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ART. I.—*Observations on the Grammatical Structure of the Vernacular Languages of India.* BY THE REV. DR. STEVENSON.

No. 2.

THE INDEFINITE ARTICLE.

It has by many been taken for granted that none of the Vernacular languages of India have any thing corresponding to the Article, for no better reason apparently, than because there is no Article in the Sanscrit. Yet in Clarkson's Gujaráthí, (a.) Campbell's Telugu, (b.) and Lambrick's Singhalese, (c.) Grammars; in Hunter's Hindostání, (d.) Molesworth's Maráthí, (e.) Candy's English and Maráthí, (f.) Ram Komul's English and Bengáli, (g.) Garrett's Canarese, (h.) and Rottler's Tamil, (i.) Dictionaries, as well as in other authorities, the numeral adjective corresponding to *one*, like the French *un* and the Turkish *bir*, is stated to have occasionally the character and power of an Indefinite Article.

(a) p. 13. (b) p. 42. (c) p. 113. (d) under the word یک (e) under एक No. 3.
(f) under A. (g) under A. (h) p. 147. (i) Vol. I. p. 287.

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As this indefinite use of the numeral in the Vernacular Dialects of India, differs very considerably from the Indefinite Article of European languages, it may be necessary to notice briefly in what the difference consists. In European languages the Article is used to point out one individual of a species indefinitely, without any emphasis. In the Indian tongues there is emphasis joined to the want of definiteness. To express unemphatically and indefinitely that there is one individual in the mind of the speaker, the Hindus use simply the Noun without any addition. Thus "he gave me a rupee", is simply in Hindostání, *Usne mujhe rupaiya diya* (उसने मुझे रूपया दिया). To use *ek* before *rupaiya*, in this sentence would make it mean, "he gave me one rupee." When *एक* is used indefinitely in India, it has frequently the power of the English Article with the emphatic word *certain* affixed; thus, *एक सिंह* means not "a lion," but "a certain lion;" and in Marathi *एका समयी* means on a certain occasion, though in this case the idioms of the two languages nearly coalesce, and we could properly translate the phrase by the words, "once on a time," where the emphasis is given by the adverb *once*. Another use of *एक* is to express emphatically any one of a multitude; thus in Marathi, a person who had got some urgent business on his hands might say, (एका गड्याला बोलाव) *eká gadyála boláwa*, "call a servant," meaning any one you can find. These or similar uses of the word will be found, according to the authorities above referred to, in the other languages of India, though I am unable from personal experience to speak more particularly on the subject. It will be admitted that the French *un* and the German *ein*, used for the Indefinite Article, are nothing more than the first number in the series of numerals, modified and adapted to a particular purpose; and I think the same may be said of the English *a*, which in the form of *an* was anciently written *ane*, a word still used for *one* in the Lowland Scottish dialect. If the French and Spanish and Italian *un*, used as an article, be undoubtedly derived from the Latin *unus*, we are furnished with an illustration of an important principle in such enquiries; namely, that the construction of a language is much more stable than its Vocabulary. There is no article in the Latin language, and no such use of *unus* as of *un* in these tongues, yet the latter is most certainly derived from the former. So

there is no such use of एक in the Sanscrit as that above described, though the word is pure Sanscrit. This idiom, then, belongs to the Vernacular languages of India, all of which as well as that of Ceylon it pervades, and therefore must have belonged to an aboriginal dialect spoken throughout the whole country before the language of the population was influenced by the Brahmánical tongue. The substitution of *ek* in the Northern languages for the *ondu* of the Southern, changes merely the word without affecting the idiom. The classic word has found insertion into the aboriginal language in the same manner as many an old baronial castle still retains its mediæval configuration, though one battlement after another has had its old crumbling stones replaced by fresh materials; or as in the classic land of Greece, or amid Egypt's massive monuments, the traveller descries some Turkish castle, constructed after a barbaric model, repaired with stones which once adorned a Parthenon or Osirian temple, and sees where the rough plastering has fallen off, the chaste sculpture of some disciple of Phidias, or the pictured hieroglyphics of Egyptian sages.

THE DEFINITE ARTICLE.

In the same manner that the word, which expresses the numeral *one* is frequently used for an Indefinite Article, there is a particular particle that when affixed to a word supplies the place of a Definite Article. As in the former case, the laws of this article differ very considerably from those of the Definite Article in European languages, and to explain its full import is attended with a difficulty similar to that which we noticed in reference to the Indefinite Article. It at one time corresponds to an emphasis placed on the Personal Pronouns in the English, where frequently the demonstrative *that* may be substituted as *wuhi chor hai*, "He is the thief," or "that is the thief." At another time it points back to some one mentioned in the preceding context, and may with the pronoun to which it is attached, be rendered by "the same;" as *wuhi sakshi ke liye aya*. "The same came for the purpose of giving evidence."

