It would be easy to find, for our show, our Italian friend with the highly-trained monkey on the high little table, to whom he tosses a gun, with which the creature presents arms, and which, to his own mortal terror, he fires off. A broom is presently flung to this highly-educated animal, with which he sweeps an imaginary crossing with a frantic diligence highly amusing; so, too, with the violin which he fiddles on vigorously, and the cymbals which he beats. There is a monotony, however, in his motions, for the result would seem about the same if he swept with his fiddle-bow, or played with his broom. His master seems a grim personage, and we may suspect the private lessons to be of a very stern character.

The odious, blackened Ethiopians, half-tipsified, with their detestable music, whose congenial haunt is at a tavern door, I would not admit to our show on any terms.

Late disastrous events in France have increased our street attractions vastly, and contributed some rather elaborate entertainments to the thoroughfares. Only this morning the rolling of a drum beaten vigorously by a lady in our genteel thoroughfare, has called every servant-maid to the windows. The drum-beater's husband, or guide and friend, has a large cart with a train of rueful-looking goats, a greyhound, and a poodle, all attached, while a huge white step-ladder, a large globe, with other apparatus, are significant of "highly-trained performing" business. The French proprietor makes stirring speeches over his goats, clears a great space pompously, as if about to review an army, and sets his animals to work. The goats look rueful enough in their gaudy scarlet coats, and stand on bottles with great reluctance, whereas the greyhound, showing the superior intelligence of his race, exhibits alacrity. The most comic portion is the grand final "act," when the whole company ascend one side of the step-ladder and descend the other in a procession of the melancholy description, advancing with a sort of agonised precaution, now halting, now advancing, the proprietor stimulating laggards with voice and whip, the greyhound evidently wishing to clamber over the backs of his nervous friends, who stop the way in front. This exhibition was so attractive that a perfect amphitheatre was gradually formed of carriages and carts, while I am convinced that the receipts must have amounted to a very handsome figure.

These suggestions are offered in a deferential spirit, and I think some recognition of this open-air branch of the profession might be gracefully made by theatrical managers.

REGRETS.

If we had but known, if we had but known,
Those summer days together,
That one would stand next year alone,
In the blazing July weather!
Why, we trifled away the golden hours,
With gladness, and beauty, and calm,
Watching the glory of blossoming flowers,
Breathing the warm air's balm;
Seeing the children like sunbeams play,
In the glades of the long cool wood;
Hearing the wild bird's carol gay,
And the song of the murmuring flood.
Rich gems to Time's pitiless river thrown,
If we had but known, if we had but known!

If we had but known, if we had but known,
Those winter nights together.
How one would sit by the hearth alone,
In the next December weather;
Why, we sped those last hours, each for each,
With music, and games, and talk,
The careless, bright, delicious speech,
With no doubt or fear to baulk.
Touching on all things, grave and gay,
With the freedom of two in one,
Yet leaving, as happy people may,
So much unsaid, undone.
Ah, priceless hours for ever flown,
If we had but known, if we had but known!

If we had but known, if we had but known,
While yet we stood together,
How a thoughtless look, a slighting tone,
Would sting and jar for ever!
Cold lies the turf for the burning kiss,
The cross stands deaf to cries,
Dull, as the wall of silence is,
Are the grey unanswering skies!
We can never unsay a thing we said,
While the weary life drags past,
We never can stanch the wound that bled,
Where a chance stroke struck it last.
Oh, the patient love 'neath the heavy stone,
If we had but known, if we had but known!

If we had but known, if we had but known!
We had climbed the hill together;
The path before us seemed all our own,
And the glorious autumn weather.
We had sown: the harvest was there to reap.
We had worked: lo! the wages ready.
Who was to guess that the last long sleep
Was closing round one already.
With never a warning, sharp and strong,
Came the bitter-wrench of doom,
And love, and sorrow, and yearning, long
May wail by the lonely tomb.
Oh, keenest of pangs mid the mourner's moan,
If we had but known, if we had but known!

THE DESCENT OF MAN.

There is one little word, of only two syllables, the adverb "therefore," which has exerted an enormous influence on the human mind. By its aid, almost any crude account can be cooked into plausibility; things, perfectly incredible in themselves, can be made pleasant to the sceptical reader. It prepares the mind for, and

softens, the most startling conclusions. You have only to cite undeniable facts, determine the inference you would draw from them, put "therefore" between the two, and the thing is done. Tenterden steeple was unhappily built, therefore we ought not to be surprised at the existence of the Goodwin Sands.

