

Observations on the Seal-Fishery of the Colony, and some of the Physiological Peculiarities of Seals, with Remarks on Dyer's Islands, &c. By Mr. A. JOHNSTONE JARDINE, Member of the South African Institution.

[Read at the South African Institution.]

THE shipping reports of the colony frequently advert to the arrival of vessels on sealing expeditions. Such in general refer to *foreigners*, whose activity on these shores naturally affects the domestic trade of the colony, or tends altogether to destroy that portion of it under review. That the productiveness of the seal-skin trade is considerably diminished, through apparent inattention is obvious. Formerly every island-rock east and west of Table Bay, swarmed with seals. The stock was kept up, because the nurseries were preserved, and the jubilee seasons strictly observed. The presence of the American vessels has contributed most powerfully to lessen the colonial trade in seal-skins, and, except in the instance of Dyer's Islands, (important from their contiguity to Cape Town), there appears to be no remaining spot secured to the Cape interest.

Of the value of the seal-trade, the following notice of recent occurrence may suffice. In the month of April, of the present year, three American vessels were busily employed in sealing off these coasts. Respecting the success of two of the vessels, nothing is decidedly known, but the one which anchored, and was visited by the Port Officer, had on board from 3 to 4,000 seal skins.* Now these may be valued at four Spanish dollars each in America, (Rds. 10:4,) which, taking the number at 4,000, gives Rds. 42,000, or £3,150.

In the event of a free trade with China, the beneficial results which shall accrue to the colony, by the accession of shipping to our ports, can scarcely be doubted. Now, the seal skin is an object of interesting purchase and enviable barter with the Chinese, hence the Americans, on this account, maintain a preference in the *tea-market*. The subject is one of no inferior moment to the Cape merchant, and points out the objects of profitable interchange within his immediate reach.

By way of exciting a degree of attention to some of the singular properties of the seal, the following notices are submitted to the attention of the South African Institution. They are not intended to supply that information which the scientific Na-

turalist has been long demanding, but simply refer to some of the peculiar habits of the seals, as observed by the writer, in one of their locations off L'Agullas: 1806.

A visit to this extreme point of the continent of Southern Africa, at no distant period, brought me in contact with a party of sealers at the mouth of the *Uile Kraal* river, then on the point of visiting Dyer's islands, on a sealing speculation. The desire to be better acquainted with the nature of their occupations, led me to witness the scene of their labours, and to take a share in their pursuits. Several hours hard pull brought us, late in the evening, on Dyer's first island. This is the abode of the sealers during the seasons of their periodical visits. The landing place is carved out of the broken rock, and is so intricate, that Suspicion herself would seem to have designed the plan. The island is elevated about 10 feet above the level of the sea, forms in extent, half a mile of level ground without vegetative life, and in shape resembles that of a coffin.* The west end of the island is left as a reserve for such seals as escape during the killing of the species on Dyer's second, or, as the sailors term it, Dyer's *little island*. The latter is the grand rendezvous of the seals, and is very nearly composed of broken columns of quartz, rising from 10 to 15 feet above the level of the sea, and may be about two acres in extent. These particulars are introduced before the Institution, because neither of the islands is laid down in any of the existing charts. It is impossible to account for the omission, considering the dangerous nature of the coast, and the frequent wrecks, the relics of which are strewn in every direction.

On the morning following our arrival, we mustered twelve in number, and by sun-rise proceeded in two boats, to commence operations on the little island. Our course was through immense forests of *sea-bamboo* (*Fucus buccinalis*), which having terminated at the expiration of half an hour, we came to

