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THE NUMERAL ADJECTIVE
IN THE KLAMATH LANGUAGE OF SOUTHERN OREGON.

BY ALBERT S. GATSCHET.

FROM THE AMERICAN ANTIQUARIAN, Vol. II, No. III.

In the large majority of Indian languages the numeral noun morphologically differs from the Indo-European and Semitic numeral. We distinguish with precision between the cardinal and the ordinal and adverbial numeral; the Indian, in many or most instances, neglects this distinction, but in counting uses two forms of the cardinal, a shorter and a longer one. A series of distributive numerals is a rarity in the old world, but on the Pacific coast of America it is sometimes met with. Classifying adjectives, participles, or particles, are not uncommon in America, as additions to the numerals, determining the shape of the objects counted or spoken of. In Indo-European languages the numerals are so much ground down in their forms on account of their high antiquity, that only lengthy and most erudite comparisons can teach us the fact, that the numeration system is the quinary one; but in most Indian tongues the numeral forms are so transparent and perspicuous, that we can determine without trouble whether the counting system is the binary, ternary, quaternary, quinary, decimal or duodecimal.

Of the language spoken by the Klamath or Mäklaks Indians of south western Oregon, I have given short descriptive articles in Vol. I, Nos. 2 and 3, of this quarterly, and from these it will be remembered that both dialects, the Modoc, or southern, and the Klamath Lake, or northern one, show some slight lexical differences.

In this upland language there are two modes of counting. In the longer the numerals are formed by the formative suffix *-ni*, a suffix usually appended to adjectives designating abstract qualities; the numerals in *-ni* are cardinals and adverbial numerals simultaneously, and if anything like ordinal numerals could enter into the mind of the Mäklaks Indians, they would answer for this series also.* The shorter form represents the nude stem of the numeral without the *-ni*, and stands for our cardinal only; it mostly serves for counting, rapid figuring, and for forming compound numerals above ten.

The numeral undergoes the same inflectional changes as the adjective. It is declined almost like the adjective; that is, it forms a series of cases by means of case-suffixes, or a kind of postpositions, which are not quite so numerous and multifiform as in the declension of the substantive noun. It also possesses

*In a circumscriptive manner the Shawano language forms its ordinals by prefixing *mawi-* to the cardinal and suffixing to it *-sene*, *-thene*. Thus, *nisuathui seven* forms *mawinisuathe seven*. The suffix can also be dropped, and then we have *mawinisuatui seventh*.

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a distributive form, which inflects for case exactly like the absolute form and can in almost every respect be compared to the Latin form *seni, septeni, octoni, &c.*

Follow the numerals in *-ni* from one half to ten with their distributive forms, the apocopated forms and the inflectional paradigm:

EXPLICIT FORMS OF THE NUMERALS UP TO TEN.

<i>Absolute Form.</i>	<i>Distributive Form.</i>
One half ná-igshtani. Modoc: ná'gshtani	nánigshtani
One, ná'dsh, ná'sh, ná's; once, tina	nánash
Two, twice: lá'pēni, lá'p'ni, lá'pi	lá'lap'ni, lá'lapi
Three, third, three times: ndánni, ndáni	ndándani
Four, fourth, four times: wúnepni, wúnepni	wú-unepni
Five, fifth, five times: túnepni	tútēnepni
Six, sixth, six times: nadshkshaptánkni	nanashkshaptánkni
Seven, seventh, seven times: lapkshaptánkni	lalapkshaptánkni
Eight, eighth, eight times: ndankshaptánkni	ndandankshaptánkni
Nine, ninth, nine times: nadshskē'kni (Klamath Lake)	nanadshskē'kni
Nine, ninth, nine times: shkékishkni (Modoc)	syes'xékishni
Ten, tenth, ten times: tá-unepni, té-unepni	tetúnepni

APOCOPATED FORMS OF THE NUMERALS UP TO TEN.