It has always struck the present writer that the acceptability to be accorded to the Darwinian doctrines entirely depends on the value to be allowed to the Darwinian "therefore"—and in no case more than in the Descent of Man, and Selection in Relation to Sex. Many men, many minds; some men will be convinced by arguments which other men hold to be insufficient. There are reasonings which every body admits at once to be conclusive, irresistible; there are other reasonings which, though they may set people thinking, and give rise to grave doubts, fail to carry all before them and to fill the hearer with complete conviction.

There are also ideas which, though felt as a shock when first propounded, by familiarity become simply ludicrous, and may even in the course of time be admitted with a languid half-assent. But truth ought not to be so indolently dallied with. To know the truth, it is worth while to summon our energies to ask, whether the "therefore" proposed to us be really so potent as its apostles maintain. In such matters, each person must judge for himself; and he can often be led to make up his mind by a simple statement, unsupported by any argument whatever. Some such statement shall be attempted here.

The object of Mr. Darwin's latest work is to consider, firstly, whether man, like every other species, is 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 men. The high antiquity of man has recently been demonstrated by the labours of a host of eminent men, beginning with M. Boucher de Perthes;* and this is the indispensable basis for understanding his origin. Professor Huxley, in the opinion of most competent judges, has conclusively shown that, in every single visible character, man differs less from the higher apes than those do from the lower members of the same order of Primates. The conclusion that man is the co-descendant with other species of some ancient, lower, and extinct form, is not in any degree new. Lamœrck long ago came to this conclusion, which has lately been maintained by several eminent naturalists and philosophers. Dr. Barrago Francesco published, in 1869, a work bearing in Italian the title of "Man, made in the image of God, was also made in the image of the ape."

It is assumed that he who wishes to decide whether man is the modified descendant of some pre-existing form, would probably first inquire whether man varies, however slightly, in bodily structure and in mental faculties; and if so, whether the variations are transmitted to his offspring, in accordance with the laws which prevail with the lower animals? It might also naturally be inquired whether man, like so many other animals, has given rise to varieties and sub-races, differing but slightly from each other, or to races differing so much that they must be classed as doubtful species? The inquirer would next come to the important point, whether man tends to increase at so rapid a rate, as to lead to occasional severe struggles for existence; and consequently to beneficial variations, whether in body or mind, being preserved, and injurious ones eliminated. Do the races or species of men, whichever term may be applied, encroach on and replace each other, so that some finally become extinct? But those considerations, which must most of them be answered in the affirmative, are set aside for a time, in order to show, first, how far the bodily structure of man shows traces, more or less plain, of his descent from some lower form.

It is notorious that man is constructed on the same general type or model with other mammals. All the bones in his skeleton can be compared with corresponding bones in a monkey, bat, or seal. So it is with his muscles, nerves, blood-vessels, and internal viscera. Man, moreover, is liable to receive from the lower animals, and to communicate to them, certain diseases, as hydrophobia, variola, and glanders; and this fact 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. Monkeys are liable to many of the non-contagious diseases to which we are subject—to catarrh, with its usual symptoms, often degenerating into consumption; to apoplexy, inflammation of the bowels, and cataract in the eye. Medicines produce the same effect on them as on us. Many kinds of monkeys have a

* See The Age of Stone, ALL THE YEAR ROUND, First Series, vol. xx., p. 394.

strong taste for tea, coffee, and spirituous liquors; they will also smoke tobacco with pleasure. Strong drink makes them tipsy, with a next day's headache following the excess. An American monkey, after getting drunk on brandy, would never touch it again, and thus was wiser than many men.

Now what do these facts prove? Our "relationship" to them, as Mr. Darwin expresses it, thereby implying our common descent from some primeval monkey ancestor; or simply that brutes have limbs and organs analogous to ours, and are made of flesh and blood? But it is not easy to conceive how they should be otherwise constituted, or of what else they should be made, living as they do on the same earth and in the same media as ourselves, and sustaining their life by breathing, eating, and drinking. Mr. Darwin claims for brutes a brotherhood with man, by the same plea with which Shylock argues for the common nature of Jews and Christians.

"Hath not a brute eyes? Hath not a brute hands (or their analogous substitutes), organs, dimensions, senses, affections, passions? fed with the same food, hurt with the same weapons, subject to the same diseases; healed by the same means, warmed and cooled by the same winter and summer, as a Christian is? If you prick us, do we not bleed? If you tickle us, do we not laugh (or something like it)? If you poison us, do we not die? And if you wrong us, shall we not revenge?"

