

The TWO-TOED* and THREE-TOED SLOTHS†.

THESE two animals have been denominated *sloths*, on account of the slowness of their movements, and the difficulty with which they walk. Though they resemble each other in

* The sloths have no cutting teeth in either jaw; but they have canine teeth and grinders. The fore legs are much longer than the hind, and the claws are long.—The two-toed sloth has a round head, short projecting nose, ears like the human, lying flat on the head, two long claws on the fore feet, and three on the hind. The hair on the body is long and rough; in some parts curled and woolly, in some, of a pale red above, cinereous below; and in others, of a yellowish white below, and a cinereous brown above. The length of that in the British museum is eleven inches; I believe it is a young one: It has no tail; Pennant's *Synops. of Zood.* p. 321.

Uro, the name of this animal in Maragoun. P. d'Abbeville says, that there are two kinds, the one about the size of a hare, and the other about twice as large; *Mission au Maragoun*, p. 252.

Tardigradus Ceilonicus catulus; *Schoen.* tom. i. p. 54. tab. 33. fig. 4.—*Tardigradus Ceilonicus femina*; *Id.* ib. tab. 34.

Tardigradus pedibus anticis didactylis; *posticis tridactylis*; Le Pareilleux de Ceilan; *Briffon. Zood.* p. 22.

Bradypus didactylus, *manibus didactylis cauda nulla*; *Linn. Syst. Nat.* p. 51.

† The three-toed sloth has a blunt black nose, a little lengthened, very small external ears, and eyes small, black, and heavy. From the corner of each eye, there is a dusky line.

in many respects, they differ, both externally and internally, by characters so marked, that it is impossible not to recognise them as very distinct species. The unau, or two-toed sloth, has no tail, and only two claws on the fore feet: The ai, or three-toed sloth, has a tail, and three claws on all the feet. The muzzle of the former is longer, the front more elevated, and the ears more apparent, than those of the latter. Their hair is also very different. The structure

line. The colour of the face and throat is a dirty white. The hair on the limbs and body is long, very uneven, and of a cinereous brown colour. The tail is short, being a mere stump. The legs are thick, long, and awkwardly placed. The face is naked. There are three toes, and three very long claws on each foot. The length of that in the British museum is twelve inches; but it grows to the size of a middle sized fox; Pennant's *Synops. of Zood.* p. 319.

AI, the Brazilian name of this animal, taken from its plaintive cry, *a, i*, which it often repeats; *Hay*, according to Lery; and *Haw* or *Hawti*, according to Thoret. The *Perillo ligero* of Oviedo, and the *Haw* of Nieremberg.

Archipithecus; *Göfner. Zood.* p. 869. *Ann. Zood.* p. 96.

Ignavus; *Clof. Exot.* p. 110. 372.

Sloth; *Rail Synops. Zood.* p. 245. *Edwards's Gleanings*, pl. 310.

Ignavus Americus, *risum fletu miken*; *Klein. Zood.* p. 43.

Tardigradus pedibus anticis et posticis tridactylis; *Briffon. Zood.* p. 21.

AI, seu *tardigradus gracilis Americanus*; *Schoen.* tom. i. p. 53. tab. 33. fig. 2.

Quakare, *Parcellieux*; *Barrière Hist. Fr. Equinox.* p. 154.

Bradypus tridactylus, *pedibus tridactylis*, *cauda brevi*; *Linn. Syst. Nat.* p. 50.

Bigrila seu *Haut*; *Nieremb.* p. 163.

AI, seu *ignavus*; *Marcgrave. Hist. Nat. Brasil.* p. 221.

and situation of some parts of their viscera are likewise different. But the most remarkable distinction is derived from this singular circumstance, that the unan has forty-six ribs, and the aï only twenty-eight, which shows them to be species very remote from each other. This number of ribs, in the body of an animal so short, is an excess or error of Nature; for no animal, however large, has such a number of ribs: The elephant has only forty, the horse thirty-six, the badger thirty, the dog twenty-six, man twenty-four, &c. This difference in the structure of the sloths indicates a greater distance between these two species than between the dog and cat, which have both the same number of ribs; for external differences are nothing when compared to those which are internal: The former may be regarded as causes, and the latter as effects only. The interior frame of animated beings is the foundation of Nature's plan; it is the constituent form, and the origin of all figure: But the external parts are only the surface or drapery. How often have we not found, in the course of our comparative examination of animals, that a very different external appearance covered internal parts perfectly similar; and that, on the contrary, the slightest internal distinction produced great external differences, and changed the natural dispositions, powers, and qualities of the animal? How many animals

