

These remarks are offered with the hope that they may be the means of drawing out more information on the subject from those of your readers who have opportunities of making similar observations either on our own lakes or on those of other countries.

---

XXII. *Observations relative to the Origin and History of the Bushmen.* By ANDREW SMITH, M.D. M.W.S. &c.\*

THAT the genuine Hottentot, at least in an uncivilized state, will doubtless ere long only be known to us through the pages of history, is a position tenable, upon the rapid decay of the race, its intermixture with other varieties, and the gradual extension of civilized life; all now in active progress, having a strong tendency to produce the state, and hurry on to the period in anticipation. This apparent certainty of the approaching extinction, of at least the savage portion of the race, points out the present as the latest stage calculated for observing and recording information concerning the peculiarities of their character and organization, which nature herself will soon cease to supply, and declares that every, even the most trifling, advance to this point will be something gained for posterity. Under such impressions the following remarks are offered to the notice of the Institution, not so much from their being adapted to supply the numerous wants, as for calling attention to the subject, and eliciting from others the various and requisite details.

The Aborigines of South Africa, under whatever local names they may have passed, or still do pass, according to the special tribes to which they may have belonged or do yet belong, will be found to have consisted, and still to consist, only of two distinct races, namely, those of the Hottentot and Caffer. The first of these, or that which from the circumstances above alluded to has the greatest claim upon our immediate attention, was, and to a certain extent is, even now divided into distinct tribes or hordes; each having its own distinctive appellation, and, more or less, governed by its own laws. Amongst those, one division has always held, and still continues to hold, a most conspicuous position, and has ever been proverbial with the rest, on account of its troublesome character and universally outrageous conduct. To this the other tribes, as well as its own members, apply the name of

\* From the South African Quarterly Journal, No. II. page 171.

*Saap* or *Saan*; and history describes a portion thereof under the appellation of Bushmen, to which, as a subdivision of the former, the following remarks are intended to apply.

The term Bushman, or more properly Bosjiesman, is of Dutch origin, and commonly employed at present by the colonists to designate a native of the wild and savage tribes residing immediately beyond the northern boundary of the colony, and supporting themselves either by plunder or the spontaneous productions of nature. The time when such communities began to exist must ever remain a matter of conjecture, yet it is certain that they occurred at an early period; for we find that the histories of such hordes are familiar to the better disposed Hottentots even far in advance of the colony, and stated by them to have existed from time immemorial. Considering the manner in which their numbers are at present occasionally increased, we may, without much danger of error, attribute their origin partly to the consequences of war and poverty, and partly to the association of characters whom crime induced to seek a refuge in the desert, or the habits of a better state of society expelled from its haunts. In very early times the part of the country now known to us as the chief resort of the Bushmen was more densely populated than at present, and the outrages and violences perpetrated by its inhabitants were, according to tradition, even more frequent and horrible than they now are. In such days also, the barren districts lying between the Oliphant and Groone Rivers, now a long way within the boundary of the colony, together with various other spots near the western coast, were peopled by such characters; and the Great Karoo, as well as the country about the Camptoes River, were likewise at one period the retreats of persons like those in question. The belief of such having been the case is founded partly upon the traditions of the older Hottentots; partly upon the statements of the writer of the *Diary of a Journey* made by Governor Simon van der Stell, to the country of the Amaquas\*, and partly upon the authority of a document quoted by the Rev. Dr. Philip†, which furnishes evidence, showing that in the year 1702 a party of armed Boors reached as far as the last-named district, and found there “no kraals, except hordes of Bushmen.” Besides such

\* “Beschryvinge van de Kaap der Goede Hoop, door Francois Valentyn,” p. 6, Amsterdam, 1726; or translation in the *South African Quarterly Journal*, vol. i. p. 39 et seq.

† *Researches in South Africa*, by the Rev. John Philip, D.D. vol. i. p. 37.

real and presumptive proofs of their ancient existence in various situations, we also find them in the present day scattered over all the deserts of Great Namaqualand and the Butchuana country\*, and observing there a similar line of conduct towards the Hottentots, Damaras, and Caffers, in their vicinity, that those within reach of the colony do towards its inhabitants. All such have certainly anything but a tendency to support the opinion entertained by not a few, that the tribes in question were originally called into existence through the outrages of the colonists; and though I am ready to admit that very great oppressions have been extended to the natives by the white population, yet it is impossible to allow, with such facts before us, that the latter were in any way instrumental in giving origin to a peculiar community of individuals, which there is every reason to believe existed long before European influence approached even the confines of their country.

Though justice induces me thus to object to such a cause as that assigned, yet at the same time I am quite prepared to admit that the malpractices referred to by the advocates of that opinion, have had doubtless considerable share in augmenting the number,—believing that whatever tends to create poverty, is calculated for producing and likely to produce Bushmen, wherever Hottentots occur. Instead then of ascribing the origin of such to an individual, a recent and a limited cause, I would rather venture to attribute it to influences which operated of old, as well as still continue to operate,—namely, poverty and crime. The former I would regard as having been, and as still being, the most productive; the latter as the most odious and dangerous: the first, as having been, as well as being, the consequence of misfortune, but more frequently of imprudence; the last, as now and then the result of accident, but more generally of mental depravity; and both, as having operated and as still operating in many parts of South Africa, in producing and increasing the numbers of the tribes under consideration.

