

at a great elevation, several started to obtain it, and he who succeeded evidently triumphed in his fortune. Neither was my presence necessary to excite them to this benevolent activity. Not being able, from the advance of the day, to reach the top of the mountain, I despatched several natives to collect specimens of rocks from it; and on their return, I was surprised to see them laden with pieces of rock, bundles of plants, and joints of bamboo full of water collected from hollows at the top of the mountain. This they seemed to consider as holy, advising me to wash myself with it as a security against danger. But I should exhaust the patience of my reader were I to mention but a small proportion of the numerous proofs I personally experienced of the innate principles of benevolence that enter into the moral character of the Javanese. Not only in the excursion of which I am now giving the narrative, but during the whole period of my first and second visit in Java, they repeatedly occurred to me. That their intellectual is equal to their moral excellence, may be inferred from the specimens of their poetry which have lately been given to the world.* Yet these are the people who have been pursued as beasts of prey, and of whom upwards of four hundred have been barbarously and uselessly slaughtered† since the island of Java has been given up by the English. Thank God, I did not hear that any of my countrymen had ever oppressed them, but often heard, and often saw, that the Javanese looked upon the English rather as benefactors than as masters, and it was notorious that the name of Raffles was almost idolized by them.

The natives whom I saw in the mountain had limbs of more elegant shape, and greater symmetry of form, than those of the plains; and also appeared more active in their habits.

* See the extensive and valuable work on Java, by Sir Thomas Raffles.

† See Quarterly Review for August, 1817. I may here remark, that I frequently heard of the massacre in Java, of which a statement is given in that publication, during my continuance on that island, and that its horrors have been rather extenuated than aggravated, by its narrator.

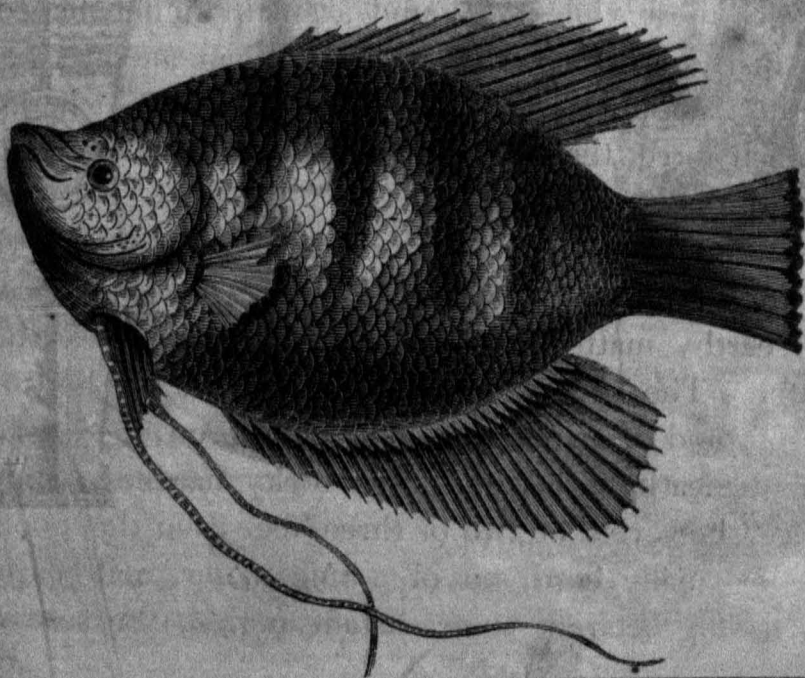
Having reached Plassur Pittee about 5 o'clock in the evening, we set off for Pandigalang, a village five miles to the east of the mountain; and at this place, which was formerly famed for the manufactory of bracelets, we passed the night.

On the following morning several natives brought different kinds of arms and ornaments for sale, in consequence of its having been given out by the Ingabi, the preceding evening, that I wished to purchase some. There was, however, an evident reluctance to dispose of them, and it was stated that those only parted from their weapons who were embarrassed by gaming. I learned from general testimony that the Javanese have a kind of superstitious attachment to their arms, especially when they have descended to them from their ancestors, or have been illustrated by use in war. Of those brought to me, the kriss was the most remarkable. It is a dagger worn by all classes of the natives of Java, and by the Malay tribes in its neighbourhood, having sometimes a crooked or curved blade, and a handle very beautifully carved. Its sheath is generally of wood or metal; frequently of gold. The gold thus used is of various degrees of purity, from an equal mixture of copper to a fineness which permits the most delicate assay; but it is generally very thin, being a mere covering to a case of wood. A variegated wood is also in great estimation for the manufacture of sheaths: it has a light ground, marked either with dark spots or veins. A knife of rather elegant form, and neatly ornamented with silver, was also brought for sale. The natives wear these arms in different parts of their dress, and they derive from them in the eyes of a stranger a formidable aspect: they place them generally in their girdles, either before or behind, and sometimes on one side. The kriss seems formed for a back stroke, and is easily concealed by turning it under the fore-arm. I made a drawing of these instruments; and specimens of those which I thought interesting from their form or workmanship, are shown in the annexed engraving.



Gold and silver ornaments are much worn by the Javanese women, and are very complicated in their pattern. I saw the commencement of the manufacture of one of these, a silver belt for the waist. The workman having beaten out the silver to the requisite dimensions, placed it in a bed of wax; he then, with a small hammer and chisel, began to trace the outline of the pattern by successive indentations; and in this simple but tedious manner the work was to be finished.

Before I left Pandigalang, my friends the mountaineers brought some splendid specimens of native sulphur, which they had collected from the bottom of the crater of Gunong Karang. With it they also brought me a specimen of the Goramy*, a fish found in many of the rivers of Java, and celebrated for its flavour. It is beautiful in its hues and singular in its form. The ground colour is orange, that of the back a dark bronze, which passes in undulating lines over its sides. Its form is a roundish oval, the head short, with a somewhat recurved snout; but the animal is particularly distinguished by the prolongation of its pectoral fins into thread-like processes, several inches in length. The native princes of Java keep these fish alive in large quantities in reservoirs near their dwellings. Its general characters are well marked in the annexed engraving.



* Probably the *Trichopus Goramy* of Shaw, who supposes it to have been introduced into the rivers of Java, from China. Zoology, Vol. IV. Part II.

We returned to Sirang on the evening of the 15th, and on the following morning made an excursion to a place called Epetan, about eighteen miles to the north of Sirang, to see some mineral springs. These springs are in the midst of a jungle on the right hand side of the road from Sirang to Batavia, and the country for many miles around is a perfect flat. On approaching them I smelt the sulphureous gas, which they throw out in immense quantities. They are situated on a piece of barren ground about fifty yards square, composed of a hard rock, which seemed to have been formed by deposition from the springs. In the midst of this space were several small pools of water in violent commotion. They so exactly exhibited the appearance of boiling, that I immersed my hand in them with considerable caution, and scarcely credited my feeling when I found them of the temperature of the surrounding atmosphere. The central pool was the largest, having an area of eight or ten feet. The water bubbled up from several parts of its surface. For the sake of ascertaining the cause of these phænomena, I walked in and discovered its greatest depth to be about three feet. Its bottom was formed of rock, broken into masses of different shapes. On searching immediately under the place where the agitation of the water was most violent I found a small funnel-shaped aperture, the lower part of which was not more than an inch in diameter. Through this, sulphuretted hydrogen rushed up in such quantity and with so much force, that I could with great difficulty keep my hand close to its orifice.

On examining the sensible properties of the water on the spot, I found it to be of a dirty white colour, containing a considerable portion of earthy matter in suspension. The smell was that of Harrogate-water. The soil on the margin, and at the bottom of these pools, is soft and of a yellowish grey colour on the surface; but a few inches beneath, it becomes of a rocky hardness, and red. At the distance, however, of two or three feet from the pools, the surface itself is equally hard, but of a blue colour, and bearing evident marks of having been at some distant period, the seat of agitated

water. A loud bubbling noise is distinctly heard, on placing the ear close to any part of the barren spot in which they are situated. The natives believe that the water possesses medicinal properties, and that it is especially efficacious in cutaneous disease.

On my return from the Springs, I made an excursion to Bantam, which is seven miles to the north of Sirang, for the sake of obtaining some specimens of the large bat of Java, which resort to groves in its neighbourhood.

Bantam differs but little in appearance from other native towns of Java, consisting for the most part of long streets formed by the huts of the natives, surrounded on all sides by plantations of fruit-trees, of which the cocoa-nut and the banana are the most conspicuous. Passing through a lane formed of these dwellings, my attention was attracted by the firing of a musket and the sound of music; and on looking into an enclosure surrounding a cottage I saw a number of natives assembled, some of whom were gaudily dressed. As soon as I was perceived by them, they invited me in, not, as I had imagined, to witness a marriage-festival, but the rite of circumcision. I was ushered into a small square room, full of people. A wide bench passed from one side of it to the other, on which were spread three mats covered with plantain-leaves; and over these hung as many curtains formed into small tents. This preparation had been made for the reception of three little boys about five years of age, who underwent in my presence the operation of circumcision; which was performed by a native surgeon with great dexterity and dispatch.† On the completion of each operation a musket was discharged and

* At the period of my visit, I was annoyed by some troublesome ulcers from the bites of musquitoes, which had covered my hands for several days; but they healed immediately, after having bathed them with the water of these pools.

† Unus ex iis qui adsunt super ejus genua puerum ponit, oculis hujusce pueri amictu quovis coopertis. Chirurgus, arundinem parvam, inter glandem, et præputium intro-missam, hinc atque hinc versus latera versat, quo hæ partes melius separentur, et instrumentum quod postea utendum est, facilius applicetur. Manu deinde depressa id efficit ut arundinis pars extrema exterius, punctum quasi tumidum, sentitur, quod statim cum

music played. The little patients evinced no signs of pain, and immediately after their respective operations were conveyed to their separate plantain-leaves, which were to be renewed as often as coolness and cleanliness required. The parents of the children considered the presence of a stranger on this occasion as a propitious omen.

Leaving this place, I paid a visit to the Sultan of Bantam, to whom, being ill, I wished to tender my medical assistance. On my way I passed the ruins of the palace of his predecessors, lying in shapeless confusion, and possessing no other interest than arose from the beautiful ferns * that every where covered them. The present residence of the Sultan is an old Dutch house on the banks of a canal which nearly encompasses it. In front is a court-yard, containing at the time of my visit several old-fashioned European carriages; cages with different birds and animals placed against its walls; and vases of water filled with fish standing without order in different parts of its area. I was received at the door of the house by the Regent of Bantam, and conducted by him into a long room hung round with the arms of the Sultan: spears, swords, and daggers, glittering with diamonds and gold, hung against bare and mouldering walls, and contrasted with a few mutilated chairs of European manufacture.