This particle in Hindustání and Bengálí is ए (i.); in Tamil, Cana-

rese and Telugu it assumes the form of ए, (e); in Gujaráthí and Marwárí ज, (j); in Maráthí च, (ch).

It is true that we have something of an analogical particle in the एवम्, of the Sanscrit, which may be used much in the same way as the abovementioned particles in the vernacular tongues, and some of them seem easily derivable from this very word. But others of them cannot be traced back to a Sanscrit origin, and are probably parts of the aboriginal Indian language, as the ज of the Gujaráthí and the च of the Maráthí, which have no connection in sense with the च of the Sanscrit. The inference in this case is not however so strong, and I would not lay so much stress on it as in the case of the use of *ek* for an Indefinite Article.

THE NOUN.

In as many of the Vernacular languages of India as have been subjected to Grammatical analysis, it has been usual to reckon seven cases besides the Vocative, as is done in Sanscrit; though it might have been as easy to make out twice seven in most of them. A more rational practice has, however, been adopted in reference to some of the languages belonging to the northern family, and the genius of the particular tongue under analysis observed and followed, as is always done in respect of the Numbers, which are universally acknowledged to be but two, and of the genders, in reference to which some of the more northerly have only a Masculine and Feminine, as the Hindustání, which in this particular agrees with the French; others, like the Gujaráthí and Maráthí, have three Genders, depending a good deal on termination, as in Sanscrit and the ancient European languages; while the southern family with the Oriya follows the law of nature, as is done in the Turkish and English.

What are called cases in the languages of antiquity, are apparently nothing more than the noun with particles, which when separated have no meaning, affixed or prefixed to nouns to point out their various relations to other words in the sentence, serving the same purpose that Prepositions do in the modern languages of Europe. That purpose is served in the Indian Vernacular tongues chiefly by what have been

called Post-positions, because they are affixed to nouns. The only difference then between a Post-position and the sign of a case, will be that the one is by itself significant, while the other is not. In the Latin we have something in the shape of a Post-position affixed to a Pronoun, in *nobiscum*, when the particle *cum* is affixed to the sign of the case. If *dis* the sign of the Ablative, were elided and the word written *nocum*, we should have an exact parallel to the construction of many of what are called cases in the modern Indian languages. Indeed, even in the Latin language itself there are three Sanscrit cases included in what is called the Ablative, viz. the proper Ablative, expressed by the preposition *de* (from), the Locative by *in*, and the Instrumental by *ab* (by) : and the Greeks include all these and the Dative also, under one case. In all the languages of India, the terminations for all the declensions are the same with a few rare and trifling exceptions, and in the same manner, except in about two instances in some of the languages, the terminations for the plural are the same as those for the singular. In both of those points they differ greatly from the Sanscrit and ancient languages of Europe, and agree with our modern languages and with the Turkish. It is true that, as in the Turkish *ler* is introduced before the terminations of the singular to distinguish between the two numbers, so in Tamil गळ (gal), in the Canarese गळु (galu), and in the Telingee लु (lu), are inserted. This is not improbably an abbreviation of the Sanscrit word सकल (all), which in Tamil becomes सगळ and in Marathi सगळे. In the Bengali, in the same awkward way दिग (dig), except in the Nominative, is inserted, probably a corruption of the Sanscrit आदि. This word is often employed where we would use, &c. and in Marathi in the middle of a word it becomes आदीक, from which to आदीग, and last of all to दिग, the transition is sufficiently easy. In most of the northern languages, however, except in the Nominative plural, there is a nasal sound introduced before the termination to mark the plural, instead of the abovementioned syllables. Yet in all, the scheme is identical, and unlike any thing found elsewhere except in the Turkish and Tartar dialects.

In turning to the consideration of the particular cases, we may begin with the Accusative or Objective case, which in the Sanscrit Grammars follows the Nominative. In reference to the Nominative

itself, there is no place for remark ; since in the northern family there is usually no termination that marks it, and the terminations which are used in the southern tongues, vary in every particular language. In the Hindustáni, Gujaráthí, Maráthí, and Singhalese, there is no separate termination for the Accusative. In the Panjábí, it is formed by affixing (ॢ) *au* as in the Telugu, which is almost the same as the Canarese (ॢ) *anu*. In the Tamil, the sign of this case is (ॢ) *ai*, closely allied to the Turkish (ۛ) *i*.