The majority of the Bushmen population, according to the restricted sense in which the term is here to be understood, consists of pure Hottentots; and the remainder of blacks, either the offspring of an intercourse with the former and other coloured persons, or else the actual outcasts of other

\* Mr. Anderson, who was some time a Missionary amongst the Corannas, when speaking of a spot near the Orange River, says, "The Corannas occupied this place; they are by no means so numerous as the Boschesman, who are every where to be found from east to west in the Briqualand."—*Transactions of the Missionary Society*, vol. iii. p. 54.

racers themselves. The number of inhabitants is small, compared with the great extent of country over which they are scattered, and which consists of the whole of that extensive plain lying between the northern boundary of the colony—the Kamiesberg range of mountains, and the confines of the Orange River. The distribution of the population varies according to the season of the year, the supply of game, and the relation of the tribes to the surrounding inhabitants. In situations where nature is liberal of productions convertible to the support of man, something like small communities are occasionally met with; but in places again, where food is scanty, or water defective, it is rare to find more than one or at least two families together; and those having little or no intercourse with their neighbours, unless when self-defence, or the spoils of some marauding expedition bring them for a time into contact. The fact of their being usually dispersed in such small parties when friendly and well disposed, and of their associating in hordes or troops when projecting and executing mischief, or enjoying the spoils often consequent upon that, frequently furnishes the farmer with a fair guide for judging of their views, and often enables him to discover the retreat of thieves, where those themselves had in the first instance escaped detection.

The little intercourse which they thus have with each other, and the absence of almost every kind of property, render them quite strangers to the great objects of laws, and consequently unconscious of the benefits of a regular Government. They have, therefore, really either hereditary or permanently elected rulers; and few, if any, of them are disposed to acknowledge any superiority, except that which physical strength may secure. In situations where a temporary leader is advantageous, and which they consider as only so in war or the chase, they unconsciously give place in the former to the bravest and most dexterous, and in the latter to the most experienced and cunning. They have no established laws by which offences are tried, nor determined punishments by which aggressions are avenged; every individual is his own lawgiver, and every crime is punished according to the caprice of the sufferer, or the relative positions and relations of the implicated parties. The absence of everything like system renders punishments amongst them very unequal, and often extremely disproportionate to the crimes they are employed to retribute. It permits injuries of the highest order often to be inflicted with impunity, and others of the most insignificant character to be visited with the most hideous vengeance; yet,

yet, nevertheless, such is the satisfaction of all with their present circumstances, in relation to such points, that they cannot be persuaded that it is better to be governed and protected by acknowledged and constituted regulations, than be subject to the varying whims of every mind.

The Hottentot Bushman presents most of the physical characters of the race as exemplified in other situations, and the mixed description, according to circumstances, exhibits more or less of the appearances of the Negro or Caffer. In size and strength, the former is at the very least equal to the Hottentot elsewhere, and is certainly not, as has been generally affirmed, of inferior stature to the members of the savage tribes by whom he is partially surrounded. All have an expression of acuteness and energy beyond that of their coloured neighbours, and a gait and activity peculiarly striking. Their eyes bespeak a habit of watchfulness and scrutiny particularly characteristic, and their demeanour indicates a constant habit of apprehension and fear. They appear to survey every stranger as if an actual enemy, and only waiting a favourable opportunity to injure them; and they do not, until after very considerable intercourse, appear easy in such company. This evidently arises from a consciousness of their offences, and a conviction that their habits and general conduct towards all other nations or tribes are of such a character as warrant anything but the kindness or friendship of strangers. On several occasions I endeavoured to convince them that the Cape Government and the farmers were, in spite of all the depredations and murders they had committed on the colonists, yet inclined to deal liberally with them; but in none of these attempts did I perceive the slightest disposition to give a credence to these assurances, but a distinct persuasion that such was not the case, or rather, *could not be so*, considering their own aggressions; and therefore must be only a pretence employed with a view to deceive them. The dictates of their own hearts, perhaps, never lead them to forgive an injury, so that it is only a conviction or belief of inability that induces them occasionally to forego a punishment; and as they are in the habit of feeling and acting in relation to others, they naturally fancy others must be in regard to them. Hence arises the necessity of being acquainted with the characters and views of savages, in order to be able to judge how far principles fitted for the management of nations stored with both civil and moral knowledge are suitable for such as are, in a great measure, strangers to either; and, consequently, without the very means necessary to enable them to comprehend the more abstruse and complicated rules and regulations

calculated for the guidance of man in a state of actual civilization.

Most Bushmen pertinaciously avoid every communication with foreigners, and resort to the most unfrequented and inaccessible spots, upon the actual or even supposed approach thereof. They are deeply versed in deceit, and treacherous in the extreme, being always prepared to effect by guile and perfidy what they otherwise are unable to accomplish\*. Such treachery, however, though glaringly conspicuous, appears certainly to be resorted to more as a means suggested by reason and observation, to compensate for the inequality that exists between them and their more powerful neighbours, than to proceed from the operation of abstract vicious and dishonourable principles. They are, therefore, not divested of that which under other circumstances such attainments would give reason to suspect,—namely, personal bravery. That, all of them enjoy in a very distinguished degree, and display in no mean proportion in every situation, but more especially when opposed to powers adventitious to those of their own tribes, and upon whom they have been led from infancy to look with impressions of horror, detestation, and dread.