* In 1806, guns of distress were heard by *Sampson Dyer*, then residing in his hut on the shore directly opposite the islands, which bear his name. The signals were repeated during the whole of the night. The weather was calm, but the night intensely dark, and the breakers unusually terrific. In the morning, a large Indiaman was discovered, which had missed her course, and had got entangled among the hidden rocks between the islands and the main land. At a great personal risk, Dyer pushed off in his small boat, and boarded the stranger. The captain was bewildered, and his men in dreadful anxiety. After some considerable suspense, Dyer said to the Captain, "Have you faith to put the ship exclusively under my care?" "I have," said the commander. "Well then," replied the black man, Dyer, "with God's blessing, all will be well."—Dyer succeeded in delivering the ship, richly laden from the east. He was rewarded, by the presentation of one guinea! Those who know the dangers of this part of the coast, and are acquainted with the fact as many are,—always speak of the ship's deliverance as a modern miracle.

an open sea in boisterous commotion, and soon after gained the island.

Vast shoals of seals, of extraordinary magnitude, surrounded the boats, and, with uplifted heads, eyed us with intense interest. As they plunged away, a terrific snort was uttered. We landed with considerable difficulty, from the dangerous nature of the rocks, and the almost overwhelming fury of the sea-waves. The object at length accomplished, each one selected for himself a club, about 8 feet in length. As we gained an eminence in order to take observations, a novel scene presented itself. Every height and every hollow discovered waking and sleeping myriads of seals. The marine birds over-head darkened the sun, and by their clamorous din, out-matched the ocean's roar. Being the season of incubation, at the same time we were compelled to guard our heads from their repeated attacks. But those of the *penguin* tribe were most amusing. These social and gregarious birds were drawn up rank and file, and formed a complete cordon round the island. Numbers of the young ones were placed in front, and evinced striking symptoms of terror. These birds have a monstrous aversion to take the water in the *first* instance, and being placed on the verge of the precipices overhanging the sea, were trembling at the sight. It forms a part of penguin education, to adopt the coercive system, and often did we behold the young ones falling headlong into the sea, from the *push* of the parent bird. It is only the first *debut* that seems difficult to conquer. That point once obtained, they become as attached to the water as those of experienced habits.* Then, in various detachments, forming correct squares of close columns, stood that reverential looking body of birds, the *duyk*ers.

In making preparations for action, we were viewed by the seals without any appearance of terror. The eye of the seal is large, round, and parallel with the head, like that of the domestic cat, and appears, from the species we saw on this island, to be weak. Cuiver, however, considers the organ of vision connected with the *phoca* to be its best sense, and conjectures an opinion, judging solely by the external organ, that the

* When seen through a hazy atmosphere, the penguins may not be unaptly mistaken for a body of men; and it was this apprehension that drove off a body of sailors who, some years since, were endeavouring to land on Dyer's Island, from the wreck of a vessel. In pride, these birds are perhaps not surpassed even by the peacock. During the time of moulting, they seem to repel each other with disgust, on account of the ragged state of their coats; but as they arrive at a maximum of splendour, they re-assemble, and no one who has not completed his plumage, is allowed to enter the community. During the time of hatching the male is remarkably assiduous, so that when the hen has occasion to go off to feed and wash, the egg is transported to him.

animal would seem to derive no great advantage from the sense of smelling. Now, to us, the eye seemed remarkably defective, and it was not till we came in close contact with the seals that they comprehended the danger of their situation. Not that the eye was not fully extended,—but may not that thin transparent veil which covers the pupil, and which protects it when engaged at full stretch in an uncertain element, be the means of weakening the objects of vision when on land? Again, as to the ear, it has been observed by the same Naturalist, that the nostrils of the seal are habitually closed, and that the opening of them is attended with much effort. This may be correct as far as it regards the animal separated from land. When pursuing its prey in the midst of the waters, it is certain the nostrils, like the ears, must remain closed. When excluded from the external air, there would be no necessity that it should employ the organ of smelling; at the same time there appears considerable reason, in the adaptation of this discriminating sense, to the objects of *terra firma*. And the practical observations of the experienced sealers sufficiently determine the question. On the occasion under review, the men seemed under no apprehension as to the eye-sight of the seals. They expressed some considerable anxiety as to the *silence* which we should preserve; but, as it regards the sense of smelling, they manifested an anxiety of no ordinary kind. Their experience decided that the seal could determine the weakest odours, and they declared that had the wind blown otherwise than directly in our teeth, and consequently producing an oily effluvia from the bodies of the seals along with it, scarcely one of the species would have remained on the island.