Animals, to complete the parallel, notoriously indulge in revenge; the elephant especially is known to do so. Many anecdotes, probably true, have been published on the long-delayed and artful revenge of various animals. The accurate Rengger and Brehm state that the American and African monkeys which they kept tame, certainly revenged themselves.

The progress of our embryonic development is adduced as evidence of the orgin of man. The human embryo, at a very early period, can hardly be distinguished from that of other members of the vertebrate kingdom. At a somewhat later period, when the extremities are developed, the feet of lizards and mammals, the wings and feet of birds, no less than the hands and feet of man, all arise from the same fundamental form. It is quite in the later stages of development that the young human being presents marked differences from the young ape. Without question, the early stages of the development of man are identical with those of the animals immediately below him in the scale: without a doubt, in these respects, man is far nearer to the apes than the apes are to the dog. And now for the grand inference. Every individual human being, before actual birth, passes through forms analogous to those of the lower animals; therefore, the whole human race has passed through those inferior forms, until it finally became man. But is the sequitur strictly logical? Is it so inevitable as to admit of no demur?

Of the same value, but no more, are the considerations derived from the presence of rudimentary organs. Not one of the higher animals can be named which does not bear some part in a rudimentary condition; and man forms no exception to the rule. Rudimentary organs are either absolutely useless, or they are of such slight service to their present possessors, that it is denied they could be developed under the conditions which now exist. Rudiments of various muscles have been observed in many parts of the human body; and not a few muscles which are regularly present in some of the lower animals, can occasionally be detected in man in a greatly reduced condition. Every one must have noticed the power which many animals, especially horses, possess of moving or twitching their skin. This is effected by the panniculus carnosus. Remnants of this muscle in an efficient state are found in various parts of our own bodies; for instance, on the forehead, by which the eyebrows are raised.

Some few persons have the power of contracting the superficial muscles on their scalps; and those muscles are in a variable and partially rudimentary condition. M. A. de Candolle knows a family, in which one member, the present head of the family, could, when a youth, pitch several heavy books from his head by the movement of the scalp alone; and he won wagers by performing this feat. His father, uncle, grandfather, and all his three children, possess the same power to the same unusual degree. A distant cousin resides in another part of France, and on being asked whether he possessed the same faculty, immediately exhibited his power. This case offers a good illustration how persistently an absolutely useless faculty may be transmitted.

The muscles which serve to move the external ear, which also belong to the system of the panniculus, are in a rudimentary condition in man; they are also variable in development, or at least in function. Mr. Darwin has seen one man

who could draw his ears forward, and another who could draw them backward; one celebrated medical lecturer (was it not Abernethy?) used to amuse his pupils by exhibiting to them the movements of his ears. It is supposed to be probable that most of us, by often touching our ears, and thus directing our attention toward them, could, by repeated trials, recover some power of movement. But no man possesses the least power of erecting his ears—the one movement which might be of use to him. The ears of the chimpanzee and orang are curiously like those of man, and the keepers in the Zoological Gardens assert that those animals never move or erect them. Why these animals, as well as the progenitors of man, should have lost the power of erecting their ears, we cannot say. It may be that, owing to their arboreal habits and great strength, they were but little exposed to danger, and so during a lengthened period moved their ears but little, and thus gradually lost the power of moving them. This would be a parallel case with that of those large and heavy birds, which from inhabiting oceanic islands have not been exposed to the attacks of beasts of prey, and have consequently lost the power of using their wings for flight. Some monkeys, too, exhibit a peculiar structure—a vestige of formerly pointed ears—which occasionally reappears in man.

It appears as if the posterior molar or wisdom-teeth were tending to become rudimentary in the more civilised races of men. These are rather smaller than the other molars, as is likewise the case with the corresponding teeth in the chimpanzee and orang; and they have only two separate fangs. They do not cut through the gums till about the seventeenth year, and they are much more liable to decay, and are earlier lost, than the other teeth. In the Melanian races, on the other hand, the wisdom-teeth are usually furnished with three separate fangs, and are generally sound. Professor Schaaffhausen accounts for this difference between the races by "the posterior dental portion of the jaw being always shortened" in those that are civilised. This shortening Mr. Darwin attributes to civilised men habitually feeding on soft, cooked food, and thus using their jaws less. It is becoming quite a common practice in the United States to remove some of the molar teeth of children (English parents often do the same with their young folks' incisors) as the jaw does not grow large enough for the perfect development of the normal number.

It is an interesting fact that ancient races of men more frequently present structures which resemble those of the lower animals, than do the modern races. One chief cause seems to be, that ancient races stand somewhat nearer than modern races, in the long line of descent to their romote animal-like progenitors.