A groan directed me to the dying Sultan, who lay stretched on a small pallet at one end of the room, supported in the arms of an interesting looking woman, and attended by two of his male relatives. Although the last struggles of life agitated his frame, he had sufficient strength to grasp my hand, and by a motion of his head to decline my assistance: it would have been unavailing, as he died a few hours after I left him.

cretâ notatur. Arundo extrahitur, cujus locum supplet unus e ramis forcipis e ligno (cui nomen Bamboo) constructæ. Ejus ramus usque ad notam supradictam pervenit; hoc instrumento præputium a glande deducitur quo aliâ ex forcipe includi possit. Scilicet hæc forceps præputii partem comprimit, ut in hoc situ, facile cultro abradatur. Sanguinis effusio a pulvere quodam albo suppressitur.

* Of these ferns I dare only mention two, the *Pteris piloseloides* and *Acrostichum aureum*.

On quitting this house of mourning, I hastened to a grove, where I expected to find many of the great bats of Java, which had been represented to me as Vampires, and which in look and ferocity might be supposed to appropriate the fables of those frightful beings. I had often seen, since my arrival in Java, flying in the day-time at a great elevation, an animal making a noise so resembling the cawing of a crow, that at first I mistook it for a species of this bird. I now saw many of its species suspended in large clusters with their heads downward from the branches of trees; and so firmly did they adhere, that although I fired at them, and must have destroyed two or three, they did not fall. By throwing large stones, I obliged them to quit their resting places and to take wing, many of them with young ones clinging to their breasts. They then hovered about, screeched violently, and, flapping their enormous wings, circled close over my head, reminding me of the harpies of antiquity. After some trials, I succeeded in shooting two, a male and female: the male being the larger. Nothing could be more hideous than their aspect. Their bodies, covered with long hair, resemble that of a fox in colour, smell, and form, but that of a full grown rat in size. They are suspended between wings, similar in texture to those of a common bat, but extending five feet from one extremity to the other. The tail, which is four inches long, is also like that of the fox, and is enclosed by the membrane uniting the hinder extremities. The female, which was only wounded in one of its wings, endeavoured to strike me with the other, screeching violently at the same time, and grinning horribly. When left to itself it exerted its fury on the wounded limb, which it smashed with its teeth.

The great bat of Java*, as far as I could ascertain, is not carnivorous, but is much dreaded for the destruction it occasions to fruit trees, whole orchards of which it denudes of their blossoms. The

The great bat of Java bears the same name as that of New Holland, flying-fox. It also in some respects resembles it, but differs from it in having an undivided membrane between its hinder extremities.

stomach also connects it with herbivorous animals* ; and that it does not feed on mice, as supposed by some authors, is rendered probable by its habit of flying at great heights.* It is often seen in the day-time passing over the Straits of Sunda in large flocks. This fact is stated by Mr. Marsden †, in his History of Sumatra, and has been corroborated by the experience of Capt. Ross, of the East-India Company's ship Discovery, who assured me that he had witnessed it.

On my return from Bantam to Sirang, I passed a large house situated on a small island in the midst of a bog, which the legends of the natives had peopled with formidable serpents. The house was said to be the prison for the refractory or unfaithful wives of the Sultan of Bantam. The effluvia of the marsh* would probably be more destructive than its monsters to the inmates of such a dwelling.

On reaching Sirang, I was gratified by finding that during my absence a skin of the large snake of Java, measuring nine feet in length without the head, had been brought in. It had been taken from a snake that had been killed in the act of swallowing a kid, but two days before. This serpent, often met with in Java twenty feet in length, inhabits woody and swampy grounds, but sometimes approaches the huts of the natives, and makes great havoc amongst their poultry when no larger animals fall in its way. In its attacks

* The stomach consists of four divisions. The first is a sort of pouch, formed by the expansion of the œsophagus. The second is distinctly separated from the first, by a muscular contraction, but is equal to one half of the whole stomach ; it contracts into a gut-like pouch for nearly a third of its length, before it terminates in the third division, with which it communicates by a small muscular orifice. The two last divisions are equal to about one fourth of the whole stomach ; of this proportion the third division occupies full three fifths, the fourth division being very small, but thicker in its coats than any of the others. It communicates with the third division, and the duodenum by very contracted orifices. I know not whether the bat of Java be of the same species as the one dissected by Sir Everard Home, the stomach of which has been described by him in his work on Comparative Anatomy ; but the structure of this organ in both appears to be the same.

† History of Sumatra, p. 118.

upon them, it resembles the *Boa constrictor* of authors; destroying by the force of its muscular folds deer, goats, wild hogs, and sheep; which it gorges whole.

It has been stated by an author * often quoted for his authenticity, that "he bought one of these snakes of a hunter, and on dissecting it found in its body an entire middle-aged stag covered with its skin; that he purchased another which had swallowed a wild goat in spite of its large horns; and that he drew from the stomach of a third, a porcupine armed with its quills:" he also mentions that "a pregnant woman was swallowed by one of these animals." †

Till recently such tales have been considered fabulous, and yet there can be no doubt but those who have lived much in torrid climates must frequently have witnessed corresponding facts. The description I shall presently give of the habits of a large Java snake, which I saw alive at Batavia, and afterwards examined both alive and dead on board the *Caesar*, will be sufficiently illustrative of its power of destroying large quadrupeds. That it is equally capable of destroying and prone to attack a human being, I could gain no certain evidence in Java. It will appear, however, from the following statement, that man himself is not always secure against his formidable power.

Captain Ross (whom I have just mentioned), while in his ship off the island of Celebes, was visited by a canoe from the shore, containing two Malays, and the mangled body of a man, the bones of which were mostly broken: the arms especially being dreadfully crushed. The eyes appeared to be starting from the head, in consequence of its having been violently compressed. On enquiring the cause of these appearances, the Malays informed Captain Ross, that having landed to fish along shore, they had left the canoe in

Andreas Cleyerus, quoted by Lacépède. *Hist. Natur. des Serpens*. Tom. ii. p. 360.

† "Dans l'isle d'Amboigne une femme grosse fut un jour avalée toute entière par un de ces serpens." Extrait d'une lettre d'André Cleyerus, écrite de Batavia, à Menzélius, *Ephémérides des Curieux de la Nature*. Nuremberg, 1684. Decade 2. an. 2. 1683, p. 18.

charge of the poor fellow whose body he saw; that they had told him to be on his guard against the large snakes which are often seen on the skirts of the wood near the sea; that they had not left him long before they were alarmed by his cries, and on hastening to his assistance, found him enveloped in the folds of a large serpent; that he was dead before they could destroy the snake, which did not quit its hold on their approach. They then produced the head of the snake, which Captain Ross examined. It was very small when considered in relation to the extraordinary power of the animal, and capability of swallowing; for it would doubtless have gorged the body of the man, unless prevented by the appearance of his companions. It did not measure more than eight inches in its greatest diameter. The man had evidently been seized by one of the wrists, as it bore the impressions of the snake's teeth.

That the size of the head of a snake bears no proportion to the magnitude of an animal which it is capable of swallowing, will be evident from an account that I shall now give of a specimen, whose head measured in its greatest longitudinal diameter five inches, and in its greatest transverse diameter four inches and a half. The internal width between the two portions of the lower jaw, within which its prey must have passed to its stomach, was rather more than an inch and a half. This animal, which the drawing correctly represents, measured eighteen feet in length, and eighteen inches in its largest circumference. Its predominant colours were greenish brown, with a purplish tinge, and yellow and black. Greenish brown, speckled with a brownish yellow, was the colour of its back, and bright yellow, speckled with black, the colour of its belly. It was a male.

This animal, although permitted, when I saw him at Batavia, to leave his cage, and go into an open space, was seldom disposed to avail himself of this liberty, and it was often necessary to drag him out, and to irritate him repeatedly, before he could be induced to move. He would then stretch himself to his greatest extent, and without throwing his body into any curve, glide so closely, slowly,

and silently along the ground, and so exactly harmonised in colour with the soil* over which he was passing, that unless watched, he might easily have been overlooked. Whilst at full length, he might be approached with safety, as he had not then the power of darting; but when he reared himself on his folds, and put his head into a vibratory motion; he had the greatest command of his powers, and exhibited the most threatening aspect. This attitude he usually assumed after he had been some time from his cage, and all who were near him involuntarily drew back. A live duck being brought to him, he felt it for a moment with his forked tongue, and then seizing it by the breast, endeavoured to wind his folds about its body, which being too small to suffer from their compression, he threw the weight of one of his folds upon its neck, and strangled it. When it was dead, he gradually withdrew himself, and taking it head foremost into his mouth, sucked it down his throat. But a duck was only a mouthful to him; a goat being his usual meal. On board the *Cæsar* he swallowed two, which were given to him in his cage, at the interval of a month from each other. As soon as the goat was within his reach, he raised his head above his coils, and having contemplated his prey a few seconds, felt it with his tongue. The goat did not appear to be much alarmed, as he examined the snake closely, smelling him over with great deliberation. The snake having withdrawn his head a short distance, made a sudden dart at the throat of the goat, which received him on its horns, and obliged him for an instant to retreat. He then made a second dart, and seizing the goat by the leg, pulled it violently down, and insinuated his folds with momentary rapidity about its body, squeezing it at the same time with all the force he could bring to bear. But even in this instance, the animal was too small to suffer their whole compressing effect, and he was obliged to

An author has stated, that eighteen Spaniards, when in the woods of Coro, in the province of Venezuela, seated themselves on a snake, which they mistook for an old trunk of a tree, and which to their great astonishment began to move!!! Hist. Natur de l'Orenoque, par le P. Gumilla, Vol. iii. p. 77.

destroy the goat much in the same manner as he had the duck, by throwing the weight of his body on its neck. The goat was eight minutes dying, but was so entirely overwhelmed by the power of the snake, that it could not even struggle.

The snake did not attempt to change his posture for some minutes after the goat was dead. At length he gradually slackened his folds, and then disengaged them one by one, with great caution and slowness, as if to ascertain whether the goat retained any power of motion; and having entirely disentangled himself, prepared to swallow it by placing himself opposite to its head, and feeling it with his mouth. While doing this, saliva flowed abundantly over his jaws, but he made no attempt to besmear his prey. In a few minutes he took its nose into his mouth, and endeavoured to draw the head after it: but this appeared to be no easy task. The dilatation of his throat seemed to begin with difficulty, as he was at least one-third of the time consumed in gorging the goat, in getting down the head and horns. These diverged at a considerable angle, and were four inches in length. Having conquered them, he grappled with the shoulders, which he was some time in mastering; but readily overcame the remainder of the body. In drawing the goat into his swallow, he appeared to work himself unto it, opening his mouth as wide as possible, and forcing it onwards. Whatever progress he thus made, was preserved by strong recurved teeth which permitted the animal to pass down his throat, but prevented its regurgitation without his will. The act of swallowing was also much aided, I suspect, by the pressure of the air on the goat's body, as a deep inspiration accompanied every successive attempt to draw it down his throat.* He was two hours and five minutes in gorging the whole animal.