animals are armed, covered, and adorned with excrecent parts, whose external structure corresponds exactly with others which are totally deprived of such appendages? But this is not a proper place for such nice disquisitions. We shall only remark, that, in proportion as Nature is vivacious, active, and exalted in the monkey kind, she is slow, restrained, and fettered in the sloths. From a defect in their conformation, the misery of these animals is not more conspicuous than their slowness. They have no cutting teeth; the eyes are obscured with hair; the chops are heavy and thick; the hair is flat, and resembles withered herbs; the thighs are ill joined to the haunches; the legs are too short, ill turned, and terminated still worse: Their feet have no soles, and no toes which move separately, but only two or three claws disproportionally long, and bended downward, which move together, and are more hurtful to their walking, than advantageous in assisting them to climb. Slowness, habitual pain, and stupidity, are the results of this strange and bungled conformation. The sloths have no weapons either offensive or defensive. They are furnished with no means of safety; for they can neither fly nor dig the earth. Confined to a small space, or to the tree under which they are brought forth, they are prisoners in the midst of space, and cannot move the length of one fathom in an hour.

hour *. They drag themselves up a tree with much labour and pain. Their cry and interrupted accents they dare only utter during the

* *Perillo ligero, five canicula agilis, animal est omnium quæ viderim ignavissimum; nam adeo lente movetur, ut ad conscendendum iter longum dumtaxat quinquaginta passus, integro die illi opus sit.*—In sedes transitum naturali sua tarditate movetur, nec a clamoribus ulla aut impulsione gradum accelerat; *Ortice in Januario Ind. Occid. cap. 23, tradit de Philopogon ex Latino per Clossius, Exotic. lib. v. cap. 16. Tanta est ejus tarditas et utriusque illi spatii vix quinquaginta passus petransire possit; Herrera, Hist. Mex.*—The Portuguese have given the name of *sloth* to a very extraordinary animal, which is of the size of an opossum.—The hind part of its head is covered with a coarse mane, and its belly is so gross that it sweeps the ground. It never rises on its legs, and trails so slowly along, that in fifteen days it can hardly accomplish the length of a stone-calt; *Hist. des Indes, par Maffei, p. 71. Descript. des Indes Occident. par Herrera, p. 252.*—* *Tam lentus est illius gressus et membrorum motus, ut quinquaginta passus diebus ad lapidis istam continui tractu vix prodeat;* *Péjon, Hist. Bresil. p. 322. Nota.* This assertion of Pêjon, which he has borrowed from Matifé and Herrera, is much exaggerated.—This is the most sluggish of all animals: It is needless to employ greyhounds to overtake him; a tortoise is sufficient; *Desfourcheux, tom. iii. p. 301. Nota.* This is another exaggeration.—They require eight or nine minutes to advance one foot to the distance of three inches, and they move one after another with equal slowness. Blows do not accelerate their pace. I have whipped some of them, in order to discover whether pain would give them any animation: But they seemed to be insensible, and I was unable to make them move faster; *Dampier's Voyage.*—The sloths do not move fifty paces in a day. When the hunter wishes to take one of them, he may proceed with his sport, and, on his return, he will find the animal very little removed from its former place; *Voyage à Cayenne, par Riou, p. 341.*—This animal receives the epithet of *courser*, because he requires a whole day to accomplish a quarter of a league; *Hist. de l'Orient, par Goussier, tom. ii. p. 13. Nota.* This author seems to be the only one who approaches the truth, with regard to the slowness of these animals.

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night. All these circumstances announce the misery of the sloths, and recall to our minds those defective monsters, those imperfect sketches of Nature, which, being hardly endowed with the faculty of existence, could not subsist for any length of time, and have accordingly been struck out of the list of beings. If the regions inhabited by the sloths were not desert, but had been long occupied by men and the larger animals, these species would never have descended to our times: They would have been annihilated, as must happen in some future period. We formerly remarked, that every thing that possibly could be, really did exist; of which the sloths are a striking example. They constitute the last term of existence in the order of animals endowed with flesh and blood. One other defect added to the number would have totally prevented their existence. To regard those bungled sketches as beings equally perfect with others, to call in the aid of final causes to account for such disproportioned productions, and to make Nature as brilliant in these as in her most beautiful animals, is to view her through a narrow tube, and to substitute our own fancies for her intentions.