But to the conflict.—A large group of the *Phocæ* had occupied the highest position in the island, and were completely surrounded. They were of a large description, and their necks displayed a profusion of shaggy ermine. Here we beheld a scene of intense interest. It would seem that we had hemmed in the very heads of government. Much distraction prevailed, and the noises were deafening. A kind of inter-nuncio was seen in various directions. His voice, address, and attitudes were commanding and influential. He preserved order, and procured a solemn silence. That some well arranged plan had been proposed and adopted, was apparent. The idea is not fanciful, nor is it of modern supposition. The high intellectual qualities of the seals were observed and appreciated by the ancients. Diodorus, Ælian, and Pliny speak

* Blumenbach states the following singular fact:—"In 1784, on dissecting the eye of a seal, I found a remarkable deposition through which the animal is enabled to elongate or shorten the axis of the organ at pleasure, and, by that means, to see equally well in two media."

of them at some length; and all Naturalists, since the happy resumption of Zoological studies in Europe, have related extraordinary proofs of them.

Our leader determined on attacking the position already noticed. There was a good deal of skirmishing in our route, and a slight disposition to dispute our progress. Our principal obstructions were the many thousand young seals and bird's eggs which occupied the path-ways. The former, without locomotion from their infant state, were, nevertheless, most annoying. From their viviparous peculiarities, including a mouthful of aculeated teeth, we were obliged to adopt much precautionary stepping in order to avoid a painful contact. The cry of the young seal is loud and piercing. It frequently resembles that of a young lamb, and oftener that of an infant child. When suddenly aroused from sleep the voice is sonorous, and the animal is in extreme agitation. They are covered with a thick, black, shining hair, and are by no means disagreeable to look at.

Having at length completely hemmed in the besieged, we commenced the attack on some few which had been placed as a sort of out-post. There was a general buzz among the main body. All became distraction. Their roar of terror was enough "to split the ears of the groundlings." A venerable looking male now exerted his voice to the utmost pitch of command. Having restored silence, he worked himself up to the height of impassioned eloquence. His attitudes corresponded with his language. Nor did he cease to address the assembly till he fell down with exhaustion. There was one general burst of apparent applause which followed, and this was succeeded by a general attempt to escape. All quarters were tried in which there was the least chance; but our centre was an object which they sought to force with great keenness. Here was the readiest outlet of escape; but here we had planted our chief strength. The conflict was now terrible. Every club was in action, and every blow proved fatal. Blood flowed in every direction; eyes flew from their sockets; and many of the poor creatures which had climbed the steeps, and whose carcasses were nearly as large as fatted oxen, rolled mortally wounded from precipice to precipice. As the strokes of the club continued to play, the sides of the rocks became dangerous from the blood which flowed, and thus prevented a safe footing. But in spite of this and many other obstacles, many of the seals made their escape in a manner surprisingly rapid, considering their apparent unfitness for the labour. Naturalists describe the movements of the seals as slow and painful. Cuiver also adds that the hind feet are of use only in swimming; and Buffon, that they are unable to climb rocks. Now, the instances which we witnessed on

Dyer's Island, were in all things the reverse. They crawl or jump away with great progress, and without any difficulty, on a pair of fore-fin-like feet, called by the sealers *flippers*. These are of singular conformation, composed of connecting webs which chiefly assist in swimming. But it is the tail to which it is principally indebted while on shore. The lobes of this, in some degree, answer the purpose of a pair of hind feet, and consist of strong muscles and tendons, without any internal joints or bones; and these afford an admirable propelling utility.

