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INTRODUCTION

TO THE

STUDY OF INDIAN LANGUAGES.

By J. W. Powell.

CHAPTER I.

ON THE ALPHABET.

The study of an unwritten language should begin with committing it to writing. In this manner only can the student become so acquainted with its elements and characteristics as to be able to discover its grammatic structure and its philologic relations; and the language must be written to place such discoveries on record. A language cannot be written until its sounds are mastered, and this is no easy task. The number of distinct qualitative sounds that can be uttered by the human voice is very great, and without long training the ear cannot properly discern and discriminate them all. In the English language there are more than forty simple or elementary sounds, and each one is made by a more or less complex adjustment and movement of the vocal organs, so that in fact no one of these so-called elementary sounds is strictly simple.

In the study of the sounds of a savage or barbaric language the simplest elements into which each can be resolved are oftentimes even more complex than the elementary sounds of the English language. The com-

plexity of the sounds of an unwritten language on the one hand, and the want of training to distinguish such sounds on the other, makes the study of its phonology difficult. The magnitude of this difficulty in the study of the Indian languages of North America will be better understood when it is known that there are several hundred languages, and that there are probably sounds in each which do not appear in the English or any other civilized tongue; and perhaps sounds in each which do not appear in any of the others; and further, that there are perhaps sounds in each of such a character, or made with so much uncertainty that the ear primarily trained to distinguish English speech is unable to clearly determine what these sounds are, even after many years of effort. But the student of one Indian tongue has but a small part of these difficulties to master. Usually the most elementary sounds into which any Indian language can be resolved will be of a smaller number than the English, and very many of the sounds will be the same or nearly the same as those with which he is familiar. A few only will be strange to him By frequently and carefully comparing the sounds of an Indian tongue with the known sounds of his own language the student will be able to very nearly reproduce and describe them. In his first attempt the obstacles will seem great, but as the work progresses they will largely disappear and he will soon be able to write the language with all the accuracy that linguistic science requires. In practice the student of the Indian tongue will commence by comparing its sounds with those of his own language, and thus the alphabet of his language will become the basis of the one to be used in writing the Indian language.

To the English student, then, it becomes necessary to determine how his own alphabet, *i. e.*, the Roman letters, can be used for the new language with which he has to deal. There are other reasons than that of mere convenience why the Roman alphabet should be used. First, it is the alphabet with which the greater part of the civilized people of the world are acquainted, and if consistently used all such people can more easily study a tongue recorded with it than if unfamiliar characters are employed Again, the Roman alphabet is used in all printing rooms where the English tongue is spoken, and in very many others; and if a new tongue is written in these characters it can be reproduced without difficulty in almost any printing

office of the civilized world. If new characters are used or the Roman characters modified so that types for their printing cannot be found in ordinary printing offices, the literature relating to such a language will, to a large extent, be excluded from the scientific and popular publications of the world. For these and similar considerations it is best to use the Roman alphabet, unmodified by additions thereto or by such diacritical marks as are not usually found in printing offices.

Unfortunately in the use of the Roman alphabet for the English language many inconsistencies and absurdities have been introduced. The same sound is often represented by different letters or combinations of letters, and often the same letter has different values in different words; that is, in one word it represents some particular sound and in another word some other particular sound. How these inconsistencies have grown up cannot here be set forth. It is unfortunate that the English language, in many respects the most highly developed of all the tongues spoken by civilized people, is so absurdly burdened with a barbaric orthography. This difficulty of the inconsistent use of the alphabet in the English language is overcome only by an accurate knowledge of the spelling and pronunciation of each individual word of the language, as there are practically no rules for spelling and no rules for pronunciation. But he who first writes an Indian language prepares it for the study of those who are not familiar with it, and he will entirely fail unless he uses his alphabet with rigid consistency. In first writing a new language it should be an invariable rule to adopt a specific and distinct character for each sound; that is, let every sound have a character of its own and be invariably written with that character.

These then are the fundamental rules to be observed in writing an Indian tongue:

1. The Roman alphabet must be used without additions, and with only such diacritical marks as are found in ordinary fonts of type.
2. Each sound must have a letter of its own.
3. Each character must be used to represent but one sound.
4. The Roman alphabet must be used for sounds in the Indian tongue

the same or analogous to the sounds for which they are used in English and other civilized languages.

It is necessary then to set forth the best method of using the Roman alphabet.

VOWELS.

The vowel sounds found most widely among human languages are the five occurring in these English words: *far, they, pique, note, rule.*

Each of these sounds is represented in English by two or more letters or combinations of letters. Often in English, still more often in French, and usually in German and Italian, these sounds are represented by the vowel letters by which they are written in the words above given, namely:

a	*e*	*i*	*o*	*u*
far,	*they,*	*pique,*	*note,*	*rule.*

They are generally called the continental signs, as being so used in all Europe except the British Isles.

Any given vowel sound is apt to be found in the same language having two different quantities, one long and one short. Often there is also a slight difference of quality or tone added to that of quantity. This difference of tone between the long and short values of what is nearly the same sound is greater in English than in almost any other language. The shorter sound corresponding to the long *e* of *they* is the sound in *then* or *head;* the short sound to *pique* is that in *pick;* the short sound to *rule* is that in *pull.* But the English has no real short *o*, except in the "Yankee" pronunciation of a few words like *home, whole, none.* Nor has it a real short sound corresponding to the *a* of *far* and *father;* the so-called "short *o*" of *not* and *what* and their like is our nearest approach to it, and near enough to bear being called a short *a.*

The usual way to distinguish the short value of the vowel is to write a curved mark (the breve) over it. These five signs, then, should be written in this manner:

ă	*ĕ*	*ĭ*	*ŏ*	*ŭ*
what,	*then,*	*pick,*	[*whole,*]	*pull.*

It should be distinctly remembered that the sounds represented by these letters marked with the breve are not exactly the short sounds corresponding to the long vowels represented by the unmodified letters. There is in

each case a slight difference of tone in addition to the difference in quantity.

In English we have a vowel sound heard in *awe, aught, all, lord,* and many other words. It should be written by *â.* Then there is the sound of *a* in *cat, man,* and other words. This should be represented by *ä.* Finally there is the vowel sound heard in *but, son, blood.* It is often called a neutral vowel, because in its utterance the organs of the mouth are nearly in the indefinite position of simple breathing. It is the obscure sound heard in many unaccented syllables It is nearly like the German *ö* and the French *eu,* but not exactly the same as either. As it is called by us "short *u,*" and to one accustomed to English seems most naturally represented by a *u,* the sign *û* has been here adopted for it.

The peculiar sound of the French *u* in *tu, pure, mûr,* etc., or of the German *ü* in *kühl, küssen,* etc., will, whenever found, be written with the German sign *û.* It is made by a combination of the tongue-position by which *i* in *pique* is uttered with the lip-position by which *u* in *rule* is uttered. These four additional vowels are thus provided for:

â	*ä*	*û*	*ü*	*ü*
all,	*cat,*	*but,*	*kühl* and	*mûr.*

Sometimes a vowel is excessively prolonged, and this characteristic plays an important part in some languages. In such cases the sign for plus + should be written after the vowel thus prolonged; thus—*a*+, *ä*+, *â*+, *o*+, *û*+.

DIPHTHONGS.

What is called the "long *i*" of *aisle, isle,* etc., is really a compound sound, a diphthong, beginning with *a* (*far*) and running down and ending with *i* (*pique* or *pick*). It is, therefore, to be written with *ai.*

The sound in *how, out,* etc., is in a precisely similar manner a compound, beginning with *a* (*far*) and running down to *u* (*rule* or *full*). It is accordingly to be represented by *au.*

If such a diphthong as ours in *boil* or *boy* is met with, it must of course be represented by *âi,* the signs for its two parts.

What we call "long *u,*" as in *use, pure, mew, feud,* etc., is clearly a

double sound, precisely that of *you*, and can never be written with one character in any phonetic alphabet; its proper representative is *yu*.

We have then, finally, the diphthongs—

aï	*aŭ*	*ȯï*
mine,	*down*,	*boil.*

A little careful practice will give ready command of this scheme of vowel signs. It is proposed as a basis, a model which is to be adhered to as closely as circumstances shall allow, in representing the strange sounds that may be met with in practice. Its use will not take away the necessity for careful description, nor will it answer all purposes. A language may, for example (like French and German), distinguish two *e*-sounds, a closer (French *é*) and an opener (French *è* or *ê*), akin respectively with our *e* (*they*) and *ĕ* (then), but, unlike the latter, not differing in quantity, as long and short. In such a case it will be best to use *ê* for the opener sound, and we may also need an *ô* for an opener *o*, and even an *î* for an opener *i* (akin to our short *i* of *pick*). And there may be varieties of the "neutral vowel" for which the German *ö* will be a convenient sign.