Though well aware of the inferiority of their own weapons, when compared with fire-arms, yet when they discover that it is necessary to oppose the latter, they manifest a remarkable degree of courage, and a perseverance and coolness which only the absence of fear could enable them to support. On such occasions, instances have been known of individuals who have had their left arms completely disabled, employ their toes to fix their bows, so as to be able to continue their defence; and many have been observed to persevere in resistance, after being wounded or maimed in such a way as to occasion almost immediate dissolution. Such violent opposition, and often absurd inflexibility, appear to be excited partly by the influence of their unconquerable passions, and partly by the dread they entertain of falling into the power of enemies, whom they believe as certain either to destroy them at the instant, or convert them into slaves. The coolness and indifference with which almost the whole of the Hottentot race regard the approach of death, has often been commented upon;

\* The Rev. Mr. Kicherer, a Missionary, who laboured for some time amongst the Bushmen, at a station on the Zak River, says—"Another singular escape from death deserves to be recorded. In the evening of a day which was uncommonly sultry, I was sitting near an open window, when a concealed party of Boschmen were just about to discharge a volley of poisoned arrows at me; but, by the same girl who saved the life of Brother Kramer from the danger of Vigilant, they were detected, and made off in haste."—*Transactions of the Missionary Society*, vol. ii. p. 21.

and though it must be acknowledged to be strongly marked in all of them, yet from what I have myself seen as well as heard, I feel disposed to consider it as most conspicuous amongst the Bushmen. These, though they show an inclination to escape where danger is imminent, yet if they find that not to be accomplished with facility, they encounter their fate with scarcely the appearance of reluctance or concern; they yield up their lives without the slightest semblance of fear, and even view the approach of death with so little emotion, as almost to incline one to deny them the feelings of reasonable beings. As one example of such hardihood, I may instance the murderer of the late Mr. Trelfall, who, at the time when the executioners were in front of him, and ready with their weapons to inflict the punishment which his barbarous conduct so imperiously demanded, observed, in reference to some part of a person's conduct who was present, and which displeased him, that he only wished he had him—the offensive person—on the other side, (meaning of the Orange River,) and that he would do for him also.

Cruelty is familiar to the Bushmen in its most shocking forms, and is exercised without remorse upon all such as, under untoward circumstances, fall within their reach. The love of revenge is one of the strongest feelings to which they are obnoxious; it urges often to the most barbarous proceedings, and induces to outrages of the most hideous character, merely to satisfy momentary irritation, or the ranklings of a long-fostered malice. Under such ascendancies, pitiable is the individual who falls within their power, as he is certain of being subjected to the most agonizing tortures while life exists, and to mutilations and disfigurements the most intolerable to sympathy, and appalling to observation, at the very latest, the moment that has fled. Their eagerness after retribution is so urgent, as to render it a matter of indifference on whom it is practised, provided the sufferer be believed to be of the same country as the individual or individuals who may have injured or annoyed them, and in this way the innocent are constantly made to suffer for the guilty.

From what I have been able to observe, as to their inclination towards cruelty and revenge, I almost feel disposed to consider such as peculiarly vigorous in the Bushmen, more especially as I have on many occasions seen both of them exercised towards their own relations, with as much rancour as they could be towards strangers; and several instances have come within my own knowledge, where parents were destroyed by their own children, as well as examples of the most decided inhumanity of the former to their offspring, both of which  
were

were boasted of by themselves and lauded by their companions\*. The passion of anger has amazing influence over them, and numerous are the cases in which lives are destroyed while under its ascendancy. Such constant and unlimited submission to momentary feelings, disposes them to act almost constantly upon the impulse first received, and deprives them of the benefit of that consideration and reflection requisite to discover consequences beyond their immediate effects. Such total want of thought induces them to act with the greatest indiscretion, and tutors their minds for only the concerns of the moment: hence the idea of futurity seldom gives them uneasiness; and the prospects of tomorrow, or a time to come, are to them no subjects of importance. If they can only enjoy the passing hour, that is all they look for, and in doing that, they are often so much wrapt up in indifference to everything else, that they not unfrequently neglect the precautions which in their situations are necessary for their existence and preservation, which decided indiscretion necessarily renders them subject to much uncertainty in regard to the means of subsistence; and while it paves the way to abundance at one time, equally ensures want and scarcity at another.

In mixed society, the Bushmen are less talkative and frolicsome than other Hottentots, which appears to arise from their want of confidence in persons of any community, save of their own. Unlike others of their race, who unheedingly enjoy themselves in all societies, and in every situation, they exhibit signs of constant uneasiness and watchfulness; and instead of receiving with pleasure and cordiality the jokes of their associates, they seem to experience annoyance therefrom, and almost an inclination to acts of resentment. They are capricious in the extreme, and uncertain in every situation, and it is not without explanation that many of their proceedings can appear accountable to strangers.

They are notoriously patient of toil, and vigorous in a very

\* They take no great care of their children, and never correct them except in a fit of rage, when they almost kill them with severe usage. In a quarrel between father and mother, or the several wives of a husband, the defeated party wreaks his or her revenge on the child of the conqueror, which in general loses its life. Tame Hottentots seldom destroy their offspring, except in a fit of passion; but the Boschemen will kill their children without remorse on various occasions; as when they are ill-shaped; when they are in want of food; when the father of a child has forsaken its mother; or when obliged to flee from the farmers or others, in which case they will strangle them, smother them, cast them away in the desert, or bury them alive. There are instances of parents throwing their tender offspring to the hungry lion, who stands roaring before their cavern, refusing to depart till some peace-offering be made to him.—Kicherer in Transactions of the Missionary Society, vol. ii. p. 8.



high degree; and so accustomed are they to exercise of an active description, that their swiftness becomes remarkable, and their power of continuing it truly astonishing, being such as to enable most of them to keep pace with horses even for days in succession, and often to drive off cattle with more celerity than pursuers can follow. The disposition to laziness so decidedly characteristic of the more regular Hottentots, is equally developed in the Bushmen; and were it not the absolute necessity of daily exertion to procure the scanty means of subsistence, they would doubtless pass their time in indolent practices similar to those pursued where resources are more certain and productive.

The continual use to which they apply the eyes and ears, not only as means of discovering their food, but also as useful agents in self-preservation, renders their senses of seeing and hearing amazingly acute, and capable of furnishing a degree of assistance quite unknown to the inhabitants of quiet and civilized countries. In situations where the eye is unavailable, it is wonderful with what certainty and readiness the ear directs to an object; and again where distance renders sound inaudible, the eye often operates with a precision and force which a person who has never witnessed the like would scarcely be disposed to credit. By the latter alone, they will often discern with distinctness what others require a telescope to distinguish, and discover the nature and appearances of particular objects, when persons less versed in observation would scarcely be able to perceive the figures themselves.