The appearance of the snake, when in the act of swallowing the shoulders of the goat, was very hideous. He seemed to be suffering strangulation. His cheeks, immensely dilated, appeared to

That inspiration assists the deglutition of snakes, is also mentioned by Lacépède, in his *Histoire Naturelle des Serpens*. Tom. ii. p. 362.

be bursting, and his windpipe projected three inches beyond his jaws. The horns of the goat, which had advanced only a few inches down his swallow, protruded so much, that I expected them every instant to penetrate through the intervening membrane of the scales, which they separated from each other. After the goat was down, he scarcely moved from the posture he was in during his last act of deglutition, but fell into a semi-torpid state, from which no irritation could rouse him for several days. At this time he measured three feet in his greatest circumference, having doubled his ordinary diameter. The goat's body underwent no visible diminution of bulk or consistence by the action of the snake's folds, but seemed to pass down his throat in an entire state.

This snake having died on his way to England, forty days after swallowing a second goat, I opened him with the view of observing his internal structure, and of ascertaining, if possible, the cause of his death. On the deck of a ship, and surrounded by a number of eager, but restless observers, I could not make the examination with all the precision I wished, but succeeded in obtaining the dimensions of some of the principal viscera, and found that their magnitude generally corresponded with the external proportions of the body. The lungs consisted of two lobes, closely attached to his ribs; the left being three feet three inches, and the right one foot ten inches in length. The heart was about the size of a goose's egg. The œsophagus was six feet six inches long, and the stomach one foot nine inches: the breadth of the latter when opened, and gently expanded, was one foot. The intestines measured five feet six inches in length. The liver consisted of two lobes, each lobe being three feet long. The gall-bladder was the size of the heart, and full of a green viscid bile. Each of the kidneys was a foot in length. The spleen consisted of a large number of loosely-connected dark-coloured conglobate glands.

The coats of the stomach were very thick and muscular, and thrown into a variety of folds. Its œsophageal and intestinal orifices were very contracted, and the latter would scarcely allow the introduc-

tion of my little finger. The coats of the intestines, in a contracted state, near their communication with the stomach, were an inch in thickness.

On opening the stomach, the cause of death at once appeared, in myriads of worms which had destroyed its internal coats in several places. These, of a dark red-colour, and varying from two to four inches in length, were about the twentieth part of an inch in their greatest diameter, and tapered to both extremities. They had collected in throngs of ten or twenty, in different parts of the stomach, and having attacked together particular spots, had formed several round holes. These, after penetrating to the peritoneal coat, took an oblique direction; and in some places were situated in the centre of tubercles formed by the deposition of coagulated lymph.

Of the goat I only found the shells of the horns full of hair, and a portion of the bone of one of the fore legs. The lower part of the intestines contained a light yellowish excrement, which had very little odour, and resembled chalk in consistence.

This animal evidently belongs to that subdivision of the genus *Boa* which has been named *Pytho* by Daudin. The arrangement of the scales on the under part of the tail, is accurately represented in the lower figure of the annexed engraving. In the Appendix †, I have attempted a description of him, which I hope will fix his species.

In addition to the foregoing description, taken from my own observation, I obtained the following facts respecting his habits, from the politeness of Capt. Heyland, who possessed him for several months in Java, and which I cannot do better than give nearly in his own words. "The animal was brought to me early in January, 1813, and did not from that time taste food till the July following. During this period, he generally drank a quart of water daily, and frequently passed a thick yellow excrement. The man who brought him stated, that he had been seen to eat a hog-deer* the day before he had been taken. He was allowed to be at liberty in the

Cervus porcinus of Linnæus

† Appendix, C.

grounds about my house. One evening early in July, hearing a noise, I went out, and discovered that the snake had left his harbour under the boards of a stable where he generally kept, and having entered a small shed in which some fowls were at roost, had contrived to sweep eleven from the perch, which he afterwards destroyed by pressing them between his folds. Then taking them one by one, head foremost into his mouth, swallowed the whole in twenty minutes. The largest animal that he ate while in my possession was a calf, which he killed and gorged in two hours and twenty minutes. He preferred goats to any other animals, but was also fond of calves, sheep, and fowls; he never attacked dogs, cats, or pigs. Of these last, indeed, he seemed to be in dread, for whenever one was presented to him, he retired to a corner, and coiled himself up with his head undermost. If regularly fed with animals not larger than a duck, he ate readily every day; but after the meal of a goat, refused food for a month."

In the different accounts given by authors of the destruction of large animals by serpents, much discrepancy of statement exists respecting the breaking of their bones. Whilst some have declared that their cracking has been heard at a considerable distance *, others have produced instances of the bodies of large animals in which no "ossifraction" had taken place, having been found in the stomachs of serpents. † The bones of the animals swallowed by Capt. Heyland's snake were not fractured, as far as "a looker-on could discover;" and although many of the by-standers conceived that they heard the breaking of the bones of the goat which he swallowed on board the *Caesar*, I am disposed to attribute much to the force of their imagination. I listened attentively, and heard only the snapping of his scales as they slipped over each other during his manifold movements. On opening him after death, I found indeed a portion of one of the goat's legs which seemed to have been fractured; but as the same kind of appearance might have been the consequence of its partial digestion, it is not to be depended on. The truth perhaps is, that the bones of

* Cleyerus de Serpente urobubulum deglutiente.

† Mr. Corse Scott, in the *Transactions of the Edinburgh Royal Society*, Vol. vi. p. 230.

those animals only are broken which are very disproportionate to the size of the serpent which destroys them.

The statements made by different writers respecting the bulk and form of many of the animals destroyed and swallowed by snakes, have been received with more incredulity than they perhaps deserve. So frightful a spectacle as that exhibited by a buffalo or a tiger struggling with an enormous serpent, may have exalted the imagination of its beholders, and have led them into hyperbolical description; but there is nothing in the mere fact which is contrary to our knowledge of animal power and function. Without going into an elaborate argument to show that the quantity and kind of muscular fibre possessed by a snake twenty or thirty feet in length, must necessarily enable it to perform the feats which have been related of it, I may remark, that the power of the snake, in fracturing the bones of animals by its muscular folds, gives less occasion for astonishment than the removal of the limb of a man by one effort of the maxillary muscles of a shark. And whoever has considered the dilatable powers of a living muscular and membranous bag, will feel no surprise that a goat was swallowed by a snake whose gullet measured six feet six inches, and stomach one foot nine inches, in length; nor will he hesitate to believe, that such a cavity was capable of containing a much larger animal, or that the corresponding organ in a snake of greater dimensions might contain one equal in bulk to any of those which according to some writers have been ingulfed in the entrails of serpents. The difficulty lies in conceiving, how large animals pass the narrow orifice between the jaws, which confine the entrance of the swallow; but this vanishes when the structure of the part is carefully examined. The two bones composing the lower jaw (I take my description from the great snake of Java) are not in contact in front, nor united by an unyielding medium, but are separated by a loose dilatable membrane, and connected with the upper jaw by intermaxillary bones *, which permit an enlargement of the cavity

* This structure is also pointed out by Mr. Corse Scott, in the Edinburgh Philosophical Transactions.

of the mouth by yielding laterally during deglutition. The scales of the throat also admit of considerable dilation, as they are much more remote from each other than any others in the body, and immediately under the mouth are separated by a naked expansible membrane.

I cannot take leave of Java and its animals without saying a few words respecting some of the lizard tribe, which, although very interesting in their habits, have not undergone a very close investigation, and have been very seldom and very slightly described. They press however, more frequently than is always agreeable, even upon the notice of a mere passing visitor in Java. At the approach of evening, a small species which feed on insects, cover the walls, and pillars of houses, and may be seen after their prey in all directions. A stranger cannot at first behold them without some degree of aversion, but soon looks on them with favour when he finds in them the enemies of the mosquitoes. This species of Lizard, which seldom grows beyond the length of five or six inches, may be called the house Gecko of Java, and is perhaps the *Chichak* of* Sumatra. It belongs to the subdivision of the genus Gecko, which the celebrated Cuvier has called *Hemi-dactyles*, in having the disk which covers the base of its toes divided into a double row of imbricated plates, and in the position of their second phalanges. † But it differs from the described species of this subdivision in wanting a claw to the great toe. ‡ It is of a light brownish grey colour, and is covered, excepting under the tail, with very small scales, and is without tubercles: under the tail the scales are large and imbricated. The scales when examined with a lens, are found to owe their brownish colour to very minute dark-coloured points. It has a rank of pores extending down the inside of each thigh as low as the knee.

Marsden's Sumatra, p. 119.

† *Hemi-dactyles* ont la base des doigts garnie d'un disque ovale, formé en dessous par un double rang d'écailles en chevron; du milieu de ce disque s'élève la deuxième phalange.

‡ *Les espèces connues ont toutes cinq ongles.* Règne Animal, tom. ii. p. 47.

Geckos of this species possess something of the property of the Cameleon. One of them, which dropped from the ceiling on a table before me, was immediately imprisoned in an inverted tumbler. On falling, it was nearly white, but assumed in a few minutes a deeper hue, and at length almost took the colour of the mahogany on which it rested.

This lizard is very different from the large gecko of Java, of which I have a specimen now in my possession. And the latter does not, as has been supposed, correspond in its characters with the Tokaie of authors, also arranged by Cuvier under his subdivision *Hemi-dactyles*; as it has only one row of transverse imbricated plates covering the base of its spreading toes, and will therefore fall under the subdivision *Platy-dactyles*. *

The following characters are taken from one of the species, which measures eleven inches in length, and weighs 1420 grains. It is of a lead colour marbled with red, on the back and tail, and is of a bluish white tinged with red, on the belly. Its back to the end of the tail is covered with conical tubercles in longitudinal series. These are prominent, acute, and nearly erect on the hinder part of the head, but on the back and upper part of the tail are compressed and directed backwards. Its scales on the head and back are small, round, and disseminated; on the belly are small, oval, and imbricated; under the tail are large, square, and imbricated in a band-like manner. It has a row of large pores before the anus. Its great toes are without claws. These characters bring it very near, if they do not identify it with the *gecko* of Ceylon, the *gecko à gouttelettes* of Daudin, figured in Seba. †

Bontius has stated, that an animal answering in all its characters to the one which I have described, is notorious for its poisonous touch and deadly bite.

* *Platy-dactyles* ont les doigts étargis sur toute leur longueur, et garnis en dessous d'écaillés transversales." Règne Animal, tom. ii. p. 45.

† Tom. i. pl. cviii.