CONSONANTS.

There can be no question as to the proper method of representing some of the consonant sounds, because widespread usage has fixed certain sounds to certain characters; but in others there has been great variety of usage, and still other of the sounds with which the student will have to deal in Indian languages are unknown to the languages of civilization.

MUTES.

The three letters *p*, *t*, and *k* represent the sounds heard in the following words: *prop*, *trot*, *creak*.

The last example shows that we use *c* as well as *k* with this value; that must be avoided in a systematic alphabet; *k* only should be used.

The *t* and *k* of other languages often do not precisely agree in character with ours; one should be on the lookout here (as, indeed, everywhere else) for differences, and should note and describe them, if possible.

Of these three, the *p* is called a "labial" mute, because made with the lips; the *t* a "lingual" (or "dental"), because made with the tongue-tip

(and near the teeth); the *k* a "palatal" or "guttural," because made against the palate, or near the throat, with the back part of the tongue.

Then there are three other mutes, closely related to these, *b*, *d*, and *g*; their examples are these: *blab*, *dread*, *grog*.

They differ from the three preceding in that there is tone, audible sound, made in the throat during the continuance of the contact by which they are produced. They are, therefore, properly called the "sonant" mutes, while the others are called the "surd" or "non-sonant," or "toneless" mutes—or some term equivalent to this; (the names "hard" and "soft," and their like, are altogether to be rejected.) Usually a language has both the surd and sonant corresponding mutes—*t* and *d*, *p* and *b*, *k* and *g*—if it has either.

All these sounds are called mutes because the mouth-organs are so closed in making them that no breath escapes until the closure is broken or exploded.

The mutes, then, are—

p	*t*	*k*	*b*	*d*	*g*
prop,	*trot*,	*creak*,	*blab*,	*dread*,	*grog.*

NASALS.

If, now, with just the same positions of the mouth-organs, the breath is suffered to pass into or through the nose, the result is the so-called "nasal mutes," or "nasal consonants," or simply "nasals." Generally, a language has a nasal corresponding to each pair of non-nasal mutes (surd and sonant). So, in English we hear the labial nasal *m*, the lingual nasal *n*, and the palatal nasal in *sing*, *bring*, etc. This last is just as simple a sound as either of the others, but we have no simple sign for it, and write it with *ng*. If this double sign, or "digraph," were adopted as its representative, we should have difficulty in distinguishing the simple nasal, as in *singer*, from the nasal followed by a *g*-sound, as in *finger*. The best single substitute is *ñ*, because it is always to be found in the printing offices.

The nasals, then, are—

m	*n*	*ñ*
mum,	*nun*,	*singing.*

The nasal mutes are made, as above defined, with complete closure of the mouth-organs, and get their peculiar nasal quality from the ringing of

the expelled air in the nose. But if the same nasal ringing is made while the mouth-organs are in a position which produces a vowel (part of the breath being driven through the mouth, as in ordinary vowel utterance, but a part also into or through the nose), the result is a vowel with a nasal twang or tone added to it or a "nasal vowel." The French, for example, has four nasal vowels, as in *en*, *vin*, *on*, *un*. Whenever such are found in an Indian language, they may be written with the proper sign for just that vowel-sound which is given, and with the addition of a "superior" *n* to indicate the nasality. Thus, the four French sounds would be represented thus:

ẽⁿ *ɛ̃ⁿ* *õⁿ* *œ̃ⁿ*
en, *vin*, *on*, *un*.

SPIRANTS.

But there are other pairs of surd and sonant sounds (without nasal correspondents).

Thus, for example, the *f* of *fife* and the *v* of *valve* stand related in this way, the *f* being made by an expulsion of pure breath, and the *v* of intoned or sonant breath, through the same position of the mouth-organs. In English, this position is a pressing of the upper teeth upon the lower lip; but some languages leave out the teeth altogether, and produce very nearly the same sounds between the edges of the two lips alone. In any language it would be well to look sharply to see whether its *f* or *v*, or both, are of the one kind or the other.

The *th*-sound in our words *thin* and *truth*, and that in *then* and *with*, are related in the same way, one being surd and the other sonant. Although they are simple sounds in English, they are represented by a "digraph," but this method cannot be used in Indian languages, for the component parts of the "digraph" are needed for their own proper purposes, as these sounds frequently come together in the same order, and in English the same "digraph" is used for both sounds, which will not do. It is proposed to use for the surd (the *th* as in *thin*) the *ç*, and for the sonant (the *th* in *then*) the character *ȼ*.

The sounds last described may be called "spirants." The *f* and *v* are labial, and the *ç* and *ȼ* are lingual, although each pair brings in an additional organ, the teeth. In English we have no palatal spirants, but they are found in many languages. The German, for example, has two: one in words like *ich* and *milch*, formed farther forward on the tongue; the other, in *ach*, *doch*, etc., farther back—more gutturally. They are both surd, and the corresponding sonant is nearly the Arabic "*ghain*." As we have no other use for *q* and *x*, these characters may be used in representing them. If a surd palatal spirant is found, let it be represented by *q*, and if a sonant is found, by *x*.

The spirants, then, are—

f *v* *ç* *ȼ* *q* *q* *x*
fife, *valve*, *thin*, *then*, *ich* and *ach*, *x* = Arab. *ghain*

SIBILANTS.

We come now to the class of "sibilants," or hissing sounds. Our common English *s* and *z* need no explanation; they, too, are corresponding surd and sonant. But our *sh*-sound is just as much a simple sound as *s*, although we use two letters to write it; and it, as a surd, has its corresponding sonant in *azure* and *pleasure*, in *fusion* and *adhesion*, and their like. As we have no other use for *c* and *j* let the first, the surd, be represented by *c*, and its corresponding sonant by *j*.

The *ch* and *j* sounds in *church* and *judge* are compound, having for their last part the *sh* and *zh* sounds, with a *t* prefixed to the one and a *d* to the other; the *t* and *d*, however, formed in a somewhat different way from our usual ones—namely, farther back in the mouth, and with the flat of the tongue. These compound sounds should be written by *tc* and *dj*.

Thus, the sibilants are—

s *z* *c* *j* *tc* *dj*
sauce. *zones.* *shrewish.* *azure.* *church.* *judge.*

W, Y, R, L, AND H.

The sounds of our *y* and *w*, as in *you* and *we*, should be written with these letters. The same with an *h*-sound prefixed to them—as in *when* (=*hwen*) and *hue* (=*hyu*)—should be written as pronounced: that is, *hw* and *hy*. Some hold, to be sure, that these sounds are not *w* and *y* with an *h* prefixed, but rather are the corresponding surds to *w* and *y;* in either case, however, the *hw* and *hy* signs are the best, and unobjectionable.

In the way in which the *w* and *y* are made by the mouth-organs, the sound of *w* differs but slightly from that of *u* (*rule*), and the sound of *y* but slightly from that of *i* (*pique*).

The *r* is a difficult sound for an English speaker to deal with, because the English *r* is spoken so slightly, or even, in a host of cases (when not immediately followed by a vowel), by some people silenced altogether. Other languages are apt to give it a decidedly stronger, even a trilling or vibrated utterance. How, in any given language, the *r* (if present) is pronounced will be a proper subject for special description.

In some languages a sort of imitation of *r* is made by vibrating the uvula instead of the tip of the tongue. If met with, this may be represented by an inverted *r* (marked in manuscript thus, ɾ), as described below. An *r* that has an *h*-sound pronounced before it should, of course, be written *hr*.

The *r*-sound is uttered between the tip of the tongue and the roof of the mouth. In an *l*-sound the tongue touches the roof of the mouth somewhere in the middle, and the breath comes out at the sides of the tongue. The ordinary *l* has the tongue in the *t*-position. The peculiar *l* expressed in Italian by *gl* (as in *moglie*) is made with the flat of the tongue, instead of its tip, against the roof the mouth, and will be conveniently represented by *ly*; it is also nearly the French *l* (*mouillé*). The *n* similarly made (rather palatal than lingual), which is the *ñ* of the Spanish and *gn* of the French (as in *cañon*, *régner*), may be written in like manner with *ny*.