Many of the seals, on effecting an escape, turned about and discovered a disposition to retaliate. They grinned horribly, and shewed their teeth,—of a pointed, cutting character. As the fallen now formed a mighty heap, it was considered prudent to suspend the work of destruction, to examine the killed and wounded, and commence the operation of skinning. On a nearer approach, many which had been supposed dead, exhibited signs of motion. The seals cling to life with great pertinacity. In skinning, the sealers take only a portion, and it is chiefly the back part of the animal that is selected. While engaged in this work, it often occurred that when the skin was taken off the supposed corpse would rise up, and, with a tremendous bellow, pour out its last gasp. In one instance, a sealer had completely disrobed a mighty carcase, and with his long knife had presumed on a correct passage to the heart. Whilst contemplating the fine streaked appearance of the naked body, the animal suddenly started into active life, and tore the knife from the man's hand. Even detached pieces of flesh from various seals discovered a tenaciousness of the vivific principle in a high degree; and, however much these were multiplied, the galvanic influence was by no means abated*. The intestines of the *Phocæ* we invariably found empty—a small portion of gravel or sand

* May not this phenomena be accounted for on the principle that simple life survives sensation, in proportion to the destruction of the nervous system—when the death has been violent, and the head of the animal much beaten? Now, the head of the seal is the principle object of attack. That part of the body being highly susceptible of injury. It may be illustrated from the curious fact, that, when a fish, instantly after being taken out of the water, is killed by a violent blow on the head, by which the skull is fractured, the irritability and flexibility of the muscles are preserved much longer than they would have been if it had been allowed to die with the organ of sensation in an entire state. Salmon is one of the fishes the least tenacious of life; insonmuch that, after having been taken out of the water, it will cease, in less than half an hour, to manifest any signs of vitality, provided it be not exposed to any violence. But if, on the other hand, it receives, as soon as it is caught, a violent blow on the head, the muscles will continue for the space of 12 hours to exhibit visible signs of irritability. The fishermen of Solway Frith are so aware of this fact, that, in order to turn it to account, they take care to have recourse to the above practice with a view to render the fishes they catch susceptible, for a longer time, to the operation called *crimping*.

excepted. And if sagacity be said to exist in proportion to the size of the brain, the seal must possess a more than common share of understanding. And, during a twelve days' confinement on these islands, many occurrences took place which discovered much enlightened instinct.

Their attachment to their young is intense. The females evinced much distraction on this account, and copious were the tears they shed on beholding the destruction of their species. Many of these were so extremely beautiful, that it is no wonder that such served as a model upon which the imaginations of the poets framed their tritons, sirens, and sea-gods.

The amorous propensities of the seals cause much uproar and turmoil among their tribes. In the midst of death and destruction, they cling to their indulgencies with all that œstrum which characterizes the blind and incontrollable instinct.

Such, then, are the few scattered observations which I beg leave to submit to the consideration of the South African Institution. If it shall excite any of its scientific members to examine the subject with that minuteness which it deserves, the results must prove highly useful to the Naturalist. That the most distinguished of such, with all their vast opportunities of research, are confessedly in the dark in points connected with the present question, is acknowledged. The concluding paragraph is Cuvier's own words.

"In the clear definition of species, the great goal of Zoology, no branch of it is, perhaps, more imperfect than that of the seals; nor, when we consider the existing state of ignorance in relation to so many other mammalia, more in fact within our reach than these marine animals, can we be surprised that little should be known about them. Governments, societies, or individuals of wealth and power, may send out men of science to explore the most distant countries; and scientific zeal may stimulate others to investigate the wonders of nature in her most sequestered recesses; but we have not the means, except by deduction and analogy, of ascertaining the habits of these half amphibious animals, while procuring their sustenance at the bottom of the sea; nor have we often, or in an efficient manner, the opportunity of watching them in their favourite haunts, the isolated steril rock, or the most retired and deserted strand."

And again—

"Our knowledge of the differences of the modes of life of these animals, by no means accords with what we know of the differences of conformation; we cannot, therefore, but conclude that we have very much as yet to learn in regard to the manners and habits of the seals."