[To be continued.]

---

XXIII. *An Account of an Aurora Borealis observed at Woolwich on the Night of January 7th, 1831.* By MR. WILLIAM STURGEON.

A BEAUTIFUL display of the aurora borealis was observed at this place on Friday night, Jan. 7th, 1831. The aurora commenced with the evening, and was very distinctly seen at about half-past five o'clock, exhibiting an arch of faint yellowish light, bordering a dense black area, which was bounded by the arch and the northern horizon. The aurora became more brilliant as the evening advanced and got darker, darting occasional faint flashes of light upwards from the bright and comparatively steady luminous curve. About half-past six a second, and apparently concentric, bright arch made its appearance at a greater altitude than the former, and continued nearly the whole time of the remainder of the display. These

changed its course often enough to bear the gravel to all the points now constituting the hill tops, since they are by no means in any single line. Next, we must suppose the Thames still wandering from bed to bed, to have excavated down to the present level, that is, some 400 or 500 feet, a district of several thousand square miles. And lastly, to have universally distributed the gravel over the surface so excavated: yet, since in the time of the Romans, Londinium was already an emporium, the river has been remarkably reclaimed from the fickle habits of its youth, having been ever constant to a single channel; and the camps of that people on Wimbledon Common and Holwood Hill have resisted the atmospheric action of some eighteen centuries, without material degradation.

I have, about a year since, in a paper communicated to the Geological Society on the valley of the Thames, of which an analysis was given in this Journal at the time\*, mentioned instances connected with that valley, in which the diluvial pebbles must have been derived from districts having their drainage in directions exactly opposite to that by which they must have been transported to their present locality.

(To be continued.)

---

XXXVI. *Observations relative to the Origin and History of the Bushmen.* By ANDREW SMITH, M.D. M.W.S. &c.

[Continued from p. 127.]

THE language spoken by the Bushmen is decidedly a dialect or dialects of that in use amongst the Hottentots elsewhere; but in most situations is so altered and modified, as that its origin and dependence can scarcely be traced. Some express themselves almost exactly in the same manner as the Namaquas; others by the same words, only with a peculiar pronunciation, and a third division in a style partly varied by the mode of utterance, and partly by the introduction of new words or expressions either resorted to for the purpose of communicating newly acquired ideas, or with the design of confusing their tongue and rendering it only intelligible to the members of their own communities. Of the three, the latter modification is by far the most general, and forms what is known amongst the colonists by the appellation "Cnese tal." From the plan just adverted to being frequently adopted, and considered as of advantage in carrying on their dangerous and unlawful exploits, very considerable modifications are even cur-

\* See Phil. Mag. and Annals, N. S. vol. vi. p. 61.

rent amongst families or associates themselves; all of which, however, are more or less perfectly understood by the population at large, though very incompletely by strangers, who are well versed in the more regular language upon which such rude and slang jargon is ingrafted. That clapping noise occasioned by various motions of the tongue, and which is truly characteristic of the Hottentot language, is particularly conspicuous amongst the Bushmen, and by many is so incessantly employed, as to make it appear that they gave utterance to no articulate sounds, but only an uninterrupted succession of claps apparently unfitted for conveying any meaning, and yet completely recognised and understood by those to whom they are directed. Lest the foregoing observations, setting forth the dialects of the latter as in a great measure unintelligible to the former, may yet, as has already been the case, be urged in proof of their existence as a distinct race, it may be observed that the modifications in use amongst other tribes would not be understood by the different inhabitants, were it not for the occasional intercourse and association of persons of different divisions, whereby all become acquainted with the discrepancies of each other. Such communications, however, do not generally take place between the Bushmen and other tribes, and consequently the dialects of the latter, instead of having been and continuing to be familiar to others, are distinctly known merely to themselves; and only, if at all, understood by strangers after long and serious consideration. That it is the seclusion and not a radical distinction that renders it incomprehensible, is distinctly evinced by the circumstance of those who live on friendly terms with other Hottentot tribes, and unite more or less therewith, expressing their own words by such a modified pronunciation, as to render them quite intelligible, and to bespeak the same root for all varieties.

Their articles of clothing are very simple, rude, and inefficient. A kaross, somewhat in the form of a mantle, is suspended over the shoulders, and is according to the season of the year, or the temperature of the moment, either permitted to hang loose behind the body, or made to envelope as much thereof as its usual scanty dimension will possibly effect. Such is usually composed of sheep-skin, with the woolly side inwards, and forms almost their only protection against the weather, being required to answer all the purposes of a dress by day, and all the offices of a covering by night. Besides that, both sexes have a more limited and partial one for hiding what the dictates of modesty forbid to be exposed; and though the extent to which such concealment is carried is different in each, yet to a certain extent the same objects are kept in view.

In

In the men, a portion of skin, usually either of a jackal or of a wild cat, is suspended in front of the body from a leathern girdle which encircles the loins, and frequently a portion of dried leather hangs from the same behind to conceal at least a portion of the after parts, when the principal article of covering is too short to perform that office. Amongst the women again, the article in question is more extensive, and commonly consists of some ragged skins or pieces of leather, variously fixed together and attached round the loins, thereby enveloping more or less the whole of the parts between those and the middle of the thighs. The members of this sex also universally endeavour to procure some sort of covering for their heads, which they usually compose of the same article as that which forms the other parts of their dress; and if obtainable of sufficient size, apply it somewhat like a turban. The men on the other hand are commonly regardless of the part just adverted to, and generally appear bareheaded, unless when hunting or exposed to the influence of a very strong sun, on which occasions they usually employ a sort of cap made of the dried skin of some animal they may have killed in the chase.