The *h*-sound, though by no means found in all languages, is a common one. It is an expulsion of air through the position of the adjoining sonant sound. Thus, for example, the *h* of *ha* is a momentary rush of surd breath through the organs put in position for *a*, before the tone begins which makes the *a* itself; and it is just so with the *h* of *he* and with that of *who*; they are made respectively with the mouth-organs in the position of *i* (*pique*) and of *u* (*rule*). To be a real *h*, a pure aspiration, the sound must have this character. If there is a narrowing of the throat anywhere, so as to give a rasping noise, the sound is of another character, a guttural spirant, and must be specially described and differently represented.

In English we use the aspiration only before a vowel and before the

semivowels *w* and *y* (as instanced above by *when* and *hue*). In some other languages it may be found also before *r* and *l* and the nasal mutes *n* and *m*. Again, it may be found following instead of preceding the vowel which gives it its character. There are languages, too, in which strengthened or modified breathings appear which yet are not precisely spirants, and it may be necessary, in order to represent them, to double the *h*, or use other methods of distinction.

Uses have thus been assigned to all our letters.

In some languages the mutes, especially the surd ones, are sometimes uttered in such a way that there is a perceptible puff of breath—a kind of *h*-sound, between them and the following sounds. Sometimes there is an initial breathing of the same character; in such cases they are said to be aspirated; these aspirates or rough breathings should be represented by an inverted comma, thus, *b*ʿ, *d*ʿ.

Much like these are the—

INTERRUPTED SOUNDS.

A peculiar modification of a consonant sound is sometimes found in a short explosion as its pronunciation is terminated. Perhaps it would be better described as a hiatus or interruption between two sounds with a slight explosion of the first, though other students describe it as an initial explosion to the following sound. The following illustration, taken from C. Hermann Berendt's "Analytical Alphabet for the Mexican and Central American Languages," page 3, will assist in the appreciation of this peculiarity. "Omitting from the sentence '*break in*' the letters *brea* and pronouncing the remainder *kin*, gives exactly the sound of *ƙin*. The same experiment made with the sentences '*leap on*,' '*cut off*,' '*reach in*,' and '*kratzen*' (German) gives the sound of *ƥon*, *ƭof*, *ƭxin*, *ƭsan*. The distinction between the simple and the cut consonant is important. For instance, '*kan*' means *snake*, and '*ƙan*' *yellow* in Maya."

These exploded sounds are very frequent; perhaps they occur in all the Indian languages. The student should mark the letters representing such sounds by placing immediately after them an apostrophe, thus, *b*', *d*'.

The aspirations described in a previous paragraph seem to be intermediate between true H's and the exploded sounds as last described. In most Indian languages these peculiarities require careful study.

SYNTHETIC SOUNDS.

Much difficulty is sometimes occasioned by the indefinite character of some of the sounds of a language.

In the Hidatsa there is a sound of such a character that the English student cannot decide to which of the sounds represented by *b*, *w*, or *m*, it is most nearly allied; and there is another which the student cannot distinguish from *l*, *n*, *r*, or *d;* such sounds are not differentiated as they are in English. They are synthetic; that is, they are made by the organs of speech in positions and with movements comprehending in part at least the positions and movements used in making the several sounds to which they seem to be allied. Such a synthetic sound will be heard by the student now as one, now as another sound, even from the same speaker. Such sounds are very common in Indian tongues and occasion no little difficulty to collectors, but much trouble can be avoided by a proper understanding of their nature. The student will at first note that the same speaker repeating the word in which such a sound occurs over and over again will be heard in such a manner that he, as hearer, will suppose him to be constantly changing the sound from that represented by one, two or more letters to another of the same group, and when he himself attempts to pronounce the word the Indian is equally satisfied whichever of the sounds is employed. It is found in studying a group of Indian languages of the same stock that these sounds which are synthetic in one branch are sometimes differentiated in another, so that if we have in the first branch a synthetic sound, in the second some words will employ one of the differentiated elements, some another, and the same will be true of a third branch where the sounds are found to be differentiated. On comparing the second and third branches of the language it will be found sometimes that in corresponding words the same differentiated sound will appear; in other corresponding words different sounds will appear; and if the language in which the synthetic sounds are used were lost, the use of differentiated

sounds in the two languages would illustrate beautifully that change of consonants which has been described as being in conformity with Grimm's laws.

When the phonology of our Indian tongues is thoroughly understood, much light will be thrown upon the whole science of phonology, and some of the most important facts to be collected in relation to this matter are connected with these synthetic sounds and their differentiation in aberrant languages. The student should carefully determine the group of elementary letters in any synthetic sound, and constantly employ some one of the corresponding characters to represent it, and in his description of his alphabet the whole matter should be fully explained.

COMPLEX COMBINATIONS.

The student is apt to find combinations of sound with which he is unfamiliar, and which will cause no little difficulty. The consonant sounds will be found to come in an order with which he is unacquainted, and which it will be difficult for him to pronounce. Some of these combinations may be very long—three, four, or five consonants being used in one syllable, *i. e.*, without an intervening vowel. All such complex sounds should be carefully analyzed and their constituents represented by appropriate letters.

SOUNDS FOR WHICH NO LETTERS HAVE BEEN PROVIDED.

The student will in all probability discover sounds and peculiarities of sound for which no provision is made in the above alphabet, and yet the Roman characters will serve him for their representation by adopting the simple device of inverting them. In so doing he should be guided by the analogies of the system here laid down. All of the letters cannot with safety be inverted.

The following only can be used in this manner: *a*, *ā*, *ă*, *ä*, *â*, *c*, *e*, *ē*, *ĕ*, *g*, *h*, *i*, *ĭ*, *k*, *l*, *m*, *o*, *ŏ*, *ō*, *r*, *t*, *v*, *w*, *y*.

Still the student has another resource. Letters may be doubled, but this should be a last resort.

The preceding characters are tabulated below, and examples given to indicate their use as recommended.

ALPHABET.

a as in *far, father*; German, *haben*; Sp., *ramo.*
ă nearly as in *what, not*; German, *man*, as *oi* in Fr. ***loi.***
ä as in *hat, man.*
â as in *law, all, lord*; Fr., *or.*
ai as in *aisle*, as *i* in *pine, find*; German, ***Hain***, and as ***ei*** in ***mein, Bein***; almost like Sp. *sayal, ayunar.*
âi as *oi* in *boil, soil*; Sp. *oyendo, coyote.*
au as *ou* in *out*, as *ow* in *how*; German, *Haus*; Sp., *auto, autor.*
b as in *blab*; German, *beben*; Fr., *belle*; Sp., *bajar, bueno.*
c as *sh* in *shall, shrew*; German, *schellen*; Fr., *charmer.*
ç as *th* in *thin, forth.*
ȼ as *th* in *then, though.*
d as in *dread*; German, *das*; Fr., *de*; Sp., *de, dedo, dar.*
e as *ey* in *they*; German, *Dehnung, Beet*; Fr., *dé*; Sp., *qué, porqué, hallé.*
ĕ as in *then*; German, *denn*; Fr., *sienne*; Sp., *comen, mueren.*
f as in *fife*; German, *Feuer*; Fr., *feu*; Sp., *firmar.*
g as in *gig*; German, *geben*; Fr., *goût*; Sp., *gozar.*
h as in *ha, he, hoot*; German, *haben.*
i as in *pique*; German, *ihn*; Fr., *île*; Sp., *hijo, hilo.*
ɪ as in *pick, thin*; German, *will.*
j as *z* in *azure*; *j* in French *Jacques, juste*; Portuguese, ***Joao***
k as in *kick*; German, *Kind*; Fr., *quart*; Sp., *querir.*
l as in *lull*; German, *lallen*; Fr., *lourd*; Sp, *lento, labio.*
m as in *mum*; German, *Mutter*; Fr., *me*; Sp., *menos.*
n as in *nun*; German, *Nonne*; Fr., *ne*; Sp, *nada, nunca.*
ñ as *ng* in *sing, singer, long*; Spanish, *luengo, lengua.*
o as in *note, most*; German, *Bogen, Floh*; Fr., *nos.*
ŏ nearly as in New England *home, whole*; German, *soll*; Fr., ***sotte***; It., ***sotto***; Sp., *sol.*
p as in *pipe*; German, *Puppe*; Fr., *poupe*; Sp., *popa, pero.*
q as *ch* in German *ich*, or *ch* in *ach* if the former is not found.
r as in *roaring*; German, *rühren*; Fr, *rare*; Sp, *razgar.*