“ *Sæva Lacerta rubris stellata in tergore guttis,*
 “ *Contactuq̃ue nocens, viridi vomit ore venenum*
 “ *Mortiferum, superans quæ dant Aconita novercæ*
 “ *Hoc tabo inficiunt, metuendi cuspidè Java:*
 “ *Tela sua, et certum quæ dant hastilia mortem.*” *

“ Some lizards fierce with bloody spots o’erspread,
 “ Noxious in touch, and in their bite more dread,
 “ Envenom’d slime from lurid jaws distil,
 “ Deadlier than aconite, of swifter ill,
 “ To Javan arms a certain death impart,
 “ And give the arrow’s wound a keener smart.”

The same author tells a fearful tale of the effects produced by its feet upon the chest of a sailor, over whom it walked whilst he slept; the skin becoming covered with blisters like those occasioned by boiling water, and speedily mortifying.† He also declares, seemingly from his personal knowledge, that the Javanese, whom he denounces as “*scelesti veneni propinatores,*” poison their arrows by besmearing them with the blood and saliva of the gecko, and obtain the latter by a method which would suit the rites of a Shakespearean witch. He states, that having suspended the enraged animal by the tail, they collect a yellow viscid liquor which it pours from its jaws, and having dried it in the sun, use it as a deadly poison; and by daily feeding the animal in this situation, keep it alive, and excite it to secrete its peculiar venom for several months. ‡

Bontius, Hist. Natur. et Medic. p. 57.

† Hoc de solo hujus insecti attactu experientia didici, in decumbente quodam socio navali, in Nosocomio nostro Batavico, cujus pectori, dum denudatus dormivit, supercurrebat Lacerta hæc, et, solo contactu, vesicam per transversum in musculis thoracis excitaverat, qualem in cute priri videmus, a fervente aquâ; subtus vero caro, jam livida erat et ad gangrænam tendens, &c. Bontius, Hist. Nat. et Medic., p. 57.

‡ Javani sanguine, et sanie hujus lacertæ, tela sua tingunt. Tum scelesti isti veneni propinatores, qui hic utriusque ævus plurimi sunt, hoc animalculum è laquearibus fune cauda alligato suspendunt, quod tum præ ira glutinosum et flavum liquorum assiduo è gutture destillat, quem exceptum fictili subtus apposito colligunt, et soli expositum, in

Whether any of the formidable properties attributed to this animal be really possessed by it, I took some pains to ascertain, and found that they were generally discredited amongst Europeans; but obtained no facts that could place the question at rest: it is said to be seldom caught and with great difficulty.

Like the house gecko, it has the power of walking, by a peculiar structure of its feet, against its gravity in an inverted position upon the smoothest surface.* It usually inhabits the hollows of decayed trees, and seldom comes forth till dark, when it occasionally enters the interior of houses, spreading alarm by its peculiar note amongst those who believe in its venomous powers. To every one indeed, and especially to a stranger, it is a disgusting animal. Its large head, capacious mouth, projecting eyes, and tuberculated body, give it a hideous aspect, and occurring to the recollection when its shrill voice is heard in the stillness of the night, excites no agreeable sensations. The first time that I slept at Sirang I was awakened by a singular guttural sound, followed by the loud enunciation of the syllables gěck-ōō, repeated three or four times, and which having ceased for a few minutes, were again and again renewed. It was in vain to seek for the intruder. The animal, although seeming to be within a few feet, was probably without the house on an old tree, or if in the room, he fled before light and noise, but renewed his interruption when all was again quiet.

Another gecko, about eight inches long, also from Java, and of which I received a specimen, with many other obligations, from Professor Reinwardt, differs from the large gecko in being of a lead colour marbled with white, but resembles it in the form and

massam cogunt, tali modo in vivis hoc insectum alendo quotidie servant ad aliquot menses. Hoc veneno nullum magis præsentaneum reperiri certum est. Bontius, p. 58.

* See Sir Everard Home's account of the organization by which some animals support themselves in progressive motion against their gravity. *Philosophical Transactions for 1817.* In the same work may be found an admirable engraving of the large Gecko.

distribution of its scales and tubercles. It is a common species, and is considered as perfectly innoxious to man. It sometimes preys upon the house gecko. One of its species which I now possess was knocked off a ceiling whilst holding the smaller animal in its mouth.

CHAPTER III.

ON the 21st of June, the Ambassador and his suite having again embarked on board the *Alceste*, she got under weigh from Batavia Roads accompanied by the General Hewitt, (the *Lyra* having sailed some days before,) and prosecuting her voyage, fell in, on the 9th of July, with the *Orlando* frigate, Capt. Clavill.

From this vessel, which had carried out from England intelligence of the Embassy to China, we expected to receive some interesting information respecting the disposition of the Chinese towards us; and were glad to learn that tidings of the Embassy had been favourably received by them. Capt. Clavill also informed us, that Sir George Staunton* and some gentlemen who were to accompany him on the Embassy had embarked on board the *Discovery*, one of the East-India Company's cruisers, and in company with the *Investigator*, a similar description of vessel, and the *Lyra*, had sailed for the Lemma Islands, there to wait for the *Alceste*. On receiving this information we steered for the place of rendezvous.

For some days before we fell in with the *Orlando*, we had been sailing on seas liable to those tremendous gales called by the Chinese Typhoons, and had therefore watched with great anxiety every change in the appearance of the sky, and every variation of the barometer. But we experienced nothing to excite our apprehension till the evening of the 9th of July, when the sky exhibited such novel though brilliant appearances, as led us to fear that they would be followed by formidable changes of weather. The course of the sun, as it sunk beneath the horizon, was marked by a vivid glory expanding into paths of light of the most beautiful hues. They did not in the least resemble the pencils of rays which are often seen streaking the sky at sun-set, but were composed of sheets of glowing pink, which diverging at

For the list of the persons of the Embassy, see Appendix.

equal distances from the sun's disk, darted upwards from the horizon, diminishing in intensity of colour, till they vanished in the azure of the surrounding atmosphere. In the intervals between these, the sky was of a clear green, spotted with small masses of dark cloud. Our alarm was increased by a slight fall of the barometer, but it was groundless; the wind continued steady, and the sails which had been furled were again spread to a favourable breeze, that enabled us to join Sir George Staunton off the Great Lemma Island on the following morning.

The Lemma Islands appeared to possess sufficient botanical and geological interest, to make me very desirous of an opportunity of examining them; but as they afforded no shelter or convenient watering place for the squadron, our stay was too short to admit of my landing. I was enabled, however, to form some opinion of their structure through the kindness of my friend Capt. Hall of the *Lyra*, who sent me specimens of coarse granite, approaching to sienite, and quartz that he had taken from them, and which he informed me entered largely into their composition.

But although unable to explore the productions of the land, I was rather unpleasantly convinced of the reputed property of one of those of the sea. Whilst employed in collecting some seaweed floating about the ship, I observed a species of *Physalia*, so small and transparent that I at first mistook it for an air-bubble; but on catching it in my hand was soon convinced of my error, for wrapping its long tendrils round one of my fingers it stung like a nettle, but with much more severe effect. In about five minutes the pain in my finger abated, but an uneasy sensation extended up the inside of my arm, which soon terminated in an aching pain in the arm-pit, accompanied by a sense of restriction in my chest: within fifteen minutes all uneasiness ceased. The manner in which the animal produces these effects is, I believe, unexplained; but it is not improbable that they are occasioned by a peculiar poison, secreted by it, and contained in a glutinous matter which covers its tendrils; as this, when applied to the skin, apart from the animal, excites a smarting pain.

The inhabitants of the Lemma Islands who came off to us in their boats were of a light copper colour, and very athletic: they managed their well constructed bamboo vessels with great dexterity. In the evening the squadron weighed and stood for Hong-kong, one of the Ladrone Islands, distant from the Great Lemma sixteen miles in a N. E. direction, off which it anchored at ten o'clock in the evening.

Looking from the deck of the *Alceste* early on the following morning, I found that we were in a sound formed by some small islands, by which it was land-locked in every direction, and of which Hong-kong is the principal. As seen from the ship, this island was chiefly remarkable for its high conical mountains, rising in the centre, and for a beautiful cascade which rolled over a fine blue rock into the sea. I took advantage of the first watering boat to visit the shore, and made one of these mountains and the waterfall the principal objects of my visit.

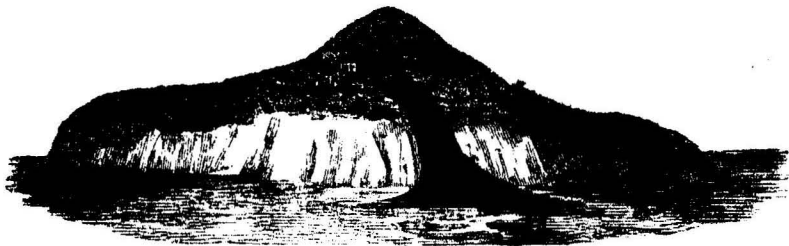
This mountain, the highest on the island, is, according to Capt. Ross, who has measured it, about one thousand five hundred feet above the level of the sea, and is composed of trap approaching to basalt in the compactness of its structure. In ascending it, I followed the course of a delightful stream which rises near its summit, and found by its side a number of interesting plants; amongst them the *Beckia chinensis*, *Myrtus tomentosus*, in abundance, and in full flower, *Melastoma quinquenervia*, two other species of the same genus, several orchideous plants, of which I could only determine the *Limodorum striatum*; the *Rubus moluccus* of Rumphius, *moluccanus* of Willdenow; a variety of ferns, but not a single moss of any description. The general surface of the mountain, and indeed of every part of the island of Hong-kong that I was able to visit, is remarkably barren, although in the distance it appears fertile, from a fern which I believe to be the *Polypodium trichotomum* of Kämpfer *, which supplies the place

of other plants. I was unable to reach the summit of the mountain in consequence of the excessive heat, which at eight o'clock in the morning raised the thermometer in the shade to 83° , whilst the sun's rays, to which I necessarily exposed myself, darted through an unclouded atmosphere with an almost intolerable effect, and raised the quicksilver to 120° . I ascended about one thousand feet, and returned by a path which passed over a small hill, or rather mound, differing in structure from all the rocks in its neighbourhood, being composed of a very friable stone of a reddish white colour, much resembling disintegrated felspar.

On reaching the shore, I examined the rocks by the water-fall, where they are exposed in large surfaces, and found them composed of basaltic trap, exhibiting in some places a distinct stratification, in others a confused columnar arrangement. It is also divided into distinct, well defined rhomboidal masses, separated from each other by very obvious seams, in which I frequently found cubic crystals of iron pyrites. Having laden myself with all the specimens of plants and rocks, which I had the means of carrying, I returned on board the *Alceste*.