The inefficiency, however, of such clothing induces them to have recourse to other means of protection besides those which have been detailed, and particularly to that of anointing their bodies and limbs with fat, either pure or variously adulterated. In the practice of this, they have always a twofold object in view; namely, the protection of their skin against the parching effects of heat and wind, and the agility and pliability ensured to the muscles and joints; and whatever may be said against the custom, it is certainly a necessary and highly beneficial one to such as are without those complete coverings, which more civilized life supplies. The necessity of often exposing themselves during the great heat of the day, doubtless soon made them aware of the want of some protection against a powerful sun, and suggested the present method they pursue of forming a sort of umbrella by the disposing of ostrich feathers round the extremity of a common walking stick. All, as well male as female, betray a remarkable anxiety after ornaments, and evince a marked desire for every article that appears to them either gaudy or uncommon. Amongst such, the most in esteem are perhaps beads, buttons, and pieces of copper, brass, or polished steel; and what of those they happen to procure, they attach to different parts,—such as the neck, ears, hair, loins, extremities, &c., and not unfrequently also to their different articles of clothing. Indeed so strong is their love of decoration, that they will, in the absence of the more desired objects for that purpose, employ those of their  
own.

own construction,—such as sashes formed of circular pieces of the shell of the ostrich egg, pieces of wood, teeth of wild animals, shells, young tortoises, &c. and those they display in different positions and forms, according to the fancies of the wearers.

The circumstance of their having no fixed abodes goes to prevent them from having any established huts; and the constant necessity of moving from one place to another in quest of an uncertain and scanty subsistence, inclines them to bestow little care or labour on their temporary dwellings. They either erect a shelter of bushes for the night, under the shade of which they repose, or dig a hole in the ground, into which they creep, or else seek a refuge in some natural crevice of a rock, or under a projecting stone, either of which they consider as quite sufficient for a transient residence. Though such is the general method they follow, in protecting themselves against the effects of the weather during the periods of their repose, yet some are more particular, and extend their consideration so far as to supply themselves with a sort of mat, which they place nearly upright by means of a couple of poles, viz. one at each extremity, and under the protection of that they seek their rest.

[To be continued.]

XXXVII. *Statement respecting the Legacy left by the late Earl of Bridgewater, for rewarding the Authors of Works, to be published in pursuance of his Will, and demonstrative of the Divine Attributes, as manifested in the Creation.* By DAVIES GILBERT, M.P. V.P.R.S.

*To the Editors of the Philosophical Magazine and Annals.*

Gentlemen,

**T**HE following short statement respecting the late Earl of Bridgewater's legacy of eight thousand pounds, and of the final arrangements made in consequence of it, may possibly be thought not unworthy of a place in your Journal.

The Reverend and Right Honourable Thomas Henry Egerton Earl of Bridgewater died in the month of February, 1829, at Paris, leaving his last will and testament bearing date on the 25th of February, 1825, in which he desired and directed his trustees to lay out and invest in their own names in some or one of the public Stocks or Funds of Great Britain, the sum of eight thousand pounds sterling; the said sum with all accruing dividends thereon to be held at the disposal of the President,  
for

LV. *Observations relative to the Origin and History of the Bushmen.* By ANDREW SMITH, M.D. M.W.S. &c.

[Continued from page 200.]

FOR subsistence, the Bushmen, as has already been observed, trust principally to the fruits of the earth, and to the game which their plains afford: but when either of those are found deficient, few have any hesitation in supplying their wants from the flocks of the neighbouring farmers. With even such a variety of resources, they are nevertheless often sufferers from extreme want, and are thereby necessitated to consume almost every article which is to be found within the range of their retreats. Of the vegetable productions, many roots, both fibrous, fleshy, and bulbous, form articles of their food; and of berries and other fruits, they employ almost all that are met with whose qualities are not prejudicial to health, and many of which are doubtless possessed of no properties beyond those of filling and distending the stomach. Amongst the most useful and nutritious of the vegetable products, is the seed of a species of grass which grows in their country, as well as in the northern parts of the colony, and which, when cleaned and boiled, has considerable resemblance in taste to barley similarly prepared. This at the proper season occurs in considerable quantities, and is acquired in two ways,—either by directly collecting the tops of the grass and then separating the seed, or by robbing the black ants which there occur, and who carry quantities of it as food to their subterranean abodes.

Subservient as the vegetable kingdom is thus rendered, the animal one is made not less so; for, from the largest quadrupeds that inhabit their wastes, to the most disgusting reptile or the smallest insect, almost all are in some way or other employed as articles of provision. The hippopotami, zebras, quaggas, different species of antelopes, jackals, &c. as well as the ostrich and bustard, form the favourite objects of pursuit with the men; and the pursuit of the hares, dassies, moles, rats, snakes, lizards, grasshoppers, ants, and such like forms, the occupation of the women and boys. There is scarcely a four-footed animal which they can destroy that they do not convert to food, and there is hardly a portion of any one of those, with the exception of the bones, that they do not devour. The flesh in every situation they greedily consume; the stomach and intestines they esteem as delicacies; the liver and kidneys they often swallow even raw, and the contents of the stomachs of many animals they drink or eat either pure or diluted with water. The blood of most animals they highly prize, and though usually cooked before

it is used, yet it is often, either from choice or necessity occasioned by a want of water, swallowed as it flows from the body. The skins, at least of the larger animals, are not even rejected, and those they often feed upon with a degree of rapacity, which nothing but extreme hunger would support.