Why should not some animals be created for misery, since, in the human species, the greatest number of individuals are devoted to pain from the moment of their existence? Evil, it is true, proceeds

proceeds more from ourselves than from Nature. For a single person who is unhappy because he was born feeble or deformed, there are millions rendered miserable by the oppression of their superiors. The animals, in general, are more happy, because the species have nothing to fear from individuals: To them there is but one source of evil; to man there are two. Moral evil, of which he himself is the fountain, has accumulated into an immense ocean, which covers and afflicts the whole surface of the earth. Physical evil, on the contrary, is restrained within very narrow bounds: It seldom appears alone; for it is always accompanied with an equal, if not a superior good. Can happiness be denied to animals, when they enjoy freedom, have the faculty of procuring subsistence with ease, and possess more health, and organs capable of affording greater pleasure than those of the human species? Now, the generality of animals are most liberally endowed with all these sources of enjoyment. The degraded species of sloths are perhaps the only creatures to whom Nature has been unkind, and who exhibit to us the picture of innate misery.

Let us take a closer view of the condition of these creatures. By the want of teeth they can neither seize prey, nor feed upon flesh or herbage. Reduced to the necessity of living upon leaves and wild fruits, they consume much time in trailing their bodies to the foot of a tree, and

still

still more in climbing to the branches*; and, during this slow and melancholy exercise, which sometimes lasts several days, they are obliged to suffer the most pressing hunger. When arrived upon a tree, they never descend. They cling to

* It is alleged by the natives, that this animal lives solely on the leaves of a certain tree, called in their language *Amabat*. This tree is higher than any other in that country. Its leaves are very small and delicate; and, because the flesh is commonly found in these trees, they have given it the name of *Haut*; *Singul. de la France Antarc.* par Thevet, p. 100.—The sloth lives solely on the leaves of trees, and the highest branches serve him for a retreat; but it costs him two days journey to arrive at them. . . . Neither caresses, threatenings, nor even blows, can make him move quicker; *Hist. des Indes, par Magg, p. 71. Horvets, p. 252.*—The sloth is not so large, nor so rough as the *samouir*, or great ant-eater. . . . He feeds upon leaves. . . . These animals do much mischief to trees; after eating all the leaves of one tree, they employ five or six days in descending it and climbing another, however nearly situated; and, though plump and fat when they begin their journey, they are reduced to skin and bone before it is finished. They never abandon a tree till they have made it as bare as it can be in the middle of winter; *Dampier's Voyage.*—They climb trees, but so slowly, that they are easily taken. When seized, they make no resistance, and never attempt to fly. If a long pole is presented to the sloth, he begins to mount it; but the slowness of his motion is tiresome: When he arrives at the top he remains there, without taking the trouble of descending; *Voyage de Coynart, par Blin, p. 341.*—The sloths have four legs, which they employ only in climbing: When perched upon a tree, they never quit it till they have eat the whole leaves. They then descend, and mount another, the leaves of which they devour in the same manner. We placed this animal on the lowest fall of the fore-mast. It spent two hours in climbing to the scuttle, which a monkey would have accomplished in half a minute. One would imagine that it moves by a spring, like the pendulum of a clock; *Travels by Wood Rogers.*

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the branches, and devour successively the leaves of every twig. They pass several weeks in this situation, without receiving any drink. When they have rendered the tree entirely naked, they still remain; because they cannot descend. In fine, when the pressure of hunger becomes superior to the dread of danger or death, being unable to descend, they allow themselves to tumble down like an inanimated mass; for their stiff and inactive limbs have not time to extend themselves in order to break the fall.