One half: ná-igshta, Modoc: ná'gshta	nán'gshta
One: ná'sh, nás	nánash
Two: lá'p	lá'lap
Three: ndán	ndándan
Four: wúnep, ú'nip	wú-unep, ú-unip
Five: túnep, túnip	tútēnep
Six: nashkshápta, ná'sksapt	nánashksapt
Seven: lápkshapta, lá'pksapt	lá'lapkshapt
Eight: ndánkshapta, ndánkshapt	ndándankshapt
Nine: ná'shskéksh, ná'syēks (Klamath Lake)	nánads'yēksh
Nine: shkékish, skēks (Modoc)	syes'xékish
Ten: tá-unep, té-unip	tetúnep, tetúnip

The Klamath numeral *precedes* the noun which it qualifies.

It would be too lengthy and out of place to discuss here the various phonetic modes of deriving the distributive from the absolute form. The idea of severalty, or apportionment, is connected with this form and it is evolved by what I call distributive reduplication of the first syllable.

If a compound number (viz. a numeral above ten) is spoken of distributively, the first numeral of the compound and not the second is reduplicated. Thus, when I say "Give me thirty eggs every day," this will be rendered by ndándan'sh té-unip nápal nánuk wáitash nish lúi, and not by ndándan'sh tetúnip, nor by ndán'sh tetúnip nápal.

When numerals are connected with "classifiers," it will suffice to reduplicate the classifier distributively, though it would not be incorrect to do the same also with the first numeral of the number expressed.

For case the Māklaks numeral is inflected like the substantive, when used predicatively; but when used attributively the numeral will be inflected almost like the attributive adjective, or even with poorer and more truncated case-endings.

ATTRIBUTIVE INFLECTIONAL PARADIGM.

The inflection of the attributive numeral in its absolute form runs as follows:

ndānni tātaksni—three children (subjective case)
 ndānna or ndannénash' tātakiash—three children (objective case)
 ndannénam tātakiam—belonging to, or of three children
 ndānantka tatakiamti, or tatakiamat—about three children
 ndānantka tatakiashtka—by means of three children
 ndānna tatakiamχē'ni, or tatakiamkshχē'ni—where the three children are
 ndānna tatakiamkshi—where the three children live
 ndānna tatakiamkshtala—towards the place where the three children live

This paradigm proves the fact that to the numeral only case-suffixes, no case postpositions are appended; but both occur in the substantive, even in combinations of three at a time.

COMPOUND NUMERALS.

Numerals composed of hundreds, decads (tens) and units are inflected only in the units, the locative suffix -nta not being here considered as a form of declension. This suffix (-tat, -ta, -nta, -anta, -nt) serves to connect decadic numerals and what precedes them, to the following units. Thus, *seventeen*, ta-unep-ánta lápkshapt pé-ula really means "upon the ten seven I lay down," or, "to the ten seven I add." This number can also be expressed by saying: tá-unepni pēn lápkshapt pé-ula; "ten, again seven I lay down;" the particle pān, pēn "also, again, once more, additively" corresponding here to our *and*.

Where units are added to decads, the smaller number may be placed first, and then need not be accompanied by pēn. Thus we have the choice between these four methods for expressing *forty-three*: vunépnī ta-unepánta ndán pé-ula; vunépnī tá-unep pēn ndán pé-ula; ndán pēn vunépnī tá-unep pé-ula; ndán vunépnī tá-unep pé-ula.

The fraction ná-igshta, ná'gshta *one-half* is usually placed after the classifying term; ta-unepánta láp pé-ula ná'gsta tála nú péwi: I paid twelve dollars and a half.

Numerals standing in the instrumental case, in-tka, and not connected with another noun attributively, have an adverbial meaning, in which the idea of instrumentality is still apparent; *lápantka hüt shlin*, he was shot twice, viz. "by two shots;" *hük nish lápukantka shlatámpka*, they drew their bows at me both at the same time, viz. "they began to shoot at me with two bows."