Some of the articles just stated are regularly made use of in their natural state, but the majority only when cooked. The vegetable productions that require such preparation, are either boiled or roasted; and those belonging to the animal kingdom are mostly treated in the latter way, with the exception of grasshoppers, larvæ of ants, and ostrich eggs, which are commonly consumed without being submitted to the influence of cooking; all the others are, when choice can be exercised, more or less prepared; and what requires most labour, is the dried skins of the larger animals. Those are first moistened by water, and then stamped and roasted; or else roasted first, and stamped afterwards. Though the employment of articles like the last mentioned is calculated to create a degree of wonder in those who have never suffered severely from the pangs of want, yet how much more adapted for such a purpose is the observance of a fact, which almost daily occurs amongst the Bushmen,—namely, the preparation of pieces of old shoes, &c. for the purpose of furnishing a scanty and tasteless meal.

The vegetable products are principally obtained without much labour; and if we except the different roots, few require much exertion. The latter it is necessary to dig out of the ground, and for that purpose they employ either a piece of pointed wood hardened by having been previously a little burnt, or else a gemsbok horn, and by either of those they loosen the surrounding soil with amazing rapidity. The animal productions are partly procured without much trouble, but the majority not without very considerable exertion, as well as the exercise of no small degree of dexterity and cunning. The bow and arrow are the means upon which they mostly rely for obtaining the latter; and next to those, snares and dogs. In employing the former, they either endeavour to approach the animal within a suitable distance to wound him severely, or else to conceal themselves so as to be in the way as he may be pursuing his progress, or, lastly, by the practice of decoys to bring him into a fitting position. The facility they have of creeping, and the similarity between the colour of their skin and the arid wastes over which they hunt, when conjoined to the amazing sharpness of their sight, enable them often to advance within a very little distance of game, and often by a wound of a poisoned arrow to intimate to the animal its unfortunate situation. He observes every motion of  
its

its head during his approach, and whenever it is possible for its range of vision to extend to him, he remains most perfectly quiet; but when that is not the case, he advances with circumspection, and is sustained by such patience, that he will sometimes pass a whole day in the pursuit, without any particular prospect of success. When again he adopts the second plan, he remarks the direction the animal is following, and the position of the best vegetation in the quarter towards which he is proceeding; and having fully satisfied himself as to its probable course, he digs a hole in the ground, and there conceals himself till fate determines what shall be the result. The third mode, or that by decoys, is practised generally with success where the requisites for forming such are procurable. They are principally, if not invariably, executed through the instrumentality of young animals, which, when obtained, are fixed a little way in advance of a low bush fence, behind which the hunter is secreted, and from whence he destroys the dam, as she visits her offspring. Another description of plan he follows, and one not less successful, in hunting the ostrich,—namely, that of digging a hole close to a nest, and concealing himself therein. When in that position, and having previously provided himself with a dog, he throws it upon the eggs; and as soon as the bird sees the animal in that position, it hastens to the spot to drive him away, when it instantly falls a victim to the ingenuity of its betrayer.

Snares they construct in various ways, and by such they often greatly increase their supplies. Some are formed of nooses placed in positions through which animals are accustomed to pass, and others consist of large and deep holes dug in the ground, and so covered over with grass and other articles as not to be distinguishable from the surrounding parts till discomposed by the steps of a visitor, when it is usually too late to discover the fraud. By this method, when practised in situations where water or grazing ground occurs, sea-cows, zebras, quaggas, and various of the antelope species, are frequently obtained. By the formation of trenches or long narrow ditches, grasshoppers are also commonly entrapped, particularly when driven in great abundance towards them, as when they fall therein they are totally unable to escape again. The resort of the white ants they discover by observing the hole at which they enter the ground; and when that is accomplished, and the object is to secure the young, they dig away the earth till the nest is discovered, when it is immediately exposed, and the larvæ, as well as many of the older specimens, are selected. In the pursuit of these, they often dig holes several feet in depth, and three or four in diameter; and after that,



that, they are not unfrequently disappointed of the objects in view. When, however, they are successful, they carry the fruits thereof to their temporary residence, and there, by the assistance of a small piece of dried skin, remove all the earth and other impurities, after which they either devour the remainder, or else place them in a pot upon the fire and warm it a little; during which time they keep agitating the contents, so as to prevent them from burning, &c. After a few minutes of such treatment, they are considered as prepared and adapted for food. In this state they are not unpalatable, and it is only the knowledge of their nature that gives anything like a disinclination to relish them.

By the Bushmen, the food under consideration is highly esteemed, and that and the ostrich egg are perhaps the most admired articles of their subsistence. After what has been stated as to the variety of articles employed in diet, it will doubtless appear a little strange, that on many occasions they are scarcely able to exist. Such evidently arises from the scantiness with which the varieties alluded to are distributed, particularly at certain seasons, as well as from the difficulty with which many of them are obtained. It matters little, however, what the cause or causes are, as the fact is established, and is what doubtless induces them to plunder both the colonists and their various Hottentot neighbours. Lest, however, this remark should be construed as expressing my belief, that unavoidable want is the only incentive to plunder, I may observe, that I am quite convinced that laziness and a love of animal food are very often what alone urge them to thieving. [To be continued.]

#### LVI. *Notices respecting New Books.*

*Illustrations of the Geology of Yorkshire; or a Description of the Strata and Organic Remains of the Yorkshire Coast: accompanied by a Geological Map, Sections, and Plates of the Fossil Plants and Animals.* By JOHN PHILLIPS, F.G.S., Keeper of the Museum of the Yorkshire Philosophical Society, &c. York, 1829, 4to. pp. 192. Twenty-four Lithographs.