At day-light the following morning, I again visited the land, and directed my researches to a small island separated from Hong-kong by a channel not more than a hundred yards wide. It afforded me very few plants except the *Polypodium trichotomum*, but it presented several geological facts of much interest. This island, which has no name on charts, rises not more than forty feet above the sea, does not exceed three hundred yards in its largest, or one hundred in its smallest diameter, and is entirely composed of two kinds of rock, granite and basalt. Their junction exhibits some curious facts. On the north side of the island, where this is most obvious, it is occasioned by a dyke of basalt passing upwards through the granite, and spreading over it. This dyke rises from a body of basalt which stretches beneath the granite in a north-westerly direction, and vanishes beneath the surface of the sea. It is not in immediate contact with the granite, but is separated from it by three narrow veins

which interpose between them, and follow the dyke through its whole extent. The width of each of these veins does not exceed four inches; that of the basaltic dyke is as many feet. The veins are of three kinds: 1st, a compound of granite and basalt mixed together in an indeterminate and confused manner; 2dly, pure felspar; and 3dly, a sort of porphyry, composed of very perfect crystals of felspar in a basaltic base. The veins of pure felspar and of porphyry were separated with ease from each other, and from the neighbouring rocks; but the felspar and basalt in mass, which was intimately combined with the basaltic dyke, could only be separated from it with great force. Near the line of junction of the granite with the basalt, I found masses of the latter imbedded in the former.* I lamented much that I could spend but two hours in the investigation of these facts, but it would have been hazardous to have given more time to them, as the *Alceste* was expected to sail early that morning.



I may now be expected to give some description of the scenery and inhabitants of Hong-kong, but of either I have little to say. Its scenery is composed of barren rocks, deep ravines, and mountain-torrents, but presents few characters of a very picturesque description. Of its inhabitants none were seen but some poor and weather-beaten fishermen, spreading their nets, and drying the produce of their toils on the rocks which supported their miserable mud-huts. Its cultivation corresponded with the apparent state and

* When at the Cape, I saw veins of granite passing through killas, but masses of killas were imbedded in the granite.

number of its population. Patches of rice, small plantations of yams, and a little buck-wheat, were all their visible means of vegetable support.

Hong-kong sound is represented by my naval friends as affording admirable shelter for ships of any burden ; but its description in this point of view does not fall within my province.

His Excellency, during our stay here, received despatches from Macao, with the Emperor of China's reply to a report made by the Viceroy of Canton, relating to the expected arrival of the British Embassy, from which he learnt that orders had been issued to the Viceroy of Pe-tchee-lee, and other high Mandarins who were likely to have any communication with the mission, to receive us " in a liberal, gracious, safe, and suitable manner.

Elated with this auspicious intelligence, we sailed from Hong-kong on the 13th of July for the Yellow Sea. The south-west monsoon favoured our progress till the 20th, when, being off the coast of Corea, the wind shifted to the northward, and brought with it large flights of *Libellulæ*. It continued variable, but not unfavourable, during the remainder of the voyage to the gulf of Pe-tchee-lee; and although we frequently experienced severe thunder and lightning, nothing approaching to a gale of wind interrupted our agreeable progress through a smooth sea. Neither did we meet with any of those thick fogs described by the historians of the former Embassy, whose tract we followed as far as the streights of Formosa. These we entered on the 15th, and on the 16th passed a small island not correctly laid down in any chart, and which was ascertained to be in latitude 25° N., and in longitude $119^{\circ} 32'$ E. On the 17th we cleared these streights, shaping our course well off the land, and on the 18th passed the Chusan Islands. On the 21st we made some islands off the coast of Corea, and on the 26th anchored for the night amidst the Mee-a-tau Islands, which exhibited a distinct stratification, and appeared

to be of a schistose structure. I examined the soil brought up by the anchor in their neighbourhood, and found it to contain ten per cent. of lime; the residue was clay coloured with iron. Early in the morning of the 27th, we passed between two of them in twelve fathom water, entered the gulf of Pe-tchee-lee, and anchored on the 28th in five fathoms, fifteen miles from the mouth of the Pei-ho. The *Lyra*, which had been sent a-head on the 25th, to announce our approach, had anchored in three fathoms, only six miles from the shore.

The height of the barometer varied very little during our voyage from Hong-kong, but the thermometer and hygrometer underwent frequent changes. The former, which generally stood at noon in the bay of Hong-kong at 85° , fell gradually by the 27th to 74° , but rose after our entrance into the bay of Pe-tchee-lee to 83° . The hygrometer whilst the S. W. monsoon prevailed, indicated a saturated state of the atmosphere, but suddenly marked a diminution of moisture whenever the wind changed to the north. This was strikingly exemplified on the morning of the 26th, when I observed Leslie's hygrometer, which for three days had stood at zero, rise to 30° , and on looking at the direction of the wind, I found that it had changed from south-west to north. A similar change in the hygrometer also took place, even when the northerly wind was accompanied by a heavy fall of rain. Thus, at noon on the 24th, the wind being S. W. a large mass of clouds came up with wind from the northward, and discharged themselves in heavy rain.* During its fall the hygrometer, which had previously been below zero, rose to 6° . I can perhaps give no better notion of the excessive moisture of the atmosphere in the China seas during the S. W. monsoon, than by stating that Leslie's hygrometer is not graduated to a sufficient extent to mark its degree, that our clothes were as wet as if they had been exposed to a smart shower of rain, and that no metallic instruments, however packed, were secure against its penetrating influence.

The barometer at the same time rose eight lines.

A change of weather also followed the variations of the barometer, however inconsiderable. Its rise like that of the hygrometer usually indicated northerly winds; a fall of four lines was followed by rain; and a fall of a tenth of an inch, by thunder and lightning.

The many accounts I had heard of the dreadful effects of Typhoons, induced me to collect such particulars respecting them, as I could obtain from some gentlemen of the East-India Company's service, who had witnessed them. My enquiries were directed to the state of the barometer, and of the atmosphere, previous to their approach, and during their continuance; to the influence which the moon might exercise over them, during her changes; to the extent of latitude and longitude through which they have been known to occur; and to the seasons of the year in which they were most frequent. I gathered the following information from the answers I received. The mercury in the barometer falls slowly for several hours before the commencement of the Typhoon, descends during its continuance below 27 inches, and its re-ascension is a sure indication that the storm is subsiding. These barometrical movements are not accompanied by any constant atmospherical changes. The storms occur more frequently during the changes of the moon than at her full. They seldom prevail below 10° N. Lat. or beyond the tropic of Cancer. They are felt as far as 130° E. Lon., and are most violent in the China seas during the S. W. monsoon, especially in the month of July. It is also stated that the wind is most violent when it blows in the direction of the monsoon, but that it also blows strong from all points of the compass, through which it is continually shifting; but before the commencement of the gale is generally light.

The state of the thermometer has been little attended to either before or during its continuance, and that of the hygrometer still less; it appears, however, that the air feels very cold during its prevalence, and that it is frequently accompanied by storms of thunder and lightning, with heavy falls of rain impelled in a horizontal direction.

It is much to be regretted that a full account of the phenomena of Typhoons has not yet been given by those who have often expe-

rienced their violence, from which some or other of our ships, especially *Indiamen*, yearly suffer. It is also to be lamented that the hygrometer, especially *Leslie's*, is not more used as a meteorological instrument. During my voyage I repeatedly experienced the peculiar delicacy of this instrument in indicating changes in the humidity of the atmosphere; and as all winds are probably charged with their peculiar moisture, this instrument would express their slightest variations. And I have no doubt that by repeated observations a hygrometrical scale might be formed which would be of great utility to the mariner.* *Mr. Leslie's* instrument requires, however, a little modification before it can be applied with effect in those latitudes in which the air is saturated with moisture. At present its scale is graduated to about 120° marking the point of greatest dryness, and zero the point of greatest moisture: this last point is placed at the extremity of the scale near the bulb. In using this instrument in the *China seas* during the *S. W.* monsoon, I found that the fluid of the instrument remained in that part of the tube which is between the bulb and zero. Might not this part of the instrument be lengthened, and zero marked higher up?

Whenever this instrument indicates a saturated state of the atmosphere at periods when changes of wind are probable, such change may be expected to be sudden and violent. For if a large body of very humid air come in contact with a wind colder than itself, its moisture will suddenly be precipitated, which producing a comparative vacuum, either the wind which occasioned it will blow with great violence, or if the subversion of the equilibrium has been extensive, every point of the compass will contribute to its restoration. That something of this kind occurs in the *Typhoons* of the *China seas*, and in the hurricanes of the *East and West Indies*, appears very probable from the consideration of the circumstances attending them. These storms are generally most severe near the land, and in narrow seas between the tropics, and during the hottest

See on this subject the *Observations of Krusenstern, Péron, and Humboldt.*

seasons of the year when the air is most rarefied and contains the greatest quantity of moisture. They are more general also at those periods when a change of wind is expected, as when the moon enters her different quarters, and at the change of the monsoons.

During our voyage up the Yellow Sea, I made many experiments on the temperature of the water at different depths. The statement of the greater part of them I lost in the shipwreck of the *Alceste*, with many of my other papers. I have exhibited the results of those which I preserved an account of in the annexed table.

Date. 1816.	North Latitude.	East Longitude.	Current.	Depth in Fathoms.	Temperature of			Difference of Temperature between	
					Air.	Surface.	Bottom.	Air and Surface.	Surface and Bottom.
1. July 23. 8 A.M.	35. 1.	123. 46.	11 Miles.	40.	76°	74°	65°	2°	9°
2. — 24. 12 M.	36. 24.	122. 59.	—	15.	75°	71°	67°	4°	4°
3. — 25. 8 A.M.	37. 30.	122. 40.	—	20.	72°	67°	62°	5°	5°
4. — 8 P.M.	—	—	—	15.	74°	69°	66°	5°	3°
5. — 26. 6 A.M.	37. 58.	121. 34.	—	15.	74°	67°	66°	7°	1°
6. — 27. 11 P.M.	38. 12.	120. 20.	7 Miles.	15.	75°	74°	72°	1°	2°

They were made with a hollow brass cylinder capable of containing about ten ounces of water. Valves at the top and bottom permitted the ingress of the water as the instrument descended, but prevented its egress when drawn up. A thermometer with Fahrenheit's scale graduated to degrees was attached to it. Each experiment was repeated several times, and the instrument allowed to remain at the given depths for unequal periods, with the view to ascertain if any difference of temperature would be the consequence. These periods varied from five to ten minutes, but in no instance did any alteration of temperature occur. The water was drawn each time from the bottom; soundings always having been taken before the experiment was made.

The four first experiments were made in open sea, the fifth in

the midst of the Mee-a-tau Islands, and the sixth in the Gulf of Pe-tchee-lee.

From these experiments it appears that the sea diminishes in temperature in proportion to its depth, and that the difference of the temperature of the surface, and any given depth within a certain range, is greater at sea than near the land, and that the difference of the temperature at the surface and bottom is greatest when that of the air and surface is least.