What however is especially to be remarked, as shewing a family resemblance running through them all, is the rule that the Nominative is used for the Objective, in nouns when we speak of inanimate things, and for animate beings the Objective, in those languages that have a separate form for this case ; while in the others the Dative supplies its place. So singular a rule as this, especially in the use of the Nominative for the Objective even when the latter case exists in the language, could not have been the result of accident, and yet the reason is so recondit that we cannot suppose it occurring to the framers of a number of different and discordant dialects. This I esteem one of the strongest proofs of an aboriginal vein running through the Vernacular Indian tongues ; for the rule is a constituent part of them all, and as such is noticed in all the Grammars. "The Instrumental case formed in Panjábí, Hindostáni and Maráthí by (ॢ) *ne*, in Bengálí by (ॢ) *ne*, in Gujaráthí by (ॢ) *e*, all most probably corruptions from the Sanscrit or Pracrit, follows next in order. This case in the southern tongues is formed by different affixes.

The next case, the Dative, seems in all the Vernacular tongues to be purely an aboriginal inflexion, and can be traced from Cape Comorin to the Himalaya. In the Tamil and Oriya, we have (ॢ) *ku*, which is also frequently used in Hindi, though (ॢ) *ko* be more common. In Bengálí, (ॢ) *ke* is properly speaking the sign of the Objective, yet it is frequently used instead of the Dative. (ॢ) *ko* in the language of the Bodo a Himalayan tribe, is in the same predicament. In the Canarese for the Dative we have sometimes (ॢ) *ge*, and sometimes (ॢ) *ke* ; in Telugu (ॢ) *ki*, (ॢ) *ku*, and (ॢ) *ko*, *ki*, *ku* and *ko*. The Marathi Dative is (ॢ) *la*, for a parallel to which we are obliged to pass the Himalayas to Tibet, in the language of which (ॢ) *la* is the sign of the Dative ; or cross

the Indus to Afghanistán, for the Pashtu Pronouns have (ल) *la* the same as in Maráthí, leading us to the Syro-Arabic prefix *la*. The common Pashtu termination for nouns is (ट) *ta*, the same as in Singhalese. Whatever may be said of these three last partial agreements, though still sufficiently striking, I think no one acquainted with the principles of philology can venture to affirm that the first mentioned could have existed without an original connection.

The Ablative case, which comes next in order, seems in the northern family clearly derived from the Sanscrit, from the (तः) *tah*, of which may be derived the Bengálí (इते) *ite*, the Gujaráthí (धो) *thi*, and the Panjábí (ते) *te*, and even the Hindostání (से) *se*. The Maráthí (उन) *un* may be derived from the उ *u* of the Pracrit (*a*). The Tamil (அல்) *al* does not influence either the northern tongues or the Canarese and Telinga, which make out the case by means of Post-positions.

For the Genetive the Gujaráthí *nu* (नु) is probably connected with the Tamil *in* (इन), with (न) *na* frequently used in Canarese, and with the old Marathi (चेनि) *cheni*. From the Telinga (योक्क) *yokka* by contraction may be derived the (का) *ka* of the Hindostani, the (चा) *tša* of the Maráthí, the (जा) *ja* of the Sindhi, and the (गे) *ge* of the Singhalese, as the principal letters have all a great analogy with one another. It is a singular fact in regard to the northern family, that the Genetive is a regular Adjective agreeing in gender, number and case with the Substantive with which it is connected. This, however, is not the case in the southern family. Such are the principal things worthy of notice that have occurred to me in reference to the Noun and its inflexions in the Vernacular languages of India.

a. See Kalpa sutra, Appendix p. 141.

ART. II.—*Memoranda on Mud Craters in the district of Luss.*—By CAPTAIN A. C. ROBERTSON, H. M. 8th, Regt. (Communicated by CAPT. S. V. W. HART.)

The following observations were made by Capt. Robertson in the months of August and September 1849 when he visited these extraordinary Craters in the district of Luss. They had been seen before by Capt. S. V. W. Hart, and those called the "Rama Chandra Koops" had been described by that officer in his interesting "Pilgrimage to Hinglaj," published in the Transactions of the Geographical Society of Bombay for 1839-40. Vol. III. p. 77.

Capt. Robertson has divided his observations into sections headed "Groups (of craters) Nos. I, II, III, &c.," which will facilitate the reader in finding them in the annexed plan. (Plate I.) Ed.

GROUP No. I.