In order to understand the existence of rudimentary organs, we have only to suppose that a former progenitor possessed the parts in question in a perfect state, and that, under changed habits of life, they became greatly reduced, either from simple disuse or through the natural selection of those individuals which were least encumbered with a superfluous part.

Thus we can understand how it has come to pass that man and all other vertebrate animals have been constructed on the same general model; why they pass through the same early stages of development; and why they retain certain rudiments in common. Consequently, we ought frankly to admit their community of descent. It is only our natural prejudice, and that arrogance which made our forefathers declare that they were descended from demi-gods, which leads us to demur to this conclusion. But the time, Mr. Darwin predicts, 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.

Mr. Darwin's Comparison of the Mental Powers of Man and the Lower Animals, is more amusing, but not a bit more conclusive, to the present writer, in establishing the development of man from some lower form. It is full of matter to overflowing; but a good many weak arguments, put cumulatively together, do not make one strong argument. Circumstantial evidence as to facts and deeds may carry all before it by its fulness. Circumstantial reasoning is little worth; to be convincing, it must be complete. Logic admits of no half-measures; it either proves all, or nothing at all. Not every reader of the Descent of Man will admit that it has proved all it tries to prove.

That comparison is made solely to show that there is no fundamental difference between man and the higher mammals in their mental faculties. The variability of the faculties in the individuals of the same species, is noted as an important point in his favour. And indeed it is the unanimous opinion of all who have long attended to

animals of many kinds, including birds, that the individuals differ greatly in every mental characteristic.

The lower animals, like man, manifestly feel pleasure and pain, happiness and misery. Happiness is never better exhibited than by young animals, such as puppies, kittens, and lambs, when playing together, like our own children. Even insects play together, as has been described by P. Huber, who saw ants chasing and pretending to bite each other, like so many puppies.

It is a well-established fact that the lower animals are excited by the same emotions as ourselves. Terror acts in the same manner on them as on us, causing the muscles to tremble, the heart to palpitate, and the hair to stand on end. Suspicion, the offspring of fear, is eminently characteristic of most wild animals. Courage and timidity are extremely variable qualities in the individuals of the same species, as is plainly seen in dogs.

We see maternal affection exhibited in the most trifling details; thus Rengger observed an American monkey carefully driving away the flies which plagued her infant; and Duvancel saw a hylobates washing the faces of her young ones in a stream. So intense is the grief of female monkeys for the loss of their young, that it invariably caused the death of certain kinds kept under confinement by Brehm in North Africa. Orphan monkeys were always adopted and carefully guarded by the other monkeys, both male and female. One female baboon had so capacious a heart, that she not only adopted young monkeys of other species, but stole young dogs and cats, which she continually carried about. An adopted kitten scratched this affectionate baboon, who certainly had a sharp intellect; for she was much astonished at being scratched, and immediately examined the kitten's feet, and without more ado bit off the claws. As Whewell has remarked, "Who that reads the touching instances of maternal affection, related so often of the women of all nations, and of the females of all animals, can doubt that the principle of action is the same in the two cases?"

Allowing that the principle of action is the same, does it thence inevitably follow that the ancestry is the same, in the two cases?

Most of the more complex emotions are common to the higher animals and ourselves. Every one has seen how jealous a dog is of his master's affection, if lavished on any other creature; the same fact is observed with monkeys. This shows that animals not only love, but have the desire to be loved. Animals manifestly feel emulation. They love approbation or praise; and a dog carrying a basket for his master exhibits in a high degree self-complacency or pride. A great dog scorns the snarling of a little dog, and this may be called magnanimity. Several observers have stated that monkeys certainly dislike being laughed at; and they sometimes invent imaginary offences. In the Zoological Gardens there was a baboon who always got into a furious rage when his keeper took out a letter or book and read it aloud to him.

Hardly any faculty is more important for the intellectual progress of man than the power of attention. Animals clearly manifest this power, as when a cat watches by a hole and prepares to spring on its prey. Wild animals sometimes become so absorbed when thus engaged, that they may be easily approached. Mr. Bartlett has furnished a curious proof how variable this faculty is in monkeys. A man who trains monkeys to act, used to purchase common kinds from the Zoological Society at the price of five pounds for each; but he offered to give double the price, if he might keep three or four of them for a few days, in order to select from. When asked how he could possibly so soon learn whether a particular monkey would turn out a good actor, he answered that it all depended on their power of attention. If when he was talking and explaining anything to a monkey, its attention was easily distracted, as by a fly on the wall or other trifling object, the case was hopeless. If he tried by punishment to make an inattentive monkey act, it turned sulky. On the other hand, a monkey which carefully attended to him could always be trained.