**G**EOLGY naturally divides itself into two branches, according as its cultivators study the crystalline aggregates or the stratified deposits which combine to form the crust of the earth; and accordingly we have always had two distinct classes of geologists. For the examination of Plutonic rocks, Mineralogy is required; for the Neptunian deposits we must refer to the sciences of Botany and Zoology. The most brilliant discoveries, the most striking and most successful generalizations with respect to the structure of the earth, which have yet been made, have originated in the study of organic

LXIII. *Observations relative to the Origin and History of the Bushmen.* By ANDREW SMITH, M.D. M.W.S. &c.

[Concluded, from page 342.]

**I**N the art of carrying off their pillage, they are extremely dexterous; and in the practices of deception on such occasions they are peculiarly expert. They sometimes commit their depredations during the day, when the flock and herds are dispersed in the fields, but more frequently at night, when they are collected for rest. Should necessity permit of their exercising a choice as to time, they commonly prefer the decline of the moon, so as to have the benefit of darkness to assist them in the commission of the act, and the aid of light to facilitate in the carrying away of the spoil. The existence of rainy weather they also regard as favourable for such pursuits, on account of fire-arms being then less available; but, nevertheless, the circumstance of footmarks of every description being more distinctly imprinted at such times, whereby they can be more readily traced, often prevents them from availing themselves of the advantage in question. Having once got possession of cattle, they invariably carry them across the most parched and arid spots, and regularly in the directions where water is least abundant, in order to incommode their followers, or render pursuit impossible. If at the time they commit their outrages, the country through which they intend to return be very dry and destitute of water, they furnish themselves before they commence the expedition, with a number of ostrich shells filled with that fluid, and those they deposit successively in holes of the ground during the approach to the scene of their intended operations, whereby they supply themselves on their return with what may be necessary to quench their thirst. By these arrangements they readily continue their retreat when their pursuers are forced to turn back, and by such practices they often set at defiance the endeavours of commandoes, either to destroy them or retake cattle. When they succeed in the object of their enterprise, they either betake themselves to a convenient water-place, or else to the spot where their families reside, and there kill and eat till all be consumed. If it happen that the means of pasturage occur in the vicinity of the place resorted to, they sometimes permit what is not immediately required, to exist, till what they may have slaughtered be eaten; but when such is not the case, or when there is a chance of the persons plundered descrying their retreat, they prefer destroying all at once, and

either allowing a portion to go to waste, or to be consumed when even far advanced in putridity.

When in the act of driving away either cattle, sheep, or horses, they are pursued and approached, they immediately commence destroying them; and as soon as that is completed, they betake themselves to flight\*. Should, however, they discover that by the time they have effected the first of those objects, the latter cannot be achieved, they prepare for defence, and then according to circumstances, either are satisfied with attempting that in exposed positions, or else from behind rocks or stones; or, if time will permit, from holes formed in the ground. The dexterity and quickness with which they often form the latter, is matter of great wonder with the colonists; and I have been told by persons who have been much in the habit of observing them in such situations, that almost in the course of a few minutes they will model cavities, in which two or three can conceal themselves, and avoid in a great measure the effects of fire-arms. From such positions they send forth their arrows with great precision, and while in them they are regarded as nearly upon an equality with their opponents.

\* Field Cornet Louw, of the Aghter Hantam, writes, "I received a report on the 20th November, 1829, from the Burgher Hendrik Johannis Rygert, stating that five Bushmen had taken away, between the place of Middlekraal and Slang Fonteyn, three black cattle and two horses, belonging to Hendrik Wolfgraaf, when, having driven them a short distance, they shot them dead. I immediately ordered out a commando, and proceeded on the 23rd following, as far as the place Hinger Fonteyn, to discover their tracks and the road they had taken. I there ascertained that they had taken some more horses. I then proceeded nearly as far as the Fish river, where was a Bushman kraal, and finding that the aforesaid Bushmen had reached it before me, and had broken it up and gone to a greater distance, I resolved to return, the more on account of want of water. On arriving at Hendrik Visage's he informed me that five Bushmen had again been in the colony, on the Hantam mountains, and that he had sent three bastards on their tracks. I then directed my commando to remain for the day, in order to call in the assistance of more people, as thinking it not strong enough. One of the bastards ordered by me having gone to the place Brandwacht, to fetch his horses, discovered that the said Bushmen had taken two the day before. Following their tracks he found they had driven them into a deep kloof near the place; but being afraid to pursue them further, he returned to us to report the same. In consequence of the information, I repaired to the place the same evening, with my commando, and at a late hour sent out spies to see whether they were still in the kloof, but they made no discoveries. I subsequently took the same thither, and came to the spot where it appeared, by the remains of the horses, that they had been feasting upon their flesh, having previously pierced them with arrows. Still following their track, I at length arrived at my own place, where, about 1000 yards from the house, I found they had driven off my horses, and at the distance of about half as much further, they had stabbed four of them and shot others with poisoned arrows, so as to cause their death. Still in pursuit,

we

opponents. If when they are detected they be in the vicinity of rocks or mountains, they, after securing their plunder in the way already described, retreat to those with amazing rapidity, and from thence conduct their defence so dexterously and effectually, that seldom are they overcome. They shelter themselves so completely behind the rocks, that shot can produce little or no effect, and the uncertainty of their actual resorts renders the assailants little disposed to venture upon a close approach. When in such positions, as well as when in holes of the ground, the only effectual way in which they can be secured or destroyed, is by approaching them under the cover of a large shield, formed of the dried hide of an ox, or of a hard rush or reed mat, and carried by one person, while another accompanies him prepared for an actual attack. Through those articles, the arrow will not penetrate so as to produce much effect; and therefore, if they are not in considerable numbers, or so close as that in advancing to one, others are so situated as to be enabled to act with success, they may thus be subdued, and frequently are so, both by the frontier farmers, as well as by the Namaquas, River Hottentot,

we found five more of my horses lying dead, one upon another, and on a rocky rising ground, between the places Brandwacht and Malpes Fonteyn, the robbers themselves. Here they defended themselves to the last extremity, in consequence of which, two of them were killed by the commando."—MSS.

