

## The LAMA\* and the PACOS†.

IN all languages, two names are frequently bestowed on the same animal, one of which relates to its state of liberty, and the other to its domestic

\* The lama, or camel of Chili and Peru, has an almost even back, small head, fine black eyes, and very long neck, bending much, and very protuberant near the junction with the body. In a tame state, it has smooth short hair; in a wild state, long coarse hair, which is white, gray, and russet, disposed in spots. According to Hernandez, it is yellowish, with a black line from the head along the top of the back to the tail; and the belly is white. The spotted may possibly be the tame; the last the wild lamas. The tail is short; the height is from four to four and a half feet; and the length, from the neck to the tail, six feet. In general, the shape exactly resembles that of the camel, only it wants the dorsal hump; *Pennant's Synops. of Quad.* p. 64.

Lama, llama, glama, huacatu, guanaco, cecura de tierra, guanaco, cotacunga, pelus icbinal equiti, kueque chililhuague, names given to this animal by the Spaniards, and the natives of Chili and Peru.

Ovis Peruana; *Hernand. Mex. p. 660. Merg. Brisson. p. 243.* Huacatu-lama; *de Laiti, p. 328.*

Ovis Indica; *Gervais, Quad. p. 149.*

Llama; *Churub. Collect. p. 44. Guanaco; ibid. Cienca's Travels, p. 232. Frezier's Voyages, p. 154. Faillies, Obs. Peru, p. 23. Ussher's Voy. vol. 1. p. 478. Wood's Voyages, in Dampier, vol. iv. p. 95.*

Camelus glama, corpore levi, topho pectorali; *Lyons. Syst. Nat. p. 91.*

Camelus Peruvianus, glama dictus; *Raii Synops. Quad. p. 145.*

Camelus pilis brevissimis vestitus; *camelus Peruanus; le chameau de Perou; Brisson, Quad. p. 34.*

Camelus spuris; *Klein, Quad. p. 42.*

† The body of the pacos is covered with long and very fine wool, of the colour of dried roses, or a dull purple. The belly

domestic state. The wild boar and hog are the same animal, and these two names have no relation to any difference in the nature of the creatures, but to the condition of the species, one part of which is under the dominion of man, and the other independent. The same remark applies to the lamas and pacos, which were the only domestic animals\* of the ancient Americans: These names were appropriated to the animals in their domestic condition. The wild lama was called *huanacus* or *guanaco*, and the wild pacos, *vicuna*, or *vigogne*. I thought this remark necessary to prevent confusion. These

belly is white: In a tame state, the colour varies. It is shaped like the former, but much less. The leg of one I saw was about the size of that of the buck; Pennant's *Synops. of Zood.* p. 66.

Pacos; Hernandez, p. 663.

Paco, vicuna; De Lait, p. 328. Circa, p. 233.

Ovis Chilenus; Marcgrave, p. 244. Wood's *Voyage, Descrip.* vol. iv. p. 95. Narborough's *Voyage*, p. 32.

Alpague, vicuna; Frezier's *Voyage*, p. 153. Ullao's *Voyage*, vol. i. p. 479.

Camelus seu camelo congener Peruvianum lanigerum, Pacu dictum; Rait *Synops. Zood.* p. 147.

Camelus laniger; Klein. *Zood.* p. 42.

Camelus piliis prolixis toto corpore vestitus; Le Figueur & Briffon, *Zood.* p. 35.

Camelus pacos, tophis nullis, corpore lanato; Linn. *Syst. Nat.* p. 91.

\* Before the arrival of the Spaniards, the Indians of Peru had no domestic animals but the pacos and the huanacus; *Hist. des Indes*, p. 265.

animals

animals are peculiar to the New World: They even love particular lands, beyond which they are never found. They appear to be confined to that chain of mountains which extends from New Spain to Terra Magellanica. They inhabit the most elevated regions of this globe, and seem to require a lighter air than that of our highest mountains.