But these experiments are not in themselves sufficiently numerous to warrant positive results to be drawn from them. In reference to those of others they are more important, and in the Appendix * I have compared them with many which have been made by different observers on the temperature of the sea at different depths.

The *Lyra* not being able to communicate with the *Alceste* by signal in consequence of the haziness of the weather, changed her birth and anchored close to us during the night of the twenty-ninth. On the following morning, Captain Hall came on board the *Alceste*, with information that he had been visited the evening before by two Mandarins, who stated that the Viceroy of Pe-tchee-lee might be daily expected at the mouth of the Pei-ho to receive the Embassy.

On the first of August, the same Mandarins waited on His Excellency with intelligence of this Viceroy's disgrace, and of another having been appointed to succeed him. They added that a messenger had been despatched to the latter with the news of our arrival, and that three officers of high rank appointed to take charge of the Embassy were already at Ta-koo, and they requested that two of the gentlemen of the Embassy might be sent to compliment them on their arrival.

The bearers of this information were of low rank; one wore a crystal, one an ivory, and two of them gold buttons. They were tall, robust, and stately men, of very impudent deportment, endeavouring to pass themselves off for *Ta-Gin*, (great men :) a title only given to those of their countrymen who are much their superiors in rank.

* See Appendix, F.

They were received in some state by His Excellency, who, dressed in his robes, and attended by Sir George Staunton and Mr. Ellis, waited for them in his cabin, to which they were conducted by Mr. Morrison through a passage formed by the other gentlemen of the Ambassador's suite. Having remained a few minutes in conference with the commissioners, and having partook of cherry* brandy, they left the ship, accompanied by Mr. Morrison and Captain Cooke.

These gentlemen returned to the ship the next morning, having seen the Imperial Legate and two other officers of high rank, who were to possess the chief conduct of the Embassy. Quang was the name of the Legate. Chang and Yin the names of his coadjutors. The two latter, when Mr. Morrison and Captain Cooke left the shore, were intending a visit to the Ambassador as soon as the wind, which was then high, should moderate. The weather, however, for two days disappointed our curiosity to see them. But the morning of the fourth of August proving fine, we began at an early hour to look for their approach, and by ten o'clock in the forenoon observed some large junks with the insignia of high mandarins standing towards the ship. They contained Chang and Yin. Two officers of inferior rank were despatched a-head in a small vessel to announce their coming, and were the bearers of their cards of compliment. Chang and Yin arrived in less than an hour after them, and were saluted by seven guns. Captain Maxwell, Captain Hall, the other commanders of the squadron, and the officers of the *Alceste* in their full dress uniforms, received them on the quarter deck; the marines presenting arms, and the band playing, as they passed below to the state cabin, to which they were conducted by Sir George Staunton and Mr. Ellis, and were received at the door by His Excellency in his robes.

These Mandarins were in appearance much above the middle age. Chang, the elder, wore the opaque blue button; Yin, the opaque red

The Embassy found, in every part of China, cherry brandy the most seducing cordial that they could offer to a Chinese palate.

button. Chang was a civil and Yin a military Mandarin. They had intelligent countenances and easy engaging manners. But Chang was graver than Yin, who had already ingratiated himself by his smiles. They gave me no very exalted notions of Chinese magnificence; being both very plainly dressed, and attended by a train of very shabby looking fellows. Yin was accompanied by several soldiers, who did not add to the dignity of his cortège. Indeed the appearance of the whole party was strikingly contrasted with the very tasteful and imposing splendour which surrounded them on board the *Alceste*. Her clear and ample decks, her well arranged rigging, her formidable artillery, her men prompt and orderly, and her officers in full uniform, formed a picture of propriety and order, of magnificence and power.

When Chang and Yin entered the Ambassador's presence, their attendants who attempted to follow them were detained in an anti-room. They expressed the greatest curiosity to obtain a sight of His Excellency, often attempting to open the door of his cabin, and looking much displeased at being prevented. The persons of these men threw off a most disagreeable odour, arising in some measure from their use of garlic and assafoetida, but more from their want of cleanliness. It was some time before I could bear this repulsive atmosphere with sufficient composure to examine the various parts of their dress, which had much in novelty at least to attract my attention. Each man wore by his side a variety of accoutrements, which on a first glance seemed to be intended for warlike purposes, but on a close examination dwindled into very peaceful appendages. A worked silk sheath, in shape like the blade of a dagger, enclosed a harmless fan. A small leather bag, studded with brass, and resembling a cartouche box, supplied flint and steel for lighting their pipes. These hung sometimes from their girdles by the side of their chopsticks, but were frequently in their mouths, pouring forth volumes of smoke, and giving rise to a flow of saliva which was discharged without any attention to place.

Both mandarins and attendants wore girdles fastened with clasps

formed of different kinds of stone. Of these a coarse green agate, lapis lazuli, and a stone called Yu, were the most general. Of the agate I could learn nothing; the lapis lazuli was said to be common on the island of Hai-nan; the Yu I shall have occasion to mention hereafter.

The audience having terminated, Chang and Yin left the ship under the same honours with which they had been received. As soon as they were gone, a junk came alongside with a present of bullocks, sheep, pigs, bags of rice, chests of tea, sugar, candles, and numerous other articles, intended as a supply to the squadron. But they were not proportionate, especially in bullocks, to the number of ships. The Chinese explained the deficiency, by stating that ten oxen had been drowned in attempting to embark them during rough weather; but they showed no disposition to replace them. With the provision was brought a large quantity of fuel, consisting of charcoal and of coal. The former, as far as I could judge from some partially charred branches not deprived of their bark, was made chiefly from the oak. The latter contained little bitumen resembling plumbago rather than coal, and had been brought according to report from the neighbourhood of Peking.

The junks which conveyed these supplies were the most clumsy looking vessels imaginable, but were skilfully managed by the Chinese sailors. Although their tall masts, each of one entire tree tapering upwards, frequently surpassed our main mast in height, and were consequently liable to injure our yards, no accident occurred. They were provided with excellent cordage made from the fibre of a plant which grows on the banks of the Pei-ho. Their anchors were of wood and of iron; the former had only one fluke, the latter several, and were formed like the grapnels of our boats.* They

* De Guignes describes a similar anchor used by his boatmen on the Grand Canal to fasten their vessels to the shore. "Dans le cas où le bateau s'éloigne trop du rivage un matelot porte alors une ancre à terre, et l'on vire dessus pour s'en rapprocher: ces ancres, ou plutôt ces grappins ont quatre branches, dont trois sont pointues, et la quatrième a un anneau auquel est attachée une chaîne de fer qui sert à deraper l'ancre." Voy. à Pek.

differed, however, from them in having a rope fastened to a ring in one of the flukes by which they could be drawn up with great ease.

The men who navigate and probably live in these junks, subsist chiefly on millet rendered gelatinous by immersion in hot water. With this they eat a savoury preparation of vegetables cut into small stripes, and preserved in a kind of soy. At their meals each takes a basin of millet to himself, but the savoury dish is common to many. In eating they bring the basin close to the lips, and shovel its contents by means of their chop-sticks into their mouths till they are fully crammed; then wedging in a morsel of the *piquant* vegetable, masticate the whole together. Having finished their repast, they wash their mouth with the water in which the millet had been steeped.

The visit of Chang and Yin led to the arrival, on the following day, of junks for the reception of the presents intended for the Emperor of China, and of the baggage of the Embassy. The greatest activity being immediately used in trans-shipping them, it was reported on the evening of the next day, that the whole of the presents, and a considerable portion of our stores were safely on board the Chinese vessels. Mr. Davis and Mr. Cooke visited the shore on the morning of the 6th of August, to ascertain whether the boats intended for our conveyance through the country were in readiness, and returned in the evening with the information that every thing was prepared for our reception. Junks came off at an early hour the next morning for the residue of our equipage, but were obliged by rough weather to make for the shore after receiving a part of it only. The whole of the 8th proved so stormy as to prevent all communication with the land. But the next morning being fine and calm, it was announced by nine o'clock that all our baggage had been embarked, and that junks were in readiness to convey us to the shore. These having received the servants, band, and guard, waited for His Excellency at a short distance from the ship.

At 12 o'clock at noon of the 12th of August, Lord Amherst and the gentlemen of his suite left the *Alceste* in his barge. The yards of the squadron were manned on the occasion, and successive salutes

and cheers bade us farewell from every ship. On reaching the junk intended for our conveyance to the mouth of the Pei-ho, it was found very inadequate to the accommodation of the whole party, unless they stood exposed on its deck to a burning sun. A few, therefore, took refuge under the awning of the Ambassador's barge, which was towed alongside.

Having in this manner arrived within a short distance of the mouth of the Pei-ho, Capt. Cooke was despatched a-head in a small boat to announce our approach to the Legate. The Ambassador and his train at the same time changed their situation from the junks to the boats of the squadron which had accompanied us; and were now arranged, under the direction of Capt. Maxwell, into a picturesque order, in which they proceeded up the river.

The entrance into China by the mouth of the Pei-ho is entirely destitute of interest. The shores are flat, barren, and marshy: a few reeds alone giving them an appearance of verdure. Some mud forts situated on the banks, saluted the Embassy repeatedly with three guns. A band of gaudy troops also met us at the mouth of the river, and having been passed, moved off to reappear higher up.

About an hour after leaving the junks, we arrived at Ta-koo, the first collection of huts that deserves the name of a village on the banks of the Pei-ho. It was here that the boats prepared for our reception were arranged along the right bank of the river; each vessel carrying at the mast-head a flag, on which was inscribed, in large Chinese characters, Koong-Tsou, Tribute Bearers! The Ambassador's yacht communicated with the shore by a bridge of bamboo and painted matting. The Legate paid his respects to His Excellency soon after our arrival, and expressed great anxiety that we should commence our voyage as soon as possible; but as no part of our personal baggage had been landed, our departure was necessarily delayed till the next morning. He however immediately set out by land to prepare for our reception at Tien-sing.

We found the banks of the river covered on our arrival with a

crowd of people assembled to see the Embassy; and forming a most motley group. In front were mandarins and soldiers, tawdrily dressed and variously armed; behind, the mob of all classes and complexions, some in white robes, others quite naked, some in immense hats, others with parasols, many bare-headed, and all with long tails. This diversified mass was suddenly thrown into confusion by a party of soldiers, who, flourishing whips on all sides, opened a passage for a number of servants, carrying trays laden with all kinds of provision in profuse abundance. These formed a present from the Legate to the Ambassador and his train, and were placed in order in the fronts of the boats of the three commissioners. It would be impossible to particularise the different parts of this ostentatious supply. It comprised all sorts of dressed meat, of sheep roasted in halves and quarters, pigs and fowls in abundance, innumerable Chinese made dishes, amongst others, stewed sharks' fins, stags' sinews, birds' nests, and sea-slugs *, pyramids of cakes and sweetmeats, a large quantity of pickle, and several jars of wine. A part of these formed our dinner; and as it was the first time of partaking of Chinese fare, curiosity induced us to taste the made dishes, but their flavour did not tempt us to do more. The joints of mutton, pigs, and fowls, were so besmeared with a kind of varnish, that they exhibited a perfect metallic polish, and seemed so much more adapted to please the eye than gratify the palate, that we did not attempt to injure the brilliancy of their surface.