A gentleman, who lately happened to be on the northern frontier of the colony, at a time when the Bushmen had stolen 1200 sheep, says, "A commando, which I accompanied, pushed forwards as fast as possible upon the traces of the thieves, and it was most lamentable to see the track so strewed with dead sheep which had been destroyed by the plunderers. It appears," he adds, "that the Bushmen never leave behind them any cattle alive which, from fatigue, cannot go on, but invariably kill them with poisoned arrows." When they overtook them upon a high and rocky hill, they appeared much confused, but immediately dispersed themselves and got behind rocks, from whence they showered their arrows upon the farmers. Of those the writer brought away two hundred.—MSS.

"On the morning which was fixed for our departure," says Mr. Kicherer, "one of our cows came home with an arrow sticking in her flank. We immediately concluded that the Boschemen had driven away part of our herd. In these cases, they oblige the cattle to run as fast as they can, and when any of them are unable to keep up with the rest, they pierce it with a dart; in consequence of which, it falls on the road, and the carcass is fetched away by the robbers on the following day. The cow which returned to us had been thus treated, and served as a messenger to apprise us of what had happened. I dispatched some Hottentots with fire-arms to pursue the track of the banditti; and in the mean time travelled on with the remainder of the caravan. On the next day, my people joined us with seventy-three out of eighty oxen, which had been stolen from us. They had happily fallen in with the robbers, at the distance of a long day's journey beyond the hills, and recovered the property; but two of our horses had been killed by the fatigue."—*Transactions of the Missionary Society*, vol. iii. p. 12.

Hottentot, and Caffres. On such occasions, however, when the defendants perceive that their efforts are likely to be ineffectual, they are apt to rush forth from their hiding-places, and approach with such a rapidity and ferocity as not unfrequently secures them a victory.

Much difference of opinion exists as to their skill in the use of the bow: some certainly are very dexterous therewith, and will almost to a certainty, at a very tolerable distance, strike any object of moderate size, while others are less certain of their aim; but as a general position, it may be admitted that the majority will not shoot many times without effect, at a distance of sixty or even eighty yards, when the object in view is equal to the dimensions of a man. As those weapons form their only articles of defence, as well as the means of procuring a large proportion of their food, expertness in the use of them is a principal object of study, and one of the most frequent amusements even of their early years. Every Bushman youth is furnished with his bow, and even the infant at the breast is frequently so supplied. In the construction thereof, almost all their art is centered; and in giving them the form and character best calculated for their particular objects, much ingenuity and cunning are often displayed. The bow varies in size amongst different hordes, being with some between four and five feet in length, and with others not more than three. It is made of various sorts of wood, but such as are strongest and most elastic are usually preferred. The string by which it is bent, and held in a condition fit for immediate use, is formed either of the dried intestines of quadrupeds, or else of the lacerated and otherwise prepared tendons of animals. The arrows differ in length according to the bows, but seldom extend beyond two feet or two-and-a-half. They are formed of strong reed, about the thickness of a writing quill, and with one extremity fitted to embrace the string of the bow, and the other to receive a piece of cylindrical bone of nearly the same circumference as the reed itself, and on which is fixed the article for inflicting the wound. In some cases, the latter is of fine stone formed into a somewhat triangular shape, and in others it is of iron, constructed so as to ensure most effect to its operation. On the portion of the arrow immediately behind the part destined for cutting or puncturing, is the poison spread, and that in such a way as completely to encircle about two inches of it. In many specimens immediately behind that, the shaft is cut more than half across, so that the slightest motion after it penetrates, or the least attempt to withdraw it, does generally occasion the separation of the major part from that which bears the poison; and on the site of the latter is also frequently

frequently attached a small barb of quill or fine iron, so as to assist more effectually in rendering extraction almost impossible. With the view of ensuring the arrow a straight course when ejected from the bow, they in common with all others who use the like instrument, attach a portion of feather to its hinder extremity. Of such, thus completed, every Bushman will perhaps be supplied with fifty or sixty, and those he carries in a sort of quiver, formed of the bark of the Kokkerboom, from which the woody part has been excavated. When, however, in a state of war, or in pursuit of game, he generally holds more or less loose in his hand, and when about to shoot, always places them in a convenient situation upon the ground.

The poison they employ is manufactured in various ways, so as to concentrate and render it adapted for application to the arrows. The most virulent sort, and that which they usually employ when they go against their enemies, is chiefly composed of the poison of snakes; the next to that is one obtained from the larvæ of an insect, found upon a bush growing near the Orange River; and the third is of vegetable origin, and called the malkop poison, on account of the peculiar effects it produces upon the senses. This last is not considered so serious in its consequences as either of the others, and is the sort commonly employed upon arrows destined for killing game.

Such then are a few of the points of interest connected with the history of the Bushmen; and though far from exhausting the subject, or even including all that my own notes would afford, yet I am induced to conclude for the present, with an earnest recommendation to such of the members as may have been in the habit of observing our savage tribes, to embody their remarks for occasions like the present; as by such proceedings they may advance their individual reputations, at the same time that they acquire a consequence and character for our institution, which must be dear to all of us who feel a pride in the success of enterprizes in which we have a share.

LXIV. *Theory of the Telescopic Level.* By JOHN NIXON, Esq.\*

A TELESCOPIC level of the *most simple* construction, would consist of a refracting telescope with adjustable cross wires fixed within a perfectly cylindrical tube; the latter having attached to its surface (by means of adjusting screws) a spirit-level, placed parallel to the direction of its axis.

\* Communicated by the Author.