I visited this Group of Craters on the 11th of September. It is situated in the range of the lesser Hara Mountains * opposite to the Kattewara wells, from which the Craters are distant about six miles. At this point of the Hara range the continuity of the sandstone ridges is broken on their eastern side, by the occurrence of an immense mass of whitish clay. The mass consists of two distinct hills rising with a steep ascent from a great sheet of clay, which descends with an extremely gentle slope, about $1\frac{1}{2}$ miles in length, to the foot of the mountains.

In several places sandstone rocks protrude through this sheet, thus apparently indicating that the clay is super-imposed on the sandstone. Seen from the plain, the sheet has the appearance of being divided into channels by the sandstone rocks. It seems as if a stream of liquid mud, descending from above in voluminous masses, had filled the hollows and covered the lower part of the sandstone ridges, leaving nothing visible but their highest rocks.

* Of this range Cap. Hart states:—"Although their height is not very great, yet they present a singularly wild appearance, from their rising at once from the plain at an angle of forty-five degrees on their eastern side, with a greater slope to the west-ward, and being totally bare of all verdure. They are composed of sandstone, and their summits are broken into rugged peaks of the most fantastic shapes." Ed.

s. कूप Kūp, a well.

The surface of the sheet of clay is honey-combed like that of the detached hills or Kooops. It is also intersected by numerous deep fissures and chasms.

From the largest of these fissures, (which penetrates into the heart of the mass and winds round the base of the southern hill), there issues a stream of water which is perfectly clear and very inviting in appearance, but which, on being tasted, is found to be so salt as to be quite undrinkable. This stream, after leaving the fissure, flows through a ravine formed by the low sandstone ridges, and after leaving the ravine, is quickly absorbed in the sandy desert, which stretches from the Haras to the Pooralee. Several kinds of shrubs and plants flourish in the ravine; and on the banks of the stream a white salt is deposited. A yellow sediment is also found in the higher part of its course, where the stream traverses the mud fissures.

The northern Hill, which, in ascending the sloping sheet of clay, lies on the right hand, has a round unbroken outline and on its summit an uneven plateau of considerable extent, presenting several circular depressions which no doubt mark the sites of craters, formerly filled with liquid mud, but we were unable to discover any active mud fountain at present existing on the plateau.

The left hand or southern Hill, differs very much from the other in appearance and conformation. It is broken into numerous peaks and ridges and its whole surface is covered with clusters of the remarkable sugar loaf protuberances which form the characteristic feature of the Dowlaghur range.

A group of active mud craters is situated on, and in the vicinity of a sharp pointed cone on the north-eastern side of this Hill, and on the summit of this cone (which is extremely difficult to reach) is a perfectly flat, circular area about 50 or 60 paces in diameter, having on its western side an elliptical basin which measures 48 feet by 30.

This basin is filled with mud of the consistency of a thick paste. In one part of the mud was a small liquid spot from which gas escaped by large bubbles, rising at intervals to the surface, in the same manner as in the "Chandra Kooops," of which hereafter. At a point at the foot of the cone, where a narrow ravine or fissure which separates

two ridges terminates, is another basin of a circular form, and about 40 feet in diameter, and filled with very liquid mud.

On the left side of the ravine at the height of about 70 feet from the bottom is a small hole from which trickles a little stream of muddy water. This hole is inaccessible and I was unable to see its interior; but I distinctly heard within it the noise of ebullitions, caused by the escape of gas. A small stream of muddy water descends by the ravine leading from the foot of the cone to the great fissure, from whence issues the salt stream that flows through the valley at the foot of the Hills.

From the edge of the crater at the summit of the cone the Katterwarra wells bear nearly east, (N. 86°, 30' E.). The Koops in the Great Hara range bear nearly west, (N. 266° E.).

The height of the crater above the plain I should estimate to be certainly not less than 700 feet.

GROUP, No. II.

THE "RAMA CHANDRA KOOPS."

In this Group* I include the three cones visited by the Agwas † and their followers.

Excepting the record of a few measurements I have nothing to add to the accurate and graphic description of these cones given in Captain Hart's "Pilgrimage to Hinglaj."

The description there given of their appearance and of the phenomena they present, with the exception of two very trifling differences, corresponds exactly with our observations.‡

* Visited 24, 25, 26, 27th August and 9th September.

† "Spiritual Guides of the Pilgrims." Capt. Hart, loc. cit.