s as in *sauce*; German, *Sack, wissen*; Fr., ***sauce***; Sp., *sordo.*
t as in *touch*; German, *Tag*; Fr, *tâter*; Sp., *tomar.*
u as in *rule, fool*; German, *du*; Fr., *doux*; Sp., *uno, ninguno.*
ŭ as in *pull, full*; German, *und.*
ü as in German *kühl, küssen*; Fr., *tu, mûr.*
ú as in *but, run, son, blood*; Fr., *pleuvoir, pleurisie.*
v as in *valve*; French, *veux*; Sp., *volver*; and as *w* in German ***wenn.***
w as in *wish, will*; nearly as *ou* in French *oui.*
x nearly as the Arabic *ghain* (the sonant of *q.*)
y as in *you, year*; Spanish, *ya, yacer*; *j* in German *ja.*
z as *z* and *s* in *zones*; German, *Hase*; Fr., *zèle, rose*; Sp., ***rosa.***
dj as *j* in *judge.*
hw as *wh* in *when, why*; Sp., *huerta.*
hy as in *hue.*
ly as *lli* in *million*; as *ll* in Fr. *brillant*; Sp., *llano, cavallo*; and as *gl* in Italian *moglie.*
ñg as in *finger, linger.*
ny as *ni* in *onion* and ñ in *cañon*, Fr., *agneau*; Spanish, *maraña, patraña.*
tc as *ch* in *church*, and *c* in Italian *cielo*; Sp., *achaque, choza, chupar.*

Excessive prolongation of a vowel should be marked thus: *a* +, *â* +, *ü* +.

Nasalized vowels should be written with a superior *n*, thus: e^n, $ŏ^n$, $û^n$, a^n, ai^n.

An aspirated sound should be marked by an inverted comma, thus: *b*‘, *d*‘.

An exploded sound or hiatus should be marked by an apostrophe, thus: *b*’, *d*’.

Synthetic sounds should be written with the letter which represents the sound which seems to be most commonly emitted.

The following letters, inverted, can be used for sounds not provided for in the above alphabet:

a, ă, ă, ä, â, c, e, ĕ, ĕ, g, h, ɪ, ɪ, k, l, m, ŏ, ŏ, ŏ, r, t, v, w, y.
v, v, v, p, p, ɔ, ə, ə, ə, b, ɥ, ɻ, ɻ, ɻ, ɻ, ɯ, o, o, o, ɹ, ɻ, a, ɯ, ɦ.

The letters to be inverted in print should be written upright in the manuscript, and marked thus: *d*, *h*, *l*.

Syllables should be separated by hyphens. In connected texts hyphens should be omitted.

The accented syllable of every word should be marked by an acute accent, thus: *Tcu-ar'-u-ûm-pu-rûn-kûnt.*

NOTE.—The student should become familiar with the preceding alphabet, but its proper use will only be acquired by practice in writing Indian words. At first it will be necessary to refer to the alphabet frequently, and to facilitate this reference the alphabet has been reprinted on a card, which the student should keep before him in the earlier part of his work.

CHAPTER II.

HINTS AND EXPLANATIONS.

This chapter is arranged in sections, and the sections numbered; and the following chapter is composed of a series of numbered schedules. The sections in this chapter refer serially to the schedules in the following chapter, and are prepared for the purpose of explaining severally the materials called for in the schedules, and to explain the difficulties which the student may encounter.

Care should be taken to obtain words from the Indians themselves. Indians speaking English can be found in almost every tribe within the United States. Words cannot be obtained accurately from white men who are supposed to speak the Indian tongue, unless such persons have been long with the Indians and are intelligent and scholarly, and have had some reason for studying Indian languages on account of their being missionaries, teachers, or linguists.

The general method of communication between white men and Indians is by a conventional jargon, composed of corrupted Indian and English words, with many words from other European tongues. In this fact is found one of the reasons why words should not be collected from white men unless they have a scholarly knowledge, as indicated above.

To collect words from an Indian requires great patience, as it is difficult to hold his attention for any great length of time, and it requires a constant exercise of ingenuity to devise methods by which he may fully understand what is asked by the collector, and that the collector himself may feel that he is working with certainty.

Sometimes an Indian in jest will deceive by giving foolish or vulgar words; for this and other reasons everything collected should be carefully verified.

§1.—PERSONS.

Most of the words in this list can easily be obtained, but care should be taken to obtain the word for man; not Indian or white man; and in most of the set to get the words called for, and not terms of relationship.

§2.—PARTS OF THE BODY.

In many Indian languages there is no separate word for eye, hand, arm, or other parts and organs of the body, but the word is found with an incorporated or attached pronoun signifying *my* hand, *my* eye; *your* hand, *your* eye; *his* hand, *his* eye, &c., as the case may be. If the Indian, in naming these parts, refers to his own body, he says *my;* if he refers to the body of the person to whom he is speaking, he says *your*, &c. If an Indian should find a detached foot thrown from the amputating-table of an army field hospital, he would say something like this: "I have found somebody *his foot*." The pronominal particle should be written with the part implying the name, the whole forming but one word. It is usually very easy, by inspection, to determine what pronoun is used. This linguistic characteristic is widely spread though not universal.

It is a general custom among the Indians to pierce the ears for ornaments; many tribes also pierce the septum of the nose.

The names of internal organs or parts can better be determined after having learned the names of parts of animals as subsequently called for in Schedule 12.

There may be a general term for blood-vessel, and specific terms for the more noticeable ones.

§3.—DRESS AND ORNAMENTS.

Primitively the Indians used the skins of animals, and, to a limited extent, crude textile fabrics for their clothing. The dress of the man consisted—

First, of a head-covering or cap. This was often the skin taken from the head of some animal, as the wolf, bear, deer, fox, &c., and stretched

with the ears left on; sometimes the horns of some animals were left on. Sometimes a cap was made of the skin of a bird. A great variety was used

Second, a tunic, usually made of the dressed skin of some animal, especially the elk, deer, antelope, and mountain sheep. In warm weather the tunic was rarely worn.

Third, a breech-cloth and belt.

Fourth, a pair of leggins.

Fifth, a pair of moccasins.

In excessively cold weather the Indian often wore a toga—the skin of a wild animal. Among some tribes this robe was made of a number of skins of small animals cut into strips, rolled or twisted, and woven into a loose fabric with the warp made of threads spun from some vegetable fiber.

The dress of a woman consisted of a—

Small conical basket-work cap, which she used at will as a covering for the head or a basket in which to gather berries or carry small articles.

A short petticoat, extending from the waist to the knees, fastened with a girdle.

High moccasins, fastened with garters.

Where the civilized dress has not been adopted, the short petticoat has usually been superseded by a gown made to extend from the neck to the feet, but without sleeves. This is fastened with a girdle about the waist. In the vocabulary the names of these primitive articles of dress are called for. The names of the articles of civilized dress should be recorded in Schedule 24.

For personal adornment a great variety of ornaments were used, made of stone, bone, shell, wood, feathers, bills and claws of birds, claws of animals, skins of snakes, &c., and were used as chaplets, necklaces, bracelets, waist-bands, and attached to the clothing in various ways. Many peculiar costumes were used in their religious dances and other ceremonies; the most common and important article in those costumes were masks. Finger-rings, ear-rings, nose-rings, and labrets were used; sometimes the septum of the nose was pierced, in which was worn a nose-stick from three to four inches in length and sharpened at either end.

In this schedule only the names of primitive articles are called for.

§ 4.—DWELLINGS.

The priscan, *i. e.*, primitive dwellings of the Indians were of two classes, permanent and temporary, which for convenience we will call wigwams and lodges respectively. Prior to the introduction of the horse upon this continent the Indians were far less nomadic than they have subsequently been known. Their sedentary life led most of the tribes to the construction of somewhat permanent dwellings; yet to a slight extent many of the tribes had habits of roaming; especially they made journeys to favorite hunting grounds or fishing waters. When on these journeys they exhibited considerable skill in the erection of temporary dwellings; and they even provided for their wants in advance by preparing lodges made of the skins of animals.

Their wigwams were constructed of various materials—poles interlaced with bark, reeds, tules, grass, &c.; slabs rived from young saplings, and these sometimes covered as the poles; poles and slabs covered with earth; and, finally, some tribes exhibited considerable skill in the erection of stone dwellings.