It is almost superfluous to state that animals have excellent memories for persons and places. A baboon at the Cape of Good Hope recognised Sir Andrew Smith with joy after an absence of nine months. Even ants, as P. Huber has clearly shown, recognised their fellow-ants belonging to the same community after a separation of four months.

Imagination is one of the highest faculties of man. By this faculty he unites, independently of the will, former images and ideas, and thus creates brilliant and novel results. Dreaming gives us the best notion of this power. As Jean Paul Richter says, "The dream is an involuntary art of poetry." As dogs, cats, horses and probably all the

higher animals, even birds (some birds sing in their sleep) have vivid dreams, (and this is shown by their movements and voice), we must admit that they possess some power of imagination.

Reason, it will be admitted, stands at the summit of the faculties of the human mind. Few persons any longer dispute that animals possess some power of reasoning. It is a significant fact that, the more the habits of any particular animal are studied by a naturalist, the more he attributes to reason, and the less to unlearnt instincts. Dr. Hayes in his work on the Open Polar Sea, repeatedly remarks that his dogs, instead of continuing to draw the sledges in a compact body, diverged and separated when they came to thin ice, so that their weight might be more evenly distributed. This was often the first warning and notice which the travellers received that the ice was becoming thin and dangerous.

Mr. Colquhoun winged two wild-ducks, which fell on the opposite side of the stream; his retriever tried to bring over both at once, but could not succeed. She then, though never before known to ruffle a feather, deliberately killed one, brought over the other, and returned for the dead bird.

It has been often said that no animal uses any tool; but the chimpanzee in a state of nature cracks a native fruit, somewhat like a walnut, with a stone. Rengger easily taught an American monkey thus to break open hard palm-nuts, as well as boxes. Another monkey was taught to open the lid of a large box with a stick, and afterwards it used the stick as a lever to move heavy bodies. In the Zoological Gardens, a monkey which had weak teeth, used to break open nuts with a stone; and after using the stone, hid it in the straw, and would not let any other monkey touch it. Here, then, we have the idea of property; but this idea is common to every dog with a bone, and to most or all birds with their nests.

The Duke of Argyll considers that the fashioning of an implement for a special purpose forms an immeasurable gulf between man and the brutes. But Sir J. Lubbock suggests that when primeval man first used flint-stones for any purpose, he would have accidentally splintered them, and would then have used the sharp fragments. From this step, it would be a small one to intentionally break the flints, and not a very wide step to fashion them. In breaking the flints, sparks would have been emitted, and in grinding them, heat would have been evolved: thus the two usual methods of obtaining fire may have originated. The anthromorphous or man-shaped apes, build for themselves temporary platforms on which to take rest and sleep; the orang is known to cover itself at night with the leaves of the pandanus. In these habits Mr. Darwin sees the first steps toward some of the simpler arts; namely, rude architecture and dress, as they arose amongst the early progenitors of man.

Animals possess an approach to language. A Paraguayan monkey, when excited, utters at least six distinct sounds, which excite in other monkeys similar emotions. The sense of beauty has been declared to be peculiar to man. But the bower-birds, by tastefully ornamenting their playing passages with gaily coloured objects, as do certain humming-birds their nests, give evidence that they possess a sense of beauty. Well and good, granting all this, and more, what is the inference? Does similarity of mind and affections necessarily imply community of origin? For that is the grand question at issue. Granting that the difference in mind between man and the higher animals, great as it is, is certainly one of degree and not of kind, is it an inevitable consequence that the possessor of the higher intellect, man, should be an improved descendant of the possessor of the lower intellect, a man-shaped ape? Let the inquirer carefully read the book—it is not hard reading—which is the crowning life-work of an amiable, honest, and most painstaking savant. After reading it, let him ask himself, "Does this clever book impress with the conviction that it gives the true and veritable history of the Origin and Descent of Man?"

IN DANGER IN THE DESERT.

In the spring of 18—, I was intrusted by government with some despatches of the greatest importance, to be carried from Damascus to the English political agent at Bagdad. The journey from Syria to Chaldea was, I knew from experience, a perilous one, whether performed on camel or horse, and with whatever escort; and, even if uninterrupted, would take me six full days. I was an old hand, and had not lived for months among Arab tribes without knowing that Russian spies, French agents, and Turkish robbers (in which compre-