When on the ground, they are at the mercy of all their enemies. As their flesh is not absolutely bad, both men and rapacious animals go in quest of these animals. It appears that they do not multiply fast, or at least, if they produce frequently, it must be in small numbers at a time; for they have only two paps. Every circumstance, therefore, concurs to destroy them; and it is extremely difficult for the species to support itself. But, though slow, awkward, and almost incapable of motion, they are obstinate, strong, and tenacious of life. They can live very long without victuals of any kind*. They are covered with thick, dry hair; and, being incapable of exercise, they lose little by perspiration; and, though their food be meager, they fatten by re-

* I had a present of a living *houat*, which I kept twenty-six days, during which he neither eat nor drank; *Singular de la France Ant. par Tévot, p. 93.*

pose,

pose. Though they have no horns nor hoofs, nor cutting teeth in the under jaw, yet they belong to the ruminating tribes, and have several stomachs. Hence the quality of their food may be compensated by the quantity they take at a time. What is still more singular, instead of very long intestines, like other ruminating animals, their guts are very short and small, like those of the carnivorous kind. This contrast exhibits the ambiguity of Nature. The sloths are unquestionably ruminating animals: They have four stomachs; and yet they want every other character, both internal and external, which generally belongs to animals of this class. There is still another singularity in the conformation of the sloths: Instead of three distinct apertures for the discharge of urine and excrements, and for the purposes of generation, these animals have but one, which terminates in a common canal, as in birds.

Moreover, if the misery resulting from a defect of sentiment be not the worst of all, the pain endured by the sloths, though very apparent, seems not to be real; for their sensations appear to be blunt. Their calamitous air, their dull aspect, and their reception of blows without emotion, announce their extreme insensibility. This bluntness of sensation is farther demonstrated, by their not dying instantly when their

their hearts and bowels are entirely cut out. Piso, who made this cruel experiment*, tells us, that the heart, after being separated from the body, beat in a lively manner for half an hour; and that the animal continued to contract its legs slowly, as commonly happens during sleep. From these facts, this quadruped seems to approach not only the turtle, but the other reptiles which have no distinct centre of sensation. All these beings may be said to be miserable, but not unhappy: Nature, even in her most neglected productions, always appears more in the character of a parent than of a stepmother.

These two animals are peculiar to the southern regions of the New Continent, and are no where to be found in the Old. We formerly remarked, that the editor of Seba's cabinet was deceived when he calls the two-toed sloth, or unau, the *sloth of Ceylon*. This error, which has been

* *Socii semellam vivam. . . . habentem in se scutum emittens modis perfectum cum pilis, unguibus, et dentibus, amoloni more exterorum animalium inclusum. Cor motum suum validissime retinebat postquam exemptum erat e corpore per semelhoram; placenta uterina consistebat multis particulis carnis instar substantie ressum, rubicundis magnitudinis varis, instar fabarum; in illis autem particulas carneas (tenuibus membranis connexas) per multos ramulos vasa umbilicalia instar funis compta, inserta erant. Cor semella duas habebat insignes auriculas cavae. Exempto corde ceterisque visceribus, multo post se movebat, et pedes laze contrahebat sicut dormitorius solet. Mamillas duas cum toiden papillis in pectore semella et scetus gerebant; Piso. Hist. Bras. p. 322.*

adopted

adopted by Klein, Linnæus, and Brisson, is now more evident than it was formerly. The Marquis de Montmirail has a live unau, which was transmitted to him from Surinam: Those we have in the Royal Cabinet were brought from the same place and from Guiana; and I am persuaded that both species exist through the whole deserts of America, from Brasil to Mexico. But, as they have never frequented the northern regions, they could not pass from the one Continent to the other. If these animals have sometimes been seen in the East Indies, or on the coast of Africa, it is certain that they must have been transported thither. They cannot endure cold; and they likewise dread rain. The alteration of moisture and dryness changes their fur, which has more the appearance of ill dressed hemp than of wool or hair.

I shall finish this article with some observations communicated to me by the Marquis de Montmirail, concerning an unau, or two-toed sloth, which he fed three years in his menagery: 'The hair of the unau is much softer than that of the ai. . . . All that has been said by travellers concerning the excessive slowness of the sloths should, probably, be applied only to the ai, or three-toed species. The unau, though very heavy, and of an extremely awkward gait,

* The ai, or three-toed sloth, described and engraven by Edwards, came from the Bay of Honduras; and Ulloa says, that it is found in the environs of Porto-Bello.