It is singular, that, though the lama and pacos are domestic in Peru, Mexico, and Chili, as the horse is in Europe, or the camel in Arabia, we have hardly any knowledge of them; and that, though the Spaniards have had the dominion of these vast countries for more than two centuries, none of their authors have given a complete history and exact description of these animals. It is alledged, indeed, that they cannot be transported into Europe, nor even descend from their mountains, without perishing in a short time. But, in Quito, Lima, and other towns, where men of letters reside, these animals might be drawn, described, and dissected. Herrera\* says very little concerning them; and Garcilasso† only

\* In the mountains of Peru there is a species of camel, the wool of which is manufactured into cloth; *Description des Indes Occidentales*, par Herrera, p. 244.

† P. Blas Valleria remarks, that the cattle of Peru are so mild that children use them as they please. There is a larger and a smaller kind. The tamed huanacus (lamas) are of different colours, and the wild kind are all of a bay brown. These animals are about the height of a stag, and resemble the camel, only they want the hump, and their neck is long and

only copies what had been mentioned by other writers. Acosta and Gregoire de Bolivar have collected the greatest number of facts regarding the natural dispositions of the lamas, and the utility derived from them. But we know nothing of their internal structure, and of their time of gestation: We know not whether the lama and pacos be two distinct species; or whether they intermix together. These, and many other facts necessary to complete their history, are still objects of inquiry.

Though they are said to perish when removed from their native country, it is certain, that, after the conquest of Peru, some lamas were transported to Europe. The animal mentioned by Gesner, under the name of *Allocamelus*, and of which he gives a figure, is a lama, that was brought alive from Peru to Holland in the year 1558\*. It is the same with that mentioned by

Matthi-

and smooth.... The cattle called *paco lamas* (*pacos*) are not nearly so much esteemed.... The pacos are smaller than the lamas, and resemble the wild vicunas. They are very delicate and slender; and their wool, though the quantity of it be small, is extremely fine. Acosta remarks, that this animal, as well as several others, is variously employed as a medicine by the natives; *Hist. dei Incas*, tom. ii. p. 260.

\* *Allocamelus* Scaligeri apparet esse hoc ipsum animal cuius figuram proponimus ex charta quadam typis impressa nuntiata cum hac descriptione. Anno Domini 1558, Junii die 19. animal hoc mirabile Mittelburgum Selandiæ advectum est, antea a Principibus Germaniæ nunquam visum, nec a Plinio aut antiquis aliis scriptoribus commemoratum. Ovem Iodicam esse dicebant e Piro (*forte Peru*) regione, sexies mille milliariis

Matthiolus\*, under the denomination of *Elaphocamelus*, and which he has pretty accurately described. The pacos, and perhaps also the lama, have several times been brought to Spain, with a view to naturalize them†. We ought, therefore, to be better informed concerning these animals, which might be rendered extremely useful to us; for, it is probable, that they would

milliariis fere Antverpio distante. Altitudo ejus erat pedum sex, longitudo quinque; collum cigneo colore candidissimum. Corpus (*religiosa*) rufum vel panicum. Pedes cœu struthocamelis, cujus instar urinam quoque retro reddit hoc animal (erat autem mas annorum ætatis quatuor); *Gesner. Hist. Quad. p. 149. et 150.*

\* Longitudo totius corporis a cervice ad caudam 6 pedum erat; altitudo a dorso ad pedis plantam 4 tantum. Capite, collo, ore, superioris præsertim labii scissura ac genitali, camelam fere refert; at caput oblongius est; aures habet cervinas, oculos bubulos, quin etiam ut ille anterioribus dentibus in superiore maxilla caret, sed molares utriusque habet; ruminat, dorso est sensim prominente, scapulis prope collum depressis, lateribus tumidis, ventre lato, clunibus altioribus, et cauda brevi spatulam fere longitudine; quibus omnibus cervum fere refert, quemadmodum etiam cruribus præsertim posterioribus; pedes illi bifidi sunt, diducta anteriori parte divisa. Ungues habet acuminatos qui cæcis pedis abutunt in cutem crassam abeunt, nam pedis planta, non ungue sed cute, ut in multis indis et ipso camelo, conterritur; retrotingit hoc animal ut camelus, et testes substrictos habet; pectore est amplo, sub quo, ubi thorax ventri connectitur, extuberat globus ut in camelo, vomice similis, e quo nescio quid excrementi sensim manare videtur; *P. Acad. Matthioli, Epist. lib. v.*

