroes ever since the two races have been known to exist side by side on carth, and white man has not assumed the woolly hair of the negro, nor the negro assumed the straight hair of the white race. (Laughter and applause.)

DIFFERENCES IN THE TEETH, NOSE, AND NOSTRILS. Then there is a difference in the dentition. and a very marked one. All the white race

ANOTHER GIPT BY MR. PEABODY .- Mr. George Peabody has made a gift of fifteen thousand dollars to the Newburyport Public Library, the income to be expended in extending its