' mounted and descended the highest tree several
 ' times in a day. It is in the evening and dur-
 ' ing the night that he was most active, which
 ' made me suspect that he saw very ill in the day,
 ' and that his eyes were of no use to him but in
 ' the dark. I purchased this animal at Amster-
 ' dam. It was fed with sea biscuit; and I was
 ' told, that, during the verdure of the trees, it
 ' would require nothing but leaves. We gave
 ' him leaves, which he eat freely, when they were
 ' tender; but, as soon as they began to dry, or
 ' were pierced by caterpillars, he refused them.
 ' During the three years that I kept him alive in
 ' my menagery, his ordinary food was bread,
 ' apples, and roots; and his drink was milk.
 ' He always laid hold, though with difficulty, of
 ' what he wanted to eat, with his fore paws;
 ' and the difficulty increased in proportion to the
 ' largeness of the morsel. He seldom cried;
 ' his cry is short, and he never repeats it twice,
 ' without a considerable interval. This cry,
 ' though plaintive, has no resemblance to that of
 ' the ai, if it be true that ai is the sound of that
 ' animal's voice. The most natural situation of
 ' the unau, and which he prefers to all others,
 ' is hanging on a branch, with his body turned
 ' downward. He sometimes sleeps in this po-
 ' sition, his fore paws being fixed to the same
 ' point, and his body forming an arch. The
 ' strength of his muscles is incredible; but it be-
 ' comes useless to him when he walks; for his
 ' motion

' motion is constrained and wavering. This
 ' structure alone seems to be the cause of the
 ' animal's slowness, which, besides, has no violent
 ' appetites, and does not recognise those who
 ' take care of him.'

S U P P L E M E N T.

M. De la Borde remarks, that there are two
 species of these animals in Cayenne, the one
 called the *bashful-sloth*, and the other the *sweep-*
sloth. The latter is twice as long as the former,
 and of the same thicknes. He has long, bushy,
 whitish hair, and weighs about twenty-five
 pounds. He throws himself down upon men
 from the tops of trees, but in a manner so slug-
 gish, that it is easy to avoid him. He feeds
 during the day as well as the night.

' The bashful sloth,' M. de la Borde remarks,
 ' has black spots on his body, weighs twelve
 ' pounds, keeps always on trees, and eats the
 ' leaves of the Surinam fig-tree, which are said
 ' to be poisonous. The bowels of this sloth
 ' poison dogs, and yet the flesh is good to
 ' eat; but its use is confined to the common
 ' people.

' Both species produce only a single young,
 ' which they always carry on their back. It is
 ' probable,

probable, though I am not certain, that the females bring forth on trees. They feed on the leaves of the Brazilian plumb-tree*, and of the Surinam fig. The two species are equally common; but they are not frequent in the environs of Cayenne. They sometimes suspend themselves by their claws on branches of trees which hang over the rivers; and, when in this situation, it is easy to cut the branch and make them fall into the water; for they never quit their hold.

When ascending a tree, this animal carelessly stretches out one of its fore paws, and fixes its long claw as high as it can reach. It then heavily raises its body, gradually fixes the other paw, and, in this manner, continues to climb. All these movements are incredibly slow and languid. When kept in houses, they always climb upon some post or door, and never choose to rest on the ground. If a stick is held out to them when on the ground, they lay hold of it, and mount to its top, where they firmly adhere with their fore paws, and embrace the stick with their whole body. They have a weak plaintive cry, which is heard at no great distance.

From this passage, it is obvious, that the sheep-sloth is the same with what we have called *unan*, or the three-toed sloth; and that the bathful-sloth is the *ai*, or two-toed species.

* *Spondias lutes* of *Linnaeus*.

Plate CCXY.



A. Bell's design.
Two-toed SLOTH.

Plate CCXVI.



A. Bell's design.
YOUNG three-toed SLOTHS.

PLATE CCXVII



ADULT Sloth with T. 1861.

Plate CCXVII



ADULT three-toed SLOTH.

M. Vosmaër, an able naturalist, and superintendant of the Prince of Orange's cabinet, has criticised two assertions in my history of these animals. He remarks, 'that we ought to reject the relation of M. de Buffon, when he tells us, that the sloths are unable to descend from a tree, but allow themselves to fall down like blocks *.'

I advanced this fact on the authority of eye-witnesses, who assured me, that they had sometimes seen the animal fall down at their feet. The fact is farther supported by the testimony of M. de la Borde. What I have said on this subject, therefore, ought by no means to be rejected.

The second assertion is not equally well founded. I willingly acknowledge my mistake, when I said that the sloths had no teeth, and I thank M. Vosmaër for correcting this error.

* Descript. d'un Paresseux Pentedactyle de Bengale, p. 5.