† The king of Spain ordered pacos to be brought to Spain, in order to propagate and naturalize them. But they were all killed by the climate; *Hist. dei Avenar. Flibeg. par Oxeana*. tom. ii. p. 367.

thrive

thrive on our Alps\* and Pyrennees, as well as on the Cordelieres.

Peru, according to Gregoire de Bolivar, is the native country of the lamas: They have, indeed, been brought into other provinces, as New Spain, where, however, they are regarded more as objects of curiosity than of utility. But, through the whole extent of Peru, from Potosi to Caracas, these animals are extremely numerous. They constitute the sole wealth of the Indians, and contribute not a little to that of the Spaniards. The flesh of the lamas is good eating; their wool is excellent; and their whole lives are spent in transporting the commodities of the country. Their common load is a hundred and fifty pounds, and the strongest of them carry two hundred. They travel pretty long journeys in a country impassable to all other animals. They march slowly, and seldom accomplish more than four or five leagues a day. Their gait is grave and firm. They descend precipitous ravins, and climb steep rocks, where even man himself dares not accompany them. They walk commonly four or five days on end, after which they wish to repose; and they spontaneously rest twenty-four or thirty hours before they resume their march. They are much employed in transporting the rich ores dug out of the mines of Potosi. Bolivar remarks, that, in his time, three hundred

\* No animal walks so securely upon rocks as the lama; because he adheres by means of a kind of spur on his feet; *Voyage de Cordes*, tom. i. p. 352.

thousand

thousand of these animals were constantly occupied in this work.

Their growth is quick, and their life is not of long duration. At the age of three years, they are in a condition of producing, continue in full vigour till twelve, when they begin to decay; and, at fifteen, they are entirely useless. Their natural disposition seems to be modelled upon that of the Americans. They are mild and phlegmatic, and perform every thing by weight and measure. When they incline to rest a few minutes in their journey, they bend their knees, and lower their bodies with the greatest precaution, to prevent their load from falling, or being deranged; and, whenever they hear their conductor's whistle, they rise with the same precaution, and proceed on their journey. In going along, they browse wherever they find herbage; but they never eat in the night, even though they have been sparingly fed during the day; for this time is spent in chewing their cud. When they sleep or ruminate, they rest on their breast, with their legs folded under their belly. When fatigued with travelling, if they once sink down under the load, no blows can force them to rise. The last resource is to squeeze their testicles; but even that is often ineffectual. They remain obstinately where they lie; and, if their master continues to abuse them, they despair and kill themselves, by alternately striking their heads from right to left upon the ground. They neither defend

send themselves with their feet nor their teeth, and they may be said to have no other arms but those of indignation. They spit in the face of those who insult them; and, it is alleged, that the saliva which they throw out when enraged, is so acrid as to raise blisters on the skin.

The lama is about four feet high, and his body, including the neck and head, is five or six feet in length. This animal has a well shaped head, large eyes, a pretty long muzzle, and thick lips, the superior one being divided, and the inferior somewhat pendulous. He has neither cutting nor canine teeth in the upper jaw. His ears are four inches long, which he carries forward, erect, and moves at pleasure. The length of his tail, which is straight, slender, and a little raised, exceeds not eight inches. His feet are cloven, like those of the ox; but they are armed behind with a spur, which assists the animal in supporting itself upon rugged and difficult ground. The wool upon his back, crupper, and tail, is short, but very long upon the flank and belly. The lamas vary in colour; some of them are white, others black, and others of a mixed colour\*. Their dung resembles that of the goat.