Classifying terms in constant connection with numerals, or for short "classifiers of form," are, observed in many foreign languages and testify to the prevalent tendency of rude populations to speak with graphic and pictorial accuracy. Six suffixes of this kind are affixed for the same purpose to Aztec numerals, and about twenty to those of the Maya language of Yucatan;* but the mode in which we see classifiers applied in the Klamath language is probably unique.

In this language the classifiers are not suffixed particles, but verbs and their participles, descriptive of form, shape or exterior of the articles mentioned or counted. They invariably stand after the numeral and usually after the name of the article, the shape of which is described; they are appended only to the numerals above ten, not to decads or numbers which terminate in a zero when expressed by figures. This fact fully explains the nature and origin of these classifying terms: they are intended to classify only the unit or units after the decad and not the decad itself. For the unit following immediately the decad in counting, as 11, 21, 61, 131 is in many instances qualified by other classifiers than the units between 2 and 9, as 22-29, 62-69, etc., because the former can be applied to single objects only, while the latter refer to a plurality of objects. Thus, when I say: *ta-unepánta násh lutish likla*, *eleven berries*, this literally means "upon the ten berries one I deposit (or you deposit) on the top;" in *láp'ni ta-unepánta túnep lutish pé-ula*, *twenty-five berries*, I intend to say "upon the twice ten berries five I put (or he, she puts) on the top;" or "after twice ten berries five he lays down." *Likla* and *pé-ula* refer both to round shaped articles only; but the ten or twenty berries counted previously are not referred to by the classifier, only the *units* mentioned or counted. Before the classifying verb some subject pronoun as *nú*, *i*, *hüt* (*I*, *you*, *he* or *she*) is elliptically omitted, but not before its participles *liklatko*, *pé-ulatko*.

The verbs used in classifying the counted objects differ among themselves because they are descriptive of different exterior forms, but all are identical in their signification, which is that of *depositing*, *laying down*, *placing on the top of*. The simple

*Besides numerals, other terms of the Maya language will also affix to themselves these classifiers. In Creek, classifiers are added not to numerals, but to other words; *nini wákin otháit'chatis*, they reached a path "lying down."

verbal form, absolute or distributive, is used, when the speaker is just engaged in counting the objects: the past-participial form "*laid down*" is used in its direct or oblique cases, absolute or distributive, when the articles were counted previously and a statement of their number is made.

The fact that the units from one to nine are not accompanied by these terms, must be explained by some aboriginal mode of counting. It is proper to assume that the first ten objects, as fish, bulbs, arrows, were deposited on the ground in a file or row, or aside of each other, while with the eleventh a new file was started, or when the objects were bulky they were placed on top of the articles of the first decad. This explanation is suggested by the original meaning of these terms.

Examples are as follows:

Tunépní ta-unepánta nash máklaksash kshiklápkaš i-amnatko: commanding: (lit., "having with him") fifty-one Indians.

Ta-unepánta túnep pe-ulápkash Modokishash hú shléa: he found fifteen Modoc Indians.

The list of classifiers subjoined gives their meaning as far as they occur connected with numerals: the verb *ikla* forms the majority of them, by means of various prefixes.

LIST OF NUMERAL CLASSIFIERS.

Likla, part. *liklatko*, with their distributive forms as seen in our numeral series printed below, are found appended to numerals above ten embodying the first unit after the decad, as 21, 91, 441, etc., and mentioning articles of globular, circular, annular shape, or objects of a bulky, heavy-looking exterior. As the prefix *l-* refers to round or rounded things, the meaning of *likla* is "to deposit *one* rounded thing." We find it used when speaking of beans, seeds, fruits, berries, balls, eggs, coins of money, thimbles, bottles, knives, watches, rocks, stones, boxes, wigwams and similar objects.

Pé-ula, part. *pé-ulatko*, with their distributive forms, are appended to numerals made up of more than one unit after the decad, as 32-29, 102-109, etc., and mentioning articles of the same description as given under *likla*, and in addition to these, persons, animals and divisions of time. *Pé-ula* is derived from *péwi*, to give or bestow *many* rounded objects, by means of the *completive* formative suffix *-ola*, *-ula*.