At the close of day we went in search of our boats, and on finding them, discovered that no part of our personal baggage had been landed,

These animals, the *bitch de mer* of the Portuguese, are in the greatest estimation among the Chinese, who purchase them of the Malays, by whom they are collected in large quantities from the coast of New Holland. They frequent especially the Gulf of Carpentaria, where they find these animals in abundance. Mr. Brown observes, *Annals of Botany*, Vol. I. p. 395., "They collect two kinds of this animal: the one black, called by the Chinese *batoo*, of double the value of the other, which is white, and called by them *roro*. A hundred pikol are a load for a *prao*: the price of the better kind is forty dollars the pikol, of the inferior, twenty." Mr. B. supposes the animal to be a species of *Doris*.

and we in vain endeavoured to persuade the Chinese to take our cots from the junks : bare boards formed our resting places for the night. The novelty of our situation would alone have prevented our obtaining any sleep, had not myriads of mosquitoes kept us perpetually on the watch. These tormenting insects were more virulent on the banks of the Pei-ho near the sea, than I had elsewhere found them ; their sting indeed was so intolerable, that it was impossible to remain quiet in any place where they abounded, and no place was free from them. In vain I endeavoured to escape them : wherever I went, they either followed or received me ; and whatever change of situation I made, seemed to be a change for the worse.

Early the next morning we took possession of our respective boats, but found them very defective in their accommodation for the number of persons whom they were intended to convey. As however we expected to obtain others in a few days at Tien-sing, and were anxious at starting not to disoblige the Chinese, we made ourselves as comfortable in them as they would permit, and prepared, though not without a murmur, for our voyage. We had little cause to look forward with much pleasurable anticipation to the liberty which we were likely to enjoy during our passage through China. Whilst we remained at Ta-koo, a piece of ground, not a hundred yards square, was divided off for our perambulations, and kept by soldiers, who would on no account suffer us to pass beyond it. It was therefore with no very pleasing expectation that we heard the gong give the signal for departure at ten o'clock in the morning of the tenth of August.

And now my reader is perhaps as anxious to learn, as I was to see, all that is worth observation between Ta-koo and Tien-sing ; but let me prepare him for disappointment. No country in the world can afford, I imagine, fewer objects of interest to any species of traveller, than the banks of the Pei-ho between those places. The land is marshy and sterile, the inhabitants are poor and squalid, their habitations mean, dirty, and dilapidated, and the native productions of the soil are few and unattractive. The scenery had only novelty and strangeness to recommend it ; but had it possessed the attractions

of Arcadia, they would have been polluted by miserable objects of wretched and naked men, tracking our boats and toiling often through a deep mire under a burning sun. These poor fellows were attended by overseers, who kept them to their work, and prevented their desertion, but did not, as far as I could observe, exert their authority with cruelty. Scarcely had our eyes become in some degree familiarised with their appearance, when they were offended by the sight of a dead body frightfully swollen, lying on its back, and floating down the river. Our boatmen passed it without regard. I must confess, that in turning from the contemplation of such objects, I recovered with some difficulty that state of mind which was necessary to an unprejudiced examination of the country through which I was passing.

The banks of the river during our first day's journey were not much above its level, and seemed to be formed partly by its depositions, and partly by soil scraped from its bottom, and frequently contained long beds of shells, which gave them a stratified appearance. The country beyond them was low, and could seldom be distinguished from the boats, but when seen exhibited a dreary waste, unbroken by marks of cultivation. Patches of millet; interspersed with a species of bean, occasionally surrounded mud-huts, on the immediate margin of the river; but their produce could scarcely be considered equal to the support, even of those people who assembled to see the Embassy pass. Of these, much the greater number were men miserably clad, having little else than a thin covering to their loins, and many were without even this essential to decency. The few women who mingled with them appeared to be quite insensible to the nudity of their neighbours; who were so far from considering it offensive that they frequently applied the only article of clothing, which they possessed, to their shoulders.

The dwellings of these people were built of mud, had no windows, but were exposed to the weather by a hundred apertures. When they were in sufficient numbers to form a village, the house of a mandarin of low rank was generally seen in their neighbourhood. This was

usually of a square form, and built of sun-dried brick of a blue colour, and covered with a shining roof. Around it was a wall, in front of which stood a high upright pole bearing a flag, inscribed with large Chinese characters. Over the enclosure I often observed a row of female heads, which looked as if separated from their bodies, and planted upon it: they always disappeared, however, when attentively gazed on.

Amongst the objects which attracted our attention during the day, the large stacks of salt described by Sir George Staunton and Mr. Barrow were most conspicuous. These were not however composed of bags, but of loose salt, which in most instances was covered with bamboo matting, under a coating of clay. In others, it was partially or wholly exposed. In the last case, men were turning it over with shovels, and exposing it to the sun. It was stated by some of our Chinese attendants, that it was formed in pits, near the spot on which we saw it.

During our second day's journey, we were often amused by observing a man or a boy floating down the stream astride on a bundle of rushes, and directing his course by a single paddle. That the Chinese should be dexterous in supporting and guiding themselves in water, was little surprising to me when I contemplated the many children who inhabited the banks of the river, and were constantly sporting in its stream.

As we advanced, the country gradually, though slowly, improved. The patches of millet became of greater extent; and we saw a greater number of people perfectly clothed. This alteration of character was still more apparent when we approached within a few miles of Tien-sing. Large fields of corn and pulse were now frequently contiguous, the dwellings more substantial, and the inhabitants more healthy and robust than any we had before observed. The number of people indeed who lined the banks of the river, and the numerous boats which blockaded our passage, for the last two or three miles before we reached this city, was incalculably great. But it must not be supposed that they formed its own population only,

since their amount was unquestionably swelled by the inhabitants of the country for miles around. And even of the multitude whom we saw, an inaccurate judgment was liable to be formed. It was not a fixed body of people. Those Chinese who had taken their stations most remote from the city were the first to obtain a view of the Embassy, but not satisfied with a single glance, moved with us, increasing successively the numbers before whom we passed. But as they were obliged to go behind their countrymen, who would not relinquish their posts on the margin of the bank, their change of situation was not readily observable.

The appearance of the people, who were of all classes, was rather that of inhabitants of different climates than of the same district. The dark copper colour of those who were naked contrasted so strongly with the paleness of those who were clothed, that it was difficult to conceive such distinct hues could be the consequence of greater or less exposure to the same degree of solar and atmospheric influence: * but all conjecture on this subject was set at rest by repeated illustrations of their effects. Several individuals, who were naked only from their waist upwards, stripped themselves entirely for the purpose of going into the water, to obtain a nearer view of the Embassy. When thus exposed, they appeared, in the distance, to have on a light-coloured pair of pantaloons. But difference of colour was not the only variety of character observable in them. The eyes of those whose complexion was dark, had less of the depressed curve in their internal angles, so remarkable in the Chinese in general, than of those who were of a lighter tint. Indeed in some

* De Guignes makes the following observations on the complexion of the Chinese: *Le teint des Chinois est d'un brun-clair; mais cette couleur varie suivant la qualité des individus et leur profession. Les coulis, les matelots, les ouvriers, et les laboureurs, plus exposés par état à l'ardeur du soleil, sont plus bruns, et même d'un brun-foncé; tandis que l'homme en place a le teint plus clair, plus blanc, et quelquefois fleuri. Voy. à Peking, Tome ii. p. 159.*

instances, as I especially observed in my boatmen, this peculiarity entirely disappeared. Can these modifications of physical character depend on varied circumstances of individual habits in the same climate?

The land along the banks of the Pei-ho, from Ta-koo to Tien-sing, bears the strongest marks of recent formation; consisting of clay and sand, in nearly equal proportions, and being free from the smallest pebble. The beds of shells alternating with strata of earth, of unequal thickness, mark its periodical but unequal accumulation by the soil which is brought down by the river at different seasons. The debris of the Tartar Mountains afford no doubt the materials of its composition. Whilst the larger fragments of rocks are retained near their base, to exhibit perhaps in other times the phenomena of breccial formations, their comminuted parts are rolled on and deposited near the mouth of the river, and may at some distant period constitute rocks of uniform stratification and structure.

The Embassy arrived at Tien-sing, at 4 o'clock in the afternoon of the 12th of August, the third day after leaving the mouth of the Pei-ho. Soon after our arrival, it was announced that Lord Amherst would have a conference with the Legate and Soo-ta-jin, a Mandarin of high rank, on the following day, and partake at its close of an imperial feast, to which the gentlemen of his suite were also invited. We therefore set out the next morning at ten o'clock, in procession, for the hall of audience: the commissioners and suite travelling in sedans, preceded by the servants, guard, and band on foot.

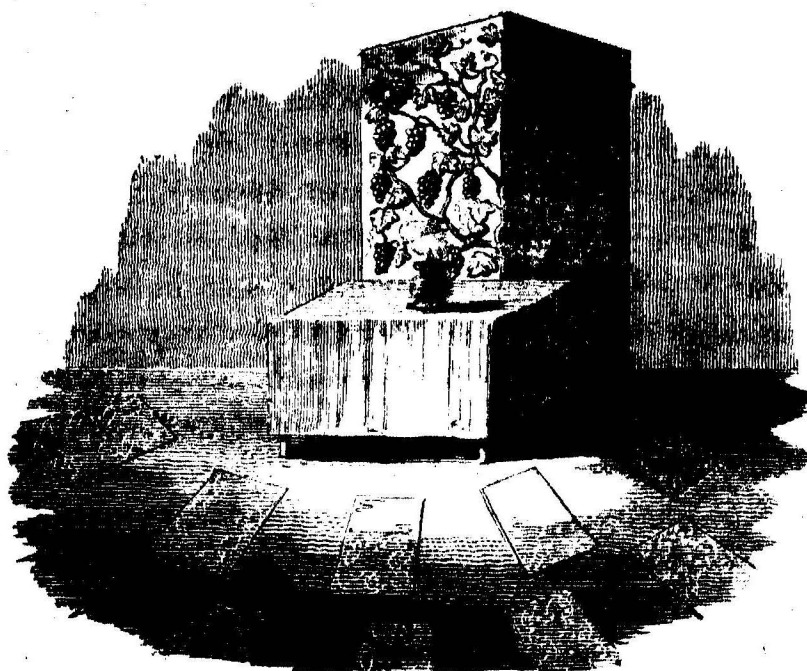
We traversed several narrow streets lined on both sides with shops much ornamented; having large and high boards painted of a red colour, and inscribed with Chinese characters in black and gold, standing in their front, and forming a gay, and rather pleasing vista. Their various articles for sale were indicated by a number of curiously-shaped emblems hanging in rows before them. Great crowds had planted themselves in every direction to see us pass, amongst whom the utmost silence and order prevailed; and although they exhibited an anxious curiosity to obtain a peep at the inmates of the sedans,

not a single instance of troublesome importunity occurred. Very few women were observed amongst them. Those of whom we caught a passing glimpse, were peeping from behind the men, and withdrew their heads the instant they perceived themselves noticed. A great many well-dressed and interesting-looking children were held up to see the procession pass : many of them had so little of the Chinese character in their faces, that they would scarcely have attracted attention in an English crowd. The men were generally well made, and frequently tall ; and I did not observe in them that uniformity of countenance which I had been led to look for in the Chinese. In different parts of the city, we passed through archways of considerable width, serving as entrances to principal streets. In these hung swords, shields, bows and arrows, and other arms.