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\* The head of the lama is proportionally small, and has some resemblance to that of the goat and sheep. The upper lip is divided like that of the hare: Through this aperture they spit, to the distance of ten paces, upon those who disturb them; and, if the saliva falls upon the face, it inflames or blisters the skin. They have a long neck, which bends downward where it springs

from

The penis of the male is slender and crooked in such a manner that he discharges his urine backward. The lamas are extremely lascivious\*, and yet they copulate with much difficulty. The aperture of the female is very small. She prostrates herself to receive the male, and invites him with her sighs. But several hours, and sometimes a whole day passes, before they can accomplish their purpose: All this time is spent in groaning, grumbling, and particularly in conspurcating each other: As these tedious preludes

from the body, like that of the camel, to which they would have a considerable resemblance, if they had a bunch on the back. Their height is about four feet and a half. They walk with their head erect, and with a pace so uniform, that even blows are incapable of making them move more quickly. They will not carry their loads during the night; but are obliged to be unloaded, in order to allow them to pasture. They eat little, and are never furnished with drink. Like the sheep, they have cloven feet, and a spur above, which renders them sure-footed among the rocks. Their wool has a strong odour: It is long, spotted with white, gray, and red, and equally beautiful, though of an inferior quality, with that of the pacos; *Voyage de Frezier*, p. 138.

\* Salacissimum hoc esse animal id mihi conjecturam facit, quod cum sui generis femellis sit destitutum, magna cum pruriginis capris se commisceat, non tamen erectis ut alias caprae hircos ascendente solent, sed humi ventre accubantibus, ita cogente animali anterioribus cruribus. Inque super ascendens coit, non autem averis clunibus. Adeo venere, vernali autumnalique tempore, simulatur hoc animal ut illud viderim humile quoddam presepium avena refertum conscendisse, genitalque illi magno cum marmure tandem conficasse, quo usque semen redderet, plurimis una hora replicatis vicibus. Non tamen concepere capras hujusce animalis femine refertur; *Martiod. Epist. lib. v.*



are more fatiguing than the operation itself, their keeper abridges their labour, and aids their arrangement with his hand. They seldom produce more than one at a time. The mother has only two teats, and the young one follows her the moment after it is brought forth. The flesh of the young ones is very good; but, when old, it is dry and hard. The flesh of the domestic is better than that of the wild lamas, and their wool is likewise much softer. Their skin is very compact: The Indians make shoes of it, and the Spaniards use it for harnesses. The food of these animals, which are so useful in the country that produces them, costs almost nothing. As they are cloven-footed, they require no shoes; and the thick wool with which they are covered, renders saddles unnecessary. They have no need of corn or hay; green herbage, of which they take but small quantities\*, being sufficient

\* The skin of the huancus is hard: The Indians soften it with grease, and use it for soles to their shoes. But as this leather is not carried, it is soon wasted by the rain: The Spaniards make fine harnesses to their horses of the lama's hide: They employ these animals, as the Indians do, in transporting their merchandise. Their common route is from Cozer to Potosí, which is about two hundred leagues, and their daily journey seldom exceeds three leagues; for they walk slowly, and, if pushed beyond their ordinary pace, they lie down, and it is impossible to raise them, even when the load is taken off their backs; so that they often die on the spot. . . . . When transporting goods, they go in troops, and forty or fifty of them are always left unloaded, in order instantly to relieve those which begin to be fatigued. The flesh of this animal

sufficient for their nourishment. In drinking, they are still more moderate. They quench their thirst with their saliva, which, in this animal, is more abundant than in any other.