It may be that wigwams or permanent dwellings were sometimes made of the skins of animals, but it seems more probable that in their priscan condition skin lodges were used chiefly as temporary dwellings. Their wigwams were of multiform construction—conical, square, and oblong; they were made to accommodate two or more households—often an entire gens.

The lodges or temporary dwellings were usually made of the dressed skins of animals supported by lodge-poles, or of brush, bark, grass, &c., supported in like manner.

A description of both classes of dwellings should be given. The method of dividing the wigwams into compartments should be noted, and the names of the compartments given; also the names of the other parts of the house, as doorways, smoke escapes, &c.

In their dwellings the Indians are punctilious in assigning places to the regular occupants and visitors. Their rules for such occupancy are important.

In the slab houses of the northwest coast, Indian architecture with materials of wood was most highly developed. Here the houses are ornamented on the exterior with carved posts, some of which are composed of successive blocks, one upon another. The carvings were the totems or gentile emblems of the ancestry of the householder.

In the pueblos of the southwest, architecture in materials of stone found its highest development among the Indians of the United States. So far as we know at present, these houses are communal or gentile dwellings. Usually a group of dwellings, slightly detached or otherwise separated in architecture, constituted the tribal village.

In studying these pueblos the gentile divisions and the household divisions into compartments should be carefully described and their names given. At the same time the architectural parts should be described and their names given. In schedule No. 4 many of these items are called for.

The Indians also construct council houses and sudatories, *i. e.*, sweat-houses; sometimes, perhaps, the same structure was used for both purposes; but this is not very probable. In the pueblos the council houses are underground chambers.

The women construct menstrual lodges; these are rude shelters apart from the others. They should be described and their names recorded.

The Hon. Lewis H. Morgan, of Rochester, in a statement to the Archæological Institute of America, enumerates the following items as subjects of investigation among the pueblos of the United States:

1. To make a careful exploration of the structures in ruins, taking ground plans of them, with elevations and details of the more important structures, and with exact measurements.

2. To procure and bring away specimens of the stones used in these structures; to determine the extent and character of the dressing—*i. e.*, to find whether the stones were dressed, or prepared by fracture simply; whether the angle formed upon the stones is a right angle, and whether the upper and lower sides are parallel.

3. To take apart the masonry to find how it was laid up, and the degree of skill displayed in it.

4. To find how far below the ground surface the walls are laid, and how truly they are vertical.

5. To bring away specimens of the mortar for analysis.

6. To ascertain how the joists in ceilings and the lintels over doorways were cut; how the wooden trap-doorway was framed and held together; and what varieties of wood were used for these purposes.

7. To determine whether fireplaces and chimneys existed in the structures now in ruins.

8. To ascertain the lithological character of the stone used; and whether it was quarried, or picked up from broken masses of rock and carried long distances; also to ascertain by measurements the size of the stone used in the walls—the largest, the smallest, and the average.

9. To determine the plan and uses of the round towers of stone found on the Mancos River, and in some cases incorporated in pueblo houses—as in the case of a stone pueblo at the eastern base of Ute Mountain in Colorado.

10. To examine the so-called cemeteries in Montezuma valley, where single graves are marked by a border of flat stones, set level with the ground in a rectangle.

11. To examine the garden beds and irrigating canals, and ascertain the methods of cultivation now or formerly in use.

12. To make ground plans and elevations with measurements of the present occupied pueblo houses in New Mexico and Arizona, in order to determine whether or not the houses in ruins and the occupied houses are constructed upon a common plan.

13. To ascertain the mode of life in these houses, past and present; whether the people are organized in *gentes*, and what is their social system; how the sections of these joint-tenement houses were owned, and how inherited; and what limitations, if any, were put upon the power of sale. The same as to gardens and personal property.

14. To find the number of persons who live and eat together, united in a family, and how the members are related; or, in other words, to ascertain whether any trace now exists of large groups of related persons practicing communism in living in the household. Also to find, if possible, the size of the group in former times.

§ 5.—IMPLEMENTS AND UTENSILS.

All of our Indian tribes had developed rude arts before the advent of the white man, and manufactured various implements and utensils. For war they had bows, arrows, spears, clubs, and slings. Their bows were usually made of wood: the back of the bow being sometimes covered with sinew fastened on with glue; some few tribes, however, made them of the horns of the mountain sheep. For this purpose the horns were soaked in water and split into shavings, and the shavings glued together to form the bow.

Their bow-strings were made of sinew or twisted vegetable fibers. To prevent the wrist from being cut by the bow-string, they used a wrist-guard made of a piece of untanned skin of some animal, hardened by drying.

In the arrow three elements are recognized—the arrow-head, shaft, and shaft feathers. Arrow-heads were made of stone, bone, horn, or very hard wood. Their shafts were made of wood or reeds, and were often feathered. The arrow-head was fastened to the shaft sometimes with vegetable or mineral resins, sometimes by tying with sinew; or both methods were used. The shreds of feather were attached to the shaft with sinew.

The implements used in making their arrows were as follows: For rudely breaking up the flint or other stone material necessary for their arrow-heads stone hammers were used. For finally fashioning the heads little rod-like instruments of bone or horn were used, and the chipping was done by sudden pressure. Stone and copper knives were used in fashioning the shafts, and a piece of perforated horn or bone was used as a shaft straightener. The shafts were polished with a grooved stone.

The arrows were carried in a quiver slung on the back and open at the shoulder.

Their clubs were variously carved and ornamented; sometimes they were weighted at the end farthest from the hand by a knot. Sometimes a larger stick was used, and the handle cut down so that the extreme end was reinforced. Sometimes the war-club was composed of a handle fast-

ened with thongs to a stone. When the stone was fashioned into a battle-axe it composed what we now call the tomahawk. The blade of the tomahawk was rarely made of copper.

Spears were also used—sharpened sticks of hardened wood, and wooden shafts tipped with horn, bone, stone, or copper.

Various devices were used as barbs for fishing spears.

The Indians were sometimes armed for close conflict with long-bladed knives of stone, and, rarely, of copper. Sometimes the handle was of one piece with the blade; sometimes the handle was made of wood fastened with cement.

For defensive purposes they used shields made of the untanned skin of some animal, hardened by drying. For further protection they dug pits, in which they concealed themselves for ambuscade and found protection for their bodies. They also built palisades about their villages.

Those who navigated the rivers and shore waters of lakes and seas made canoes by hollowing trees with fire and stone adzes. Small canoes were the property of individuals; large ones usually of gentes.

Some tribes caught fish with hook and line and with nets. Many tribes made large nets of twisted vegetable fibers, as hurdles for catching rabbits and some other animals. Into these nets the animals were driven by methods commonly known in this country as circle hunting.

Pipes were made of reeds, hollow stems of wood, baked clay, and stone. In the more primitive methods the axis of the bowl was a prolongation of the axis of the stem; many Indians still prefer pipes of this fashion for ceremonial use.

In domestic utensils they had wooden ware, stone ware, horn ware, basketry, and pottery.

§ 6.—FOOD.

The objects used for food by the priscan Indians were multifarious; depending largely upon the habitat of the several tribes—fruits, nuts, seeds of trees, and fruits of many shrubs and grasses, roots, reeds, fruits, tubers, fleshy leaves and stalks, the inner bark of trees, various fungi, and in one case, certainly, subterranean fungi—the Tuckahoe and diatomaceous earths. They also raised corn, squashes, and beans.

Hunting and fishing gave the Indians a great variety of animal foods. Turtles, lizards, snakes, and many insects were eaten; in the arid regions of America grasshoppers furnished a staple article of diet.

Vegetable and animal foods were prepared in various ways. Seeds were roasted and ground into meal; insects were usually treated in like manner, and various stews, mushes, and breads were made.

The student will find this an interesting theme for investigation, and he will find names for a variety of food materials and dishes.

§ 7.—COLORS.

Many other distinctions of color than those given in the list may be observed, and many arrangements of color noticed, as in spots, stripes, checks, &c., all of which should be recorded.

Intermediate tints should be asked for, and frequently it will be found that words used for designating such are compounds of names understood by the Indians to indicate distinct colors. Thus, in the Ute language, *ûn-kaŕ* is red, *tó-kar* is black, and brown is *ûn-tó-kar*.

§ 8.—NUMERALS.

Any intelligent Indian can easily count a hundred, and repeat this for as many hundreds as may be desired. When counting abstractly a common termination for the numeral will sometimes be used, signifying *in count*, *in number*, or something equivalent. If set to count a series of objects, he may repeat the name of the object each time. No difficulty will be experienced in obtaining the cardinal numbers, but much patience is required to obtain the ordinals and other categories of numbers.