Kshikla or *ksikla*, part. *kshíkatko*, with their distributive forms, are appended to numerals above ten embodying the first unit after each decad, as 31, 181, etc., and mentioning persons or animals. Like *likla*, it is derived from *ikla* and signifies "to lay down *one* animate being."

Íkla, part. *íkatko*, with their distributive forms, are placed after numerals made up of two or more units after the decad, as

32-39, 142-149, and mentioning or counting inanimate objects of a tall, long, or elongated shape, as clubs, sticks, logs, trees, poles, boards, fence rails, rifles or pistols, boots, etc. The verb properly means: "to lay down, or deposit many tall or long inanimate objects."

Nékla or níkla, part. néklatko, with their distributive forms, are appended to numerals containing units from one to nine after the decad, and introducing objects of a thin, tiny or smooth and level surface or texture, as sheets of cloth, or paper, kerchiefs, mats and other tissues, excluding blankets or articles of dress enveloping the whole body. The verb shúkla, of same signification, which we would expect to introduce the *first* unit after the decad, is not in use for this purpose.

Shlékla, part. shléklatko, with their distributive forms, are found appended to numerals made up of units from one to nine after each decad, and referring to blankets, bedcloth, skins, and other large articles of clothing which serve to enwrap the whole body.

Yála, yálha, yéla, part. yálatko, yélatko are placed after numerals composed of units from one to nine after a decad, and are descriptive of long-shaped, tall inanimate objects, and therefore analogous to ikla in their use.

The following series of numerals is accompanied by different classifiers for each decad, thus giving successively the whole series of classifying terms now in use. After the foregoing explanations readers will have no difficulty in understanding its purport:

NUMERAL SERIES FROM ELEVEN UPWARD.

- 11 ta-unepánta nádsh líkla, distr. lílákla
- 12 ta-unepánta lá'p pé-ula, distr. pépula (and so up to:)
- 19 ta-unepánta nádsχéks pé-ula
- 20 lápěni tá-unep, distr. lálap tá-unep
- 21 láp'ni ta-unepánta nádsh líklatko, distr. líláklatko
- 22 láp'ni ta-unepánta lá'p pé-ulatko, distr. pepúlatko
(and so further up to:)
- 29 láp'ni ta-unepánta nádsχéks pé-ulatko
- 30 ndáni tá-unep, distr. ndándan tá-unep
- 31 ndáni ta-unepánta násh kshíkla, distr. kshíkshákla
- 32 ndáni ta-unepánta láp ikla, distr. i-ákla
- 40 vunépní tá-unep, distr. vu-unépní tá-unep
- 41 vunépní ta-unepánta násh kshíklatko, distr. ksíksáklatko
- 42 vunépní ta-unepánta láp íklatko, distr. i-áklatko
- 50 túnepní tá-unep, distr. tútěnepní tá-unep
- 51 túnepní ta-unepánta nádsh nékla, distr. nenákla
- 53 túnepní ta-unepánta ndán níkla
- 60 nadshkshaptánkni tá-unep, distr. nanadshksaptánkni tá-unep

- 61 nadshkshaptánkni ta-unepánta nádsh néklatko. distr. nenáklatko
 70 lapkshaptánkni tá-unep. distr. lalápkshaptánkni tá-unep
 71 lapkshaptánkni ta-unepánta nash shlékla. distr. shlesh-lákla
 80 ndanksaptánkni tá-unep. distr. ndandanksaptánkni tá-unep
 82 ndanksaptánkni ta-unepánta lap shléklatko. distr. shlesh-láklatko
 90 nadshskēksni tá-unep, distr. nanadsyēksni tá-unep
 94 nadshχēksni ta-unepánta vúnip yála. or yálatko, í-álatko
 100 ta-unépní tá-unep; hündred, tina hündred
 101 ta-unépní tá-unep nash kshíkla
 400 vunépní ta-unépní tá-unep
 1000 ta-unépní ta-unépní tá-unep; tina tousän