The huancus, or lamas in a state of nature, are stronger, more active, and nimbler than the domestic kind. They run like the stag, and, like the wild goat, they climb the steepest rocks. Though in full possession of liberty, they assemble in flocks, sometimes to the number of two or three hundred. When they perceive any person, they look at him with astonishment, discovering neither fear nor pleasure: They then blow through their nostrils, neigh nearly like a horse, and fly off together to the tops of the mountains. They prefer the north side and the cold regions of the hills. They often climb and

is excellent: for it is both well tasted and wholesome, especially that of the young ones, which exceed not four or five months old. . . . . Though these animals are very numerous, their food costs almost nothing: for, after their journey, they are unloaded, and allowed to pasture in the fields. It is unnecessary to shoe or saddle them; for they are cloven footed; and their wool prevents them from being incommoded by their load, which their masters take care not to place on their backbone, otherwise it would kill them. . . . . The conductors of these animals never enter the towns, but sleep in tents, that their cattle may have an opportunity of pasturing during the night. They take four months in performing a journey from Cozer to Potosí, two in going, and as much in returning. . . . . At Cozer, the best lamas sell at eighteen ducats a piece, and the common sort at twelve or thirteen. The flesh of the wild huancus is good, but inferior to that of the domestic kind; *Hist. des Indes, tom. II. p. 260.*

sojourn above the line of the snow. When travelling on ice and covered with hoar-frost, they are in better plight than in a temperate climate. In the Sierras, which are the most elevated parts of the Cordelieres, they are much more numerous, and have more strength and vigour than in the Lanos, which are lower. These wild lamas are hunted for the sake of their fleeces. It is difficult for the dogs to follow them; and, if allowed time to gain the rocks, both the hunters and dogs are obliged to abandon them. They seem to be as much afraid of the weight of the air as of heat; for they are never found in low lands: And, as the chain of the Cordelieres, which is more than three thousand fathoms above the level of the sea at Peru, preserves nearly the same elevation from Chili to the Straits of Magellan, the huanacus or wild lamas are very numerous throughout all that extent\*. But, on the coast of New Spain, where these mountains sink considerably lower, no lamas are to be found,

\* In the neighbourhood of Port Desire, at some distance from the Straits of Magellan, we found a number of these wild sheep which the Spaniards call *Winaques*. . . . . Though very alert and timid, we killed seven of them during our stay; and their wool seems to be much finer than that of any other animal. . . . . They go in flocks of five or seven hundred; and, as soon as they perceive any person, they snort with their noses, and neigh like horses; *Wood's Voyage, in Dampier, vol. iv. p. 95.*—We saw, at Tucuman, a province adjacent to Peru, large sheep, which were used as beasts of burden, and whose wool was as fine as silk; *Travels of Wendi Rogers, tom. ii. p. 65.*

except

except the domestic kind which are brought thither.

The pacos are a species which may supply that of the lamas, as the afs might supply the place of the horse. They are smaller, and less proper for labour; but their fleeces are more useful. The long wool with which they are covered, is an article of luxury, as good and as precious as silk. The pacos, which are also called *alpaques*, when in a domestic state, are often totally black, and sometimes of a brown colour mixed with yellow. The wild pacos have the colour of dried roses; and this natural colour is so fixed, that it suffers no change from the hand of the workman. Their wool makes excellent gloves, stockings, bed-clothes, and carpets. This commodity alone constitutes a valuable branch of commerce to the Spaniards. The beaver of Canada, the Calmuck sheep, and the Syrian goat, furnish not a finer hair: That of the pacos is as dear as silk. This animal possesses many things in common with the lama. It belongs exclusively to the same country; for it exists no where but on the Cordelieres. It has likewise the same dispositions, and nearly the same manners and temperament. As its wool, however, is longer and more bushy, it seems to be still less afraid of cold. It dwells more freely among the snows and ice of cold

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countries, and is extremely numerous in Terra Magellanica \*.