Having been carried about for nearly an hour, we arrived at our place of destination, and were immediately shown into a spacious apartment, formed of bamboo and painted matting, and erected for the occasion. It is difficult to describe the glittering and tawdry magnificence which now suddenly opened upon us. An immense number of painted lamps, pictures, and other ornaments, in all the colours of the rainbow, hung about us on every side ; whilst a crowd of Mandarins, in their dresses of ceremony, rendered the animated part of the scene no less striking.

Lord Amherst, Sir George Staunton, Mr. Ellis, and Mr. Morrison, having been shown into an inner apartment, to confer with the Legate and some other Mandarins, the gentlemen of the suite were left to contemplate at their leisure the objects around them. The room was of a broad oblong, approaching to an oval. At one extremity, a projecting canopy decorated with scarlet silk overhung a long range of tables covered with scarlet cloth. On these were placed rolls of silk and cotton of the most dazzling colours, intended as presents for the Embassy. The floor of this division of the room was raised above its general level. Immediately in front of it, two rows of small low tables were placed on the right and left hand for the feast, having by their side carpets and silk cushions for the accommodation of the

guests. Beyond them was a screen of curious workmanship, representing a vine in full fruit. The whole was worked in relief. The fruit was imitated in glass (the Chinese said gems) of different colours, with which the artist had expressed, with great effect, its different degrees of ripeness, transparency, and bloom. The leaves and ten-



drils, formed of the same material, were equally well executed; and the trunk carved from the wood of the screen in every respect resembled what it was intended to represent. A table covered with yellow cloth, and supporting a vessel of smoking incense, stood before it: the whole was symbolical of the presence of His Chinese Majesty. All around this sacred emblem, carpets were laid in regular approach for the accommodation of its faithful votaries. Beyond these, an open space was terminated by a stage, gay with all the colours that Chinese fancy could suggest. Pots of flowers and dwarf trees were distributed over the room, and were often mingled with pieces of limestone. Along its sides tables and benches were arranged for the use of the Mandarins in waiting, who regaled themselves with

tea, ice, and fruit. The Mandarins were rather gorgeously dressed, although their external garment was plain; being a loose crape robe, with no other ornament than a stork or a tiger, denoting their civil or military order, worked on the back or breast. Beneath this, and disclosed by its movements, appeared a silk petticoat, beautifully interwoven with gold and silk, in the forms of dragons and flowers. Their boots were of satin, and served them for pockets. Their caps were small and conical, covered with long red hair, and surmounted with a globe, whose colour indicated their rank. Fans, pipes, and chop-sticks, hung by their sides; and English watches, in embossed cases, were suspended from many of their girdles. These were highly prized by the wearers, who anxiously enquired our opinion of their value.* Their fans were not costly in their materials or construction, and in no respect resembled those elegant specimens of Chinese workmanship which are imported into Europe from Canton; being formed of paper and Japanned wood, with a few devices faintly sketched upon them. A supply of these was distri-

* In every part of China, through which the Embassy passed, watches were considered as objects of the greatest curiosity. The attendants of the Embassy were perpetually requested to dispose of their's. I was not, however, able to ascertain, whether they valued them as markers of time, or simply as curious baubles. That they use them, however, as horaries, is probable, as the division of the Chinese day nearly resembles our own. The Chinese reckon twelve hours to each day. The first hour begins at eleven at night, and finishes at one in the morning. Each hour is divided into two Poen-chy, (half hour); each Poen-chy into four quarters, named Chy-ke. The hours are generally named according to their succession, as Tse-chy, first hour; Tcheou-chy, second hour. They also receive the names of animals; as,

1. <i>Chu,</i>	Rat.	7. <i>Ma,</i>	Horse.
2. <i>Nicou,</i>	Ox.	8. <i>Yang,</i>	Sheep.
3. <i>Hou,</i>	Tiger.	9. <i>Heou,</i>	Monkey.
4. <i>Tou,</i>	Hare.	10. <i>Ky,</i>	Fowl.
5. <i>Long,</i>	Dragon.	11. <i>Khou,</i>	Dog.
6. <i>Che,</i>	Serpent.	12. <i>Tchu,</i>	Hog.

See De Guignes' *Voyage à Peking*, Tom. ii, p. 425.

There can be no doubt, as far as the experience of the members of Lord Amherst's Embassy goes, that watches are the most acceptable presents, on a small scale, that can be offered to the Chinese of all ranks.

buted to the gentlemen of the Embassy, and were rendered very acceptable by the excessive heat of the day.

Nearly two hours had elapsed before His Excellency re-appeared in the banquetting-room. It was impossible to doubt the cause of his delay: he was arguing the question of prostration. We looked at the screen with unpleasant anticipations, as the Chinese pointed to the carpets, and most significantly acquainted us, that on them we must knock our heads. At length the Ambassador came and informed us of the nature of the ceremony that he intended to go through. It was of the same kind, he observed, as that which he sometimes performed before the empty throne of his own sovereign: he should bow as often as the Mandarins prostrated themselves. He then advanced towards the screen, and was placed, with Sir George Staunton, Mr. Ellis, and Mr. Morrison, immediately before it, having six Mandarins of high rank on his right-hand, and the gentlemen of his suite behind him. At a signal given by an officer, who uttered a few words* in an exalted and singing tone, the Mandarins fell on their knees, and, inclining their heads, knocked them three times against the ground, and then arose. A second and a third time the signal was repeated, and a second and a third time they knelt and knocked their heads thrice against the earth. The Commissioners and the gentlemen of the suite bowed respectfully nine times.

When the ceremony was completed, His Excellency, Sir George Staunton, and Mr. Ellis, were conducted to the tables prepared for them on the right, whilst the principal Mandarins seated themselves at others on the left, assuming to themselves the place of honour.†

Mr. Bell, in speaking of the ceremony performed by the Russian Ambassador before the Emperor, at Peking, states, that "The Master of the Ceremonies stood by and delivered his orders in the Tartar language, by pronouncing the words *morgu* and *boss*: the first meaning to bow, and the other to stand." "Two words," he adds, "I shall never forget."

† De Guignes states, that "the place of honour amongst the Chinese is on the right; amongst the Tartars, on the left;" an observation we had no opportunity of verifying. In every instance of ceremonial observance which we saw in China, the left was the situation of honour.

A crowd of servants immediately entered, bringing trays containing part of the feast, which they placed on the tables. Four courses were served: the first consisting of soup, said to be composed of mares' milk and blood; the second, of sixteen dishes of fruits and dried meats; the third, of eight basins of stewed sharks' fins, birds' nests, harts' sinews, and other viands used by the Chinese for their supposed aphrodisial virtues; and the fourth, of twelve bowls of different kinds of meat cut into small pieces, and floating in gravy. In addition to the usual Chinese table apparatus of chop-sticks and porcelain spoons, we were supplied with four pronged silver forks, curved like a scymetar. The wine, made from rice, was contained in small earthen kettles, from which it was poured into porcelain cups, by servants bending on one knee, and was drunk warm.

During the feast, a play was performed; and, at its close, feats of tumbling were exhibited. The dresses of the performers were very gorgeous, and were said to resemble those worn by the Chinese before the Tartar conquest. Confusion and noise were the only circumstances of the performance which impressed themselves upon me, for I could understand no part of the story. The tumbling was more expressive of strength and agility. After continuing at table about an hour, we rose, and the performance ceased. The back part of the theatre was then thrown open, and disclosed a long passage of painted matting, terminated by a rude drawing of a large dragon.

Having returned to our boats in the same order in which we had left them, we received presents of silk, cotton, and the remains of the feast. Each gentleman was presented with four pieces of coloured silk; and each of the servants, guard and band, with four of coloured cotton. His Excellency, Sir George Staunton, and Mr. Ellis, received separate presents.

At day-light the next morning we left our anchorage, and again proceeded on our route up the Pei-ho. My companions were some way a-head when I discovered that my boat was still at anchor, and on going out to enquire the reason, found that my trackers had absconded and that others had not yet been provided. Whilst waiting

for their arrival, my attention was attracted by several Mandarins sitting along the bank of the river, smoking their pipes. Whether they were indulging in a morning habit, or whether they were officers who had been superintending the departure of the Embassy, I could not learn. They were of high rank, and received from a number of Chinese who had occasion to pass them numerous and profound salutations. These were always very ludicrous, and often very servile. Where the difference of rank was small, the inferior contented himself with a slight curtsy, and the usual chin-chin, which is performed by clasping the hands, and moving them quickly two or three times up and down before the breast; but where it was great, he made a succession of what might be called running curtseys; moving rapidly towards his superior, he performed as many genuflexions as possible in a given time. These were sometimes so low, that I was surprised how he could keep his legs whilst making them. A great number of peasants were at this time carrying into the city, or depositing on stalls in its vicinity, a great variety of vegetables, and large masses of ice; who, although they passed close to the Mandarins, did not salute them. In China, a salutation from an inferior, to one very much his superior, is considered a mark of impudent familiarity, and subjects the former to the paternal punishment of the bamboo.

The thickness of the ice which I here saw sufficiently testified the severity of the cold which must prevail in these parts during the winter. Two large lumps, about the size of an oyster-barrel, fastened to shallow baskets, and suspended from the end of a bamboo supported across the shoulders of the bearer, were carrying about in all directions. No people understand better, or use more, the refreshing qualities of ice during hot weather, than the Chinese. Every poor fruiterer whom we met with in the environs of towns or cities in the north of China, either vended masses of it at the lowest price, or used it for cooling his articles of sale. Nothing was more common in the precincts of Tien-sing and Tong-Tchow, than to see Chinese sucking fragments of it, or carrying it about in their hands. The steward of the Embassy was supplied with it in profusion, for cooling wine.