In some Indian languages there is more than one set of cardinal numbers. Animate objects may be counted with one set, inanimate with another. They may have a particular set for counting fish, or for counting skins; perhaps a set for counting standing objects, and another set for counting sitting objects, &c. When these different sets are used the words may simply have different terminations, or other incorporated particles, or the different sets may be composed of very distinct words. Occasionally an extra set of numerals may be found, the name of each number being a long phrase or sentence descriptive of the method of counting by fingers and toes.

The method of using the fingers and toes in counting should be carefully studied and minutely explained; also the method of indicating numbers to others in like manner. The most common method for counting in this manner is to turn down the little finger of the left hand for one, the next finger in order for two, the next finger for three, the next for four, and the thumb for five; then the thumb of the right hand for six, &c., until the little finger of the right hand is turned down for ten. This may be varied by turning down the little finger of the right hand for six and the thumb of the right hand for ten.

In indicating numbers to others by the use of the fingers the little finger of the left hand may be extended and the other fingers turned down for one; the other numbers will be expressed by extending the fingers in the same order in which they were turned down for counting. In counting by tens, the Indian may close the fingers of both hands to indicate each ten, or he may extend the fingers of each hand, holding them with the palms turned toward the person spoken to.

In counting, some Indians resort to the fingers only, others to the fingers and toes. The first may result in a decimal system; the second in a vigesimal. All the facts relating to counting should be discovered and recorded

§ 9.—MEASURES.

It is very desirable to discover primitive methods of measuring—that is, the methods used prior to the advent of the white man. Sometimes a finger's length is used. In this case describe which finger is used, and how the measure is applied.

A frequent method for measurement of lengths is from the extremity of the long finger to the first wrinkle of the wrist, *i. e.*, a hand. Another hand unit has been discovered. Having the fingers and thumb extended, the beginning is at the extremity of the thumb, and the string is passed along its outer margin to the first wrinkle of the wrist, then crossing the wrist along this wrinkle to the outer margin of the palm of the hand, along this margin to the extremity of the little finger and along the tips of the fingers to the extremity of the first finger, then along the outer margin of the first finger and inner margin of the thumb to the point of beginning;

that is, the measure is the length of the outline of the hand. Let this be called "around the hand unit."

There is a unit of measurement used which may be represented by the distance from the long finger to the elbow, measured on the inside or outside of the arm; or it may be from the tips of the joined thumb and fore-finger to the elbow, measured on the inside, *i. e.*, a half arm's length.

Another unit used is the distance from the meeting of the tips of the thumb and fore-finger to the armpit—*i. e.*, an arm's length; still another from the meeting of the tips of the thumb and fore-finger of one hand to the meeting of the tips of the thumb and fore-finger of the other hand, along the outstretched arms and across the breast—*i. e*, a double arm's length.

Distances along the ground are often measured in paces. All the tribes probably have measures for circumferences, and also for quantities. Distances between places were measured in days' journeys and fractions of days' journeys; the latter were often indicated by pointing out some part of the sun's daily path along the firmament.

§ 10.—DIVISION OF TIME.

Indians have many ways of dividing the year into parts; they may have two, three, four, or even five seasons; they may divide the year into thirteen moons, and, in addition to one or both of the above methods, they may have many ways of designating particular times—as the strawberry time, the hazel-nut time, the kamas root time, &c. Their methods should be discovered and carefully described, recording the terms.

§ 11.—STANDARDS OF VALUE.

One or more of the most important skins used by the Indians were often employed as standards of value, especially the beaver skin and the buckskin. Shells and other articles worked into beads and made into strings were also used. In some tribes eagle feathers were the standard of value.

The collector should discover, if possible, what standards of value were used, whether one or more, and give a clear account of them, at the same time recording the terms used.

§ 12.—ANIMALS.

Zoötheism largely prevails among North American Indians—that is, many of their gods are animals; not the present race of animals, but the progenitors or prototypes of the present species. In the study of North American mythology it is very desirable that we know the names used by the Indians for the animals with which they are acquainted. It is manifest that from any one tribe but few of the names in the list can be collected, for the reason that it includes many species restricted to limited geographic areas. The list should be considered simply as suggestive and should be increased—the collector adding the names of all the animals known to the tribe studied.

Sometimes the name for the ancient animal (or animal god) has a different termination or is denoted by some other slight change in the word; where this is the case the animal name used for the name of a person is the same as the name of the animal god, rather the name of the existing species.

The method of distinguishing sex should also be noted, which is generally by the use of words signifying *male* and *female*; also note the name of the young of each species. It is a mistake to suppose that the Indians have no class-names or generic terms; such terms are very common among them, but their methods of classification do not agree with those used by civilized people—that is, their generic terms embrace categories easily recognized by a savage people, but different from those recognized by a civilized people. Thus a class-name may be found to embrace those animals which live in trees, as raccoons, porcupines, squirrels, &c.; another, those which burrow, as badgers, prairie-dogs, &c.; and still another, those which roam over the plains, as buffaloes, deer, antelope, &c.

All animate and inanimate objects are thrown into classes, among the several tribes, in diverse and curious ways. Not only do the Indians have many class-names, but class distinctions are curiously woven into the grammatic structure of their languages. An Indian system of classifying natural objects is a very interesting subject for study.

PARTS OF THE BODY, ETC., OF MAMMALS.

Having obtained the names of mammals, the student should proceed to obtain parts and organs of the body, and the following suggestion is made in the hope it may prove useful. Make a present of a beef or mutton to the Indians. This will secure their good will and obtain much assistance in the work, and at the same time make a special occasion for collecting that very interesting class of words relating to the parts and organs of the body. Care should be taken that the animal is dissected slowly, and, as the parts are given out, obtain the words called for and such others as may be convenient.

The words can afterward be verified by killing a rabbit, squirrel, or other animal.

§ 13.—PLANTS, &c.

The Indians have names for all the species and important varieties of trees and other plants with which they are acquainted. It does not seem best to give a specific list here, but the collector should obtain the names of as many plants as possible, and insert them in the schedule. The names of different fruits, such as berries, nuts, seeds, &c., should also be obtained.

There will usually be terms signifying pine forest, oak forest, cottonwood forest, &c., which should be noted.

The method of classifying plants also should be obtained, and the name of each class recorded. The Indians will have mythic stories of each plant with which they are familiar, explaining how and why certain ones were given for food, why certain plants were given for smoking, others as medicine, &c., and explaining the peculiarities in the habits of many plants, curious forms, curiously formed leaves, why some plants grow in water, &c.

§ 14.—GEOGRAPHIC TERMS.

Notes should be made of such geographic terms as are found in the country inhabited by the tribe studied.

Wherever a tribe of Indians yet inhabit their priscan home mythic stories will be found connected with and explaining every geographic

feature with which the people are familiar, especially the mountains, rocks, trees, rivers, falls, springs, lakes, &c.

§ 15.—GEOGRAPHIC NAMES.

A very interesting field of investigation is found in learning the proper names given by the Indians to the several springs, rivers, lakes, mountains, indentations of the coast, &c., known to them.

§ 16.—THE FIRMAMENT, METEOROLOGIC AND OTHER PHYSICAL PHENOMENA AND OBJECTS.

Indians usually have many names for clouds, as they are distinguished by color, form, &c. As full a list as possible, with description, should be obtained.

In Indian mythology the stars are personages translated from the earth to the firmament. The personages were usually ancient animals, sometimes ancient men. Many interesting myths can be found concerning these ancient people, and why they were taken from earth to heaven.

The names of the stars and constellations recognized by the Indians should be given.

Like the stars, the sun and moon are translated personages. In every tribe an interesting myth may be found explaining the phases of the moon and the dim figures seen therein. The return of the sun and moon from west to east always has a mythic explanation.

§ 17.—KINSHIP.

Indian society is based on kinship. For this reason the terms used to designate kinship are of much greater importance in tribal society than in national society. The group of words used to designate persons by their degrees of relationship will constitute a valuable contribution to linguistic science and at the same time will be of great interest to the student of Indian society.