The pacos also resemble the lama in figure; but they are smaller, their legs are shorter, and their muzzle is more contracted. Their wool is of the colour of dried roses. They have no horns. They live and pasture on the most elevated parts of the mountains. Snow and ice seem rather to refresh than incommode them. They go in flocks, and run nimbly. They are very timid; and when they perceive any person, they fly off, driving their young before them. The hunting of the pacos was rigorously prohibited by the ancient kings of Peru, because these animals do not multiply fast. At present, they are much less numerous than at the time the Spaniards first took possession of that country. Their flesh is not so good as that of the huanacus; and they are sought after solely for the sake of their wool, and the bezoars which they produce. The manner of taking them shows their timidity, or perhaps their weakness. Several people assemble to chase these animals in some narrow defile, across which cords are stretched to the height of three or four feet, with

\* On the east coast of Patagonia, near the river Plata, the vigognes are very numerous. But these animals are so timid and fleet, that it is very difficult to seize them; *Asiatick Voyages*. — The most common quadrupeds in Port St. Julian, in Terra Magellanica, are the guanacos; *Hist. du Paraguay, par Charlevoix, tom. vi. p. 207.*

pieces of linen or woollen cloth fixed upon them. When the pacos arrive, the motion of the pieces of cloth, produced by the wind, so terrifies them, that they dare not pass, but collect in large groups, which makes it an easy business to kill vast numbers of them. But, if there happen to be any huanacus in the flock, as they are taller and less timid than the pacos, they spring over the cords; and, when the example is once set, the pacos likewise leap and escape from the hunter \*.

With regard to the domestic pacos, they are employed, like the lamas, in carrying burdens; but they cannot bear as much weight even in proportion to their size. They are still more subject to capricious obstinacy. When once they lie down with their load, rather than rise, they will suffer themselves to be cut in pieces. The Indians make no use of the milk of these animals; because they never yield more than is necessary to suckle their young. The great profits derived from their wool induced the Spaniards to endeavour to naturalize the pacos in Europe. They were transported into Spain; but the climate destroyed them †. I am persuaded, however, as I formerly remarked, that these animals might succeed in our mountains, and particularly in the Pyrenees. Those who brought

\* *Voyage de Frezier, p. 138.*

† *Hist. des Aventures des Filibustiers, p. 367.*



them to Spain did not consider, that, even in Peru, they subsist only in the cold region, or upon the tops of the highest mountains; that they are never found in low lands; that they die in warm countries; that, on the contrary, they are at present very numerous in the neighbourhood of the Straits of Magellan, where the cold is much more intense than in the south of Europe; and, consequently, that, in order to preserve them, they should be landed, not in Spain, but in Scotland, or even in Norway. The foot of the Pyrennees, Alps, &c. would probably answer the intention still better, where they could climb to the region which was most agreeable to their constitution. I have dwelt the longer on this subject, because I imagine that these animals would be a great acquisition to Europe, and would be productive of more real advantage than all the metals of the New World, which only load us with an useless weight\*, since a grain of gold or silver was formerly equal in value to what now costs us an ounce of these metals.

Animals which feed upon herbs and inhabit the high mountains of Asia and Africa, produce what are called the *oriental bezoars*, the virtues of which are so much extolled. Those of the Euro-

\* What advantage have we derived from the rich mines of Peru? To procure these metals, millions of men have perished in the bowels of the earth, and their blood and labours have answered no other purpose, than to load us with an unnecessary weight.

pean mountains, where the qualities of the plants are more temperate, produce only useless balls called *agagropili*; and, in South America, all the animals that inhabit the mountains of the Torrid Zone, furnish what are denominated *occidental bezoars*, which are still more solid, and have, perhaps, higher virtues than the *oriental*. The *vigogne*, or wild pacos, produces a great number, as well as the huanacus. These stones are likewise produced by the stags and roebucks on the mountains of New Spain. The lamas and pacos produce no fine bezoars, unless when in their natural wild state. The domestic kind afford only small, black bezoars, without any virtue. The best stones are of a dark green colour, and generally proceed from the wild pacos, particularly those which inhabit the highest parts of the mountains, and commonly pasture among the snows. Of these mountain pacos, both the males and females produce bezoars. They hold the first rank after the oriental bezoars, and are in much higher estimation than those of New Spain, which proceed from stags, and are less efficacious than any of the other kinds.