‡ "Crossing the Phor river in which water is occasionally found in pools, and can always be procured by digging, we halted at the Tilook Pooree wells, where an extensive marsh was formed by the late rain. One koss from them in a westerly direction, three hills of extremely light coloured earth rise abruptly from the plain. That in the centre is about four hundred feet in height, of a conical form with the apex flattened and discoloured; its southern and western sides rather precipitous, but with a more gradual slope on the others. It is connected with a small one of the same form, but not more than half its size, by a causeway some fifty paces in length. The third bears the appearance of the cone having been depressed and broken, and

When we visited the Koops, the two basins in the crater of the detached cone were not separated by a neck of land.

They communicated with one another and both were filled with mud of the consistence of a thick paste. In the north-western part of the circumference of the large basin and in the south-western part of the small one, the surface of the mud was depressed and covered by pools of clear water.

We did not observe any spring of water issuing from the northern side of the Hill, but a stream exactly of the character of the rill described in the "Pilgrimage" oozed from the eastern slope. It trickled for a short distance, moistening the clay and converting it into a narrow belt of mud. If this be the same spring as the one noticed

covers a greater extent of ground than the others. All three towards their bases are indented with numerous fissures and cavities, which run far into their interior. Their sides are streaked with channels as if from water having flowed down them. On ascending to the summit of the highest one, I observed a basin of liquid mud about one hundred paces in circumference, occupying its entire crest. Near the southern edge, at intervals of a quarter of a minute, a few small bubbles appeared on the surface; that part of the mass was then gently heaved up, and a jet of liquid mud, about a foot in diameter, rose to that height. Another heave followed, and three jets rose; but the third time only two. They were not of sufficient magnitude to disturb the whole surface, the mud of which at a distance from the irruption was of a thicker consistency than where it took place. The pathway around the edge was slippery and unsafe, from its being quite saturated with moisture, which gives the top a dark coloured appearance. On the southern side, a channel a few feet in breadth was quite wet from the irruption having recently flowed down it. I was told that every "Monday" the jets rise with greater rapidity than at other times, and then only did any of the mud ooze out of the basin. The entire coating of the hill appears to be composed of this slime baked by the sun to hardness. No stones are to be found on it, but near the base, I picked up a few pieces of quartz."

"Crossing the ridge which connect this hill with the least of the three, I climbed up its rather steep side. In height or compass it is not half the magnitude of its neighbour, and its basin, which is full of the same liquid mud, cannot be more than twenty paces in diameter. The edge is so narrow and broken that I did not attempt to walk round it. One jet only rose on its surface, and it is not more than an inch in height or breadth. But a very small portion of the mass was disturbed by its action, and although the plain below bore evident marks of having been once deluged to a short distance with its stream, no irruption had apparently taken place for some years. At times the surface of this pool sinks almost to the level of the plain; at others it rises so as to overflow its basin, but generally it remains in the

in the "Pilgrimage," it is evident that it is not of so ephemeral a character as its appearance indicated.

As the "Pilgrimage" does not notice the derivation or meaning of the term *Koop*, it may be worth while to mention that by referring to Shakespear's Dictionary it will be found that, *کوپ* is a word of Sanscrit origin and signifies "a well."

During our stay at the *Koops* we made the following measurements :—

Height of the highest cone above the level of the plain :—	
By first set of observations.....	320 feet 8 inches.
.. second..... do.	307 — 1 —
.. third..... do.....	309 — 6 —
Mean of the three sets..	312 — 5 —
Diameter of the crater of the highest	
Koop.....	57 — 6 —
Do..... do. of the smallest	
Koop.....	59 — 4 —

quiescent state in which I saw it. Two years ago it was many feet below the edge of the crest."

"On my way to the third hill, I passed over a flat of a few hundred yards which divides it from the other two. Its sides are much more furrowed with fissures than theirs are, although their depth is less, and its crest is more extended, and its height about two hundred feet. On reaching the summit I observed a large circular cavity some fifty paces in diameter, in which were two distinct pools of unequal size divided by a mound of earth; one containing liquid mud, and the other *clear* water. The surface of the former was slightly agitated by about a dozen small jets which bubbled up at intervals; but in the latter one alone was occasionally discernible. A space of a few yards extends on three sides from the outer crust to the edge of the cavity, which is about fifty feet above the level of the pools. Their sides are scarped and uneven. On descending the northern face, I remarked a small stream of clear water flowing from one of the fissures into the plain. It had evidently only been running a few hours. The mud and water of all the pools is salt. A fourth hill, situated close to the great range of Haras, and distant from the rest upwards of six miles, was pointed out as having a similar cavity to that last described. Its colour is the same, and although the surface is more rounded, its summit appears broken. I regretted not having time to visit it."

"The name given to these singular productions of nature is the "*Koops of Raja Rama Chandra*," by which appellation they are known to all tribes."—Capt. Hart; loc. cit.