If we take the relationships which may arise from nine generations in lineal descent we find their number to be very great—several thousand in all. A language which would attempt to give a distinct name for each particular relationship would thus be impracticable. In overcoming this difficulty two methods of designating relationships have come into use in the evolution of languages. The older method is that of classification, by which relationships are thrown into groups in various ways in different languages. The later method is the descriptive, in which some of the most fundamental relationships are named, and by the use of these names other relationships are described. This latter method is never the popular one in any language, and is only used when an attempt is made to designate the degree of relationship with exactness. For example, in English there is a group of persons in a large body of kindred who are called cousins. If one of these cousins should wish to be more exact in defining the relationships which existed between himself and the others, he would say "my father's brother's son," "my father's brother's daughter," "my father's sister's son," "my father's sister's daughter"; and so on with the cousins in his mother's line. The system of designating these persons as cousins would be classificatory; the system of describing these persons by designating their genetic relations through the use of the fundamental terms "father," "mother," "son," and "daughter," constitutes the descriptive system.

In all languages the classificatory system is the primary one, *i. e.*, that in common use. But the methods of classification differ widely, and these differences are found to rest, to some extent, upon the social institutions of the people in such a manner that if the system of relationships or method of classifying kindred used by any tribe be known, we have a revelation of some of their most important social institutions.

The characteristics upon which kinships are classified are as follows;

1. Lineal generation, giving rise to father and son, grandfather and and grandson, great grandfather and great grandson, &c., father and daughter, &c., mother and son, &c., mother and daughter, &c.

2. Collateral generation, giving rise to brothers and sisters, uncles and aunts, cousins, &c.

3. Sex, by which we distinguish between father and mother, brother and sister, aunt and uncle, &c In some languages sex enters into the system of classification in a double way—that is, the sex of both parties of a

relationship is designated by the kinship word. For example, in a case of two brothers and two sisters, the brothers would call each other by one term, the sisters each other by a second term, the brothers would call the sisters by a third term, and the sisters would call the brothers by a fourth term, so that the relationships between the four persons would require the use of four terms instead of two as in the English.

4. Relative age is introduced in many languages as a distinguishing characteristic. For example, there will be a term for elder brother, another for younger brother, one for elder sister, and another for younger sister, and sometimes through all the cousins, of whatever remote degree they may be, the terms will distinguish between the elder and the younger.

5. Assimilation in many languages is an important element in classification. If all the possible kinships arising from nine generations were thrown into classes upon the four characteristics mentioned above, the number of groups would still be very great, while, in fact, the number of groups recognized in any language is comparatively small. In the more civilized languages spoken by people who are organized as nations, the more remote relationships are ignored in the classification, and are left to be designated by the descriptive method; and there is a reason for this. In national society the remote relationships are of little importance; value may rarely attach to them, as in the case of inheritance, and the antiquarian may use them to trace ancestral lineage, but the people have no practical use for them in current society and every day life. But tribal society is organized on kinship, and government is established to maintain the rights and the reciprocal duties of kinship. It thus becomes necessary in every tribal society that all kinships should be not only determinate but well known. For this reason the fifth principle of classification is introduced—that is, a few primary groups are established on the first four characteristics, and into these groups all other relationships are assimilated.

In discovering these systems of relationship as a linguistic phenomenon, we infer that there is something in the social constitution of the people demanding such an elaborate system with relationship fixed so as to include all of the remotest degree within the group of people constituting the society. On the other hand, in studying tribal society and discovering that

kinship is its integrating principle, we infer that the languages must contain complete methods of designating these relationships. Among many of the tribes of North America the subject has been investigated in both lines, and the inferences from one line of investigation are the observed phenomena in the other line; thus the demonstration is perfected. In tribal society the units are bodies of consanguineal kindred, immediate or remote, real or artificial; no person can become a member of a tribe until he has become a member of one of its gentes by being adopted into some family as a son, brother, or some other relation. The language of tribal society provides a kinship term by which every one of its members may be designated.

There are various methods of assimilation, and in the phenomena which they present many important sociologic facts are discovered. In a lower status of culture than that discovered among the North American Indians we find that society has for its integrating principle not the ties of kinship but the bond of marriage; and thus we have connubial society as distinguished from kinship society. Though connubial society has not been discovered in North America, it has elsewhere on the globe, and in the study of the North American Indians some of the customs of that stage are discovered as survivals. These surviving customs are represented in kinship terms to varying degrees in different languages; so that in customs and language alike we are able to trace the steps in evolution from connubial to kinship society.

To set forth the steps here would require greater space than the purposes of this volume will allow, and, in fact, one of the more important reasons for its publication is to accumulate a greater number of facts for the final presentation of the subject.

But an illustration will be given:

There is a system of marriage in the lower status of society where a group of brothers marry a group of sisters in common. In such a system children have a group of men—the brothers—as their *fathers*, and a group of women—the sisters—as their *mothers*, and the children of the group of men and women call each other brothers and sisters.

Now in some Indian communities we find that the sisters of a married

woman are considered the potential wives of her husband, and the brothers of a married man are considered the potential husbands of his wife. This potential affinity has various meanings among the different tribes where it is found. In some, the right of the man to his potential wives is the right to decide to whom they shall be given in marriage, but from them he may first select whom he will for his own. If these women, having married other persons, become widows, he again has the prior claim. A more common form of potential affinity is this: A man having married a woman can thereafter acquire a second or third wife in the practice of polygamy only from the group of potential affinities.

Other customs of a similar nature appear, leading to the inference that these people have emerged from connubial society.

Again, in Indian languages we sometimes discover that wives and wives' sisters are designated by the same kinship term; and that brothers and male cousins are designated by the same term; and sisters and female cousins are designated by the same term; and many similar facts appear as linguistic phenomena.

Such are the reasons that make this subject so attractive to the students of Indian society and language and call for its elaborate treatment here.

In the seventeeth schedule of the next chapter there is presented a series of questions the answers to which will give the kinship terms used in any language for which the record is made. The answers will also afford all of the facts necessary to determine the system of kinship classification belonging to the language.

To assist the student in filling out the schedule four charts have been prepared, and accompany this volume.

In charts numbered I, II, and III, the kindred are grouped about a central person, designated as "Self," on Chart No. I.

Chart No. II belongs properly on the left of Chart No. I and is a continuation of it. In like manner Chart No. III is a continuation of Chart No. I to the right.

With "Self" the following classes of kinships may exist:

1. RELATIVES.—Consanguineal kindred, those which arise from genetic kinship.

2. AFFINITIES.—Kindred by marriage. These are of two classes:

a. Those which arise from the marriage of the relatives of "Self."

b. Those which arise from the marriage of "Self."

Those classes of kinships will be treated of severally in the order above mentioned.

The personal figures used on the charts are as follows:


represents a male relative.


represents a female relative.


represents a male affinity.


represents a female affinity.


represents a female relative of affinity.

"Self" is in the center of Chart No. 1, and must be used, as will hereafter be seen, in one set of questions as a male person, in another set of questions as a female person.

Each relative is paired with an affinity, except in certain cases hereafter explained. The relatives only are numbered, but the same numbers are to be used for the corresponding affinities.

The relatives on the charts are numbered to correspond with the relatives in the schedule.

RELATIVES.

From the study of many tribes in North America, it has been found necessary to extend the investigation of kinship terms to the group of people that may possibly arise from nine lineal generations, four below "Self" and four above. All the groups are established within five generations, two above "Self" and two below, but the third and fourth below and

the third and fourth above, with their collateral lines, are necessary for the purpose of discovering the method of assimilation. The kinships are grouped in the schedules and on the charts in the following manner:

1. Lineal descendants of "Self."

2. Lineal ascendants of "Self."

3. The first collateral line in two branches—the brother's branch, and the sister's branch.

4. The second collateral line in two branches—the father's branch, including father's brothers and sisters, with their descendants, and mother's branch, including mother's brothers and sisters, with their descendants.

5. Third collateral line in two branches—father's parents' branch, which include the brothers and sisters of father's parents with their descendants; and mother's parents' branch, which includes the brothers and sisters of mother's parents with their descendants.

6. Fourth collateral line in two branches. In these fourth collateral lines, from the vast number of relationships that might be placed on the chart, only a very few have been given—just sufficient to exhibit the method of assimilation.

In some languages a part of the lexical elements are duplicated—that is, some terms that are used by males cannot by Indian customs be used by females, and some terms used by females cannot be used by males, thus giving rise to a duplicate series of words—man words and woman words. In some of these languages a brother and sister designate their father by different names, their mother by different names, and many or all other kinships in like manner. A similar duplication of terms is found in many other parts of the language, and should everywhere be carefully noted by the collector.