It is evident, that with such lengthy numerals the noble science of mathematics could not make much headway among the Klamath Lake and Modoc people, even if the necessity was felt for it. The lack of a distinct form for the ordinal numbers renders the terms used for arithmetic fractions unmanageable, and the same may be said of the operations where adverbial numerals are required. In earlier times no short term existed for hundred and thousand. Fractions and multiplicative numerals are formed by adding corresponding participles, as "cut up, separated, folded," to the simple numerals.

ORIGIN OF THE NUMERALS.

Without expatiating further on the various uses of the Klamath numerals, I proceed to the consideration of their linguistic origin, which for the three first is involved in mystery. That the numerals of this idiom have the quinary counting system for their basis is apparent from the repetition of the three first numerals in the terms for *six*, *seven* and *eight*. The two first numerals are etymologically related to the corresponding ones found in the dialects of the Sahaptin linguistic family (Nez-Percé, Yákima, Klikitat, Yumatilla, etc.) and in that of the Wayiletpu (Cayuse and Mólale), both belonging to the Columbia River basin. The problem of the possible ultimate affinity of these families with Klamath, and among each other, could not be solved yet on account of our comparative ignorance of these idioms; but its solution would undoubtedly throw some light upon the origin of these numerals. Vúnep and túnep are compounds of the word *nép*, *hand*, and the prefixes *u-* and *tu-*; thus *vúnep*, *four*, means "*hand up*," and *túnep*, *five*, "*hand away, hand off*," indicating the termination of the counting on four fingers. *Kshápta* is abbreviated from *kshapáta*, "to bend backwards, to lean, recline upon;" the numerals composed with

this verb indicate the bending over of the digits named, as *lap-kshápata*, *seven*, for *láp nù kshapáta* "two I have bent backwards," or simply *láp kshapáta*, "two are reclining, leaning (upon the palm) of the other hand." *Nadsh-syékish*, "one left over" is in *Modoc* abbreviated into *skékish*, "what is left;" the same term also means "what was left behind, inheritance." *Tá-unep*, *ten*, the original form of which seems to be *té-unep*, is a repetition of *túnep*, *five*, with a different prefix indicating plurality.

If the origin of these numerals is thus correctly traced, their originators must have counted only the four long fingers without the thumb, and *five* was counted while saying "hand off." The four or "hand up, hand high" intimates that the hand was held up high after counting its four digits, and some term expressing this gesture was in the case of *nine* substituted by "one left over," *skékish*, which means "one only is left until all are counted." Tribes living in tropical and hot climates mostly possess the vigesimal system of numeration, which is rather unfrequent among the Indians of the United States. The cause of this is that the former go* with their feet naked and therefore use also their toes for counting, while the latter are prevented by their moccasins from doing so. *Klamath* numerals show no affinity with the names given to the digits, and hence it is impossible to say whether they began counting with the index, or what seems more probable, with the smallest finger.

The comparative study of the numerals of different nations and races is most instructive for disclosing certain abstract ideas circulating among their originators, and therefore it can teach us something about the psychology and the reasoning faculties of the prehistoric nations preceding our epoch by hundreds of centuries. No wonder that some of the most gifted linguists like Fr. Pott, W. von Humboldt, and Aug. Schleicher have indulged in their study; they had perceived that a patient and circum-spective analysis of these remnants of the highest antiquity would acquaint us not only with *facts*, as do the grave-mounds, stone-chisels, and flint arrow-heads, but also with *ideas*, and that on account of the continuous order in which they follow each other, they are in some regards preferable to disconnected radices, stems and derivatives for revealing the most antique modes of mental operations.

*Compare Wm. M. Gabb, on the Indian Tribes and Languages of Costa Rica, Am. Philos. Soc'y, 1875, p. 530.