This state of facts appearing in some languages, it becomes necessary to duplicate the set of questions, the first list being "Self," a male, the second list being "Self," a female. The student will soon discover whether two sets of words are used. If this characteristic is found, it will be necessary to go through with both sets carefully. When but one set of words is discovered the answers to the second set of questions will be exact duplicates of the first, and the student may proceed with the second only far enough to fully demonstrate the fact.

AFFINITIES OF RELATIVES.

The affinities of relatives are the wives and husbands of the relatives of "self." In the schedule the questions for this class of affinities are arranged under two sets of numbers, the first with "self," a male, and the second with "self," a female, as in the case of relatives. On the chart the affinities with them are placed beside the relatives, wife by husband, husband by wife. The numbers given to the relatives serve also for the affinities. It is not necessary to call for affinities to the extent to which the schedule calls for Relatives. For this reason some numbers are omitted from the schedules and certain personal figures from the charts.

AFFINITIES OF "SELF," OR THE RELATIVES OF THE HUSBAND OR WIFE OF "SELF."

In the schedule a fifth series of questions appear under this head, and the corresponding persons appear on Chart No. IV. These are divided again by numbers into two sets, one with "self," a male, the other with "self," a female.

A very little examination on the part of the student will lead to a thorough understanding of this subject, and the use of the charts, and he will find the charts of great assistance to him in studying and following the questions. But when he comes to interrogate Indians on the subject he will find them of the greatest value. Any intelligent Indian will quickly understand them, for the plan is in harmony with his own method of expressing ideas by picture-writings.

In some Indian languages there are certain words used for the names of children, given them in the order of their birth, so that the child's name indicates the order of its birth. There are two sets of these words, one set being given to males, the other to females: thus, if the first born is a boy, he takes his name from the male set; if a girl, her name from the female set; these words will therefore have the signification of first born, second born, third born, etc., though the numerals may not enter into their composition. There may be variations of this plan.

If such a system is not found, erase "is named" from the schedule and obtain the equivalent of the phrase thus changed.

§18.—SOCIAL ORGANIZATION.

In this paper the term family will be used as synonymous with household; that is, it will designate the group of persons occupying one lodge, or one set of compartments in a pueblo. Among some of the tribes of North America the head of the family is a woman; among other tribes the head of a family is a man, and these distinctions enter largely into tribal society and government. "Is fatherhood or motherhood the source of authority?" is the first question to be asked in the study of the sociology of an Indian tribe.

A group of relatives tracing a common lineage to some remote ancestor constitutes a gens or clan. In the tribes where mother-right prevails this lineage is traced through the female; where father-right prevails, through the male. In the first case the children belong to the gens of the mother; in the second to the gens of the father. The gens is the grand unit of social organization, and, for many purposes, is the basis of governmental organization. The gentile organization is widely spread and may be universal. It has often been overlooked even by those well acquainted with the Indians among tribes where we now know that it prevails. Many rights and duties inhere in the gens.

The following lines of inquiry will generally lead to the discovery of the gens and the words called for.

It is the duty of the gens to avenge the murder of or personal injuries to any of its members. Again, a man may not marry in his own gens. With Indians skilled in picture-writing, the emblem of the gentile name, that is, the totem, is usually painted or carved on their lodges and on valuable articles of property, and it is often inscribed on documents, such as messages, treaties, &c. The larger tribes of the United States usually camp in gentile groups arranged in some definite order. So far as our knowledge now extends, every gens takes the name of its tutelar god—some ancestor deified, ancient mythical animal, or nature-god. As the principal gods of most of the Indian tribes are animals, that is, mythical animals, the progenitors or prototypes of the present animals, the gentes are usually given animal names; thus bear-gens, wolf-gens, rabbit-gens, eagle-gens, hawk-gens, &c., are common. The flesh of the animal for which the gens was named, or some portion of it, was held sacred by its members and could not be eaten by them. In some tribes it is customary to say that a man is a wolf, a bear, a rabbit, or a hawk, as the case may be, meaning that he belongs to that gens; and the gens as a body of people are spoken of as the descendants of the bear, the wolf, the rabbit, or sometimes as relatives of the bear, the wolf, or the hawk.

Sometimes gentes are subdivided, a part of the rights and duties remaining with the gens and a part being transferred to the sub-gens. Where the gentes are divided, the sub-gentes should also be given. Sometimes two or more gentes constitute a higher group—the phratry. The phratries as organized societies usually control the great "medicines," the dances, festivals, &c. It seems probable that these phratries were originally gentes, and that the gentes of which they are now composed were first divided as sub-gentes, but the differentiation has extended so far that the bond of union between the ancient gentes has been lost except in its mythologic and religious elements. If gentes are grouped as phratries, the system of grouping should be given in detail.

The tribal organization is universal. It is usually composed of a number of gentes. Primitively, each tribe claimed a district of country as its home, and usually took the name of that country as its tribal name, so that its name was its title deed to its land. But many sobriquets or nicknames were used; as we call an Illinoisan a Sucker, an Ohioan a Buckeye. Sobriquets were given to indicate customs or peculiarities of the people, as dog-eaters, acorn-eaters, fish-eaters, &c., white-knives, reed-knives, long-knives, &c. Usually tribes were known by different sobriquets among different people. In many instances the names by which tribes are known to white men are corrupted sobriquets. Much difficulty will usually be found in obtaining the true or land name of a tribe, from the fear that it may be used to the disadvantage of the people through methods of sorcery. And again, where Indians have been removed from their ancient homes, these names rapidly become obsolete, but they should be obtained when possible. The sobriquets which they recognize should also be obtained, and the names by which they designate surrounding tribes should be recorded.

Tribes, especially those speaking the same language, or kindred dia-

lects, are sometimes united into confederacies, and tribes or confederacies are sometimes united into leagues for temporary purposes. The boundary line between confederacy and league cannot be definitely drawn. The common noun for tribe and confederacy, or league, is not always discovered with ease. On the other hand, the proper noun for the tribe, confederacy, or league, is not always easily discovered. Perhaps the proper noun and common noun for confederacy and league are always the same.

Indian people usually have a word signifying "one of us," or "a person of our tribe, or confederacy;" one signifying "Indian," another signifying "white man." Among southwestern tribes two such terms are used, one denoting those who came from the south—chiefly Spaniards—and another denoting those who came from the east.

The institution of fellowhood is widely spread. This custom may be briefly described as follows: Two young men agree to be life friends, "more than brothers" to each other, like David and Jonathan, and Damon and Pythias. They reveal to each other all their secrets, perform religious rites together, and each is sworn to defend the other from all harm.

§ 19.—GOVERNMENT.

In Indian government civil and military affairs are differentiated. The organization for civil government will first be explained.

Among those tribes whose numbers are large, the gentile organization is at the basis of civil government. A council is the legislature and court of the gens, of the tribe, and the confederacy, respectively. It might be better to say that the council is the court whose decisions are law. The council of the gens is composed of the heads of its families, and selects the gentile chief. If mother-right prevails the gentile council may be composed of women, and the elected chief, who is a man. This chief will not be the husband of any of the heads of households, but must be a brother or son. If father-right prevails the council will be composed exclusively of men. The council of the tribe seems to be constituted in various ways, sometimes of the gentile counselors united, sometimes of the gentile chiefs united, or in other ways. There may also be a grand council of the tribe composed of all of the heads of households. The presiding officer of the

tribal council is also chief of the tribe. The organization of the tribal council should be carefully studied and recorded.

Among the very small tribes the gentile organization seems to be of minor importance. In fact, the social organization and government of these tribes is but poorly understood.

For military affairs there is an especial military council, composed of the warriors of the tribe. The war chief may be elected, but usually this chieftaincy is hereditary in some one of the gentes. Rarely the civil chief is war chief, but never by virtue of his civil rank.

The principal crimes recognized among the Indians are murder, maiming of various kinds, assault, theft, adultery, witchcraft, and treason, both against gens and the tribe. The names of crimes, together with methods of procedure and proof in prosecution, should be discovered and recorded.

§ 20.—RELIGION.

Some of the Indians have nature-gods, *i. e.*, a god of the east, a god of the west, a god of the north, and a god of the south; a god of rain, a god of thunder, the sun, moon, stars, &c. As stated elsewhere, the greater number of their gods are animals—the progenitors or prototypes of the present species. They also have daimon gods, *i. e.*, the gods or presiding spirits of rivers, lakes, springs, mountains, corn, beans, &c. Many hero gods are worshiped—wonderful people of the long ago. The names of all such gods should be discovered and recorded when possible.

On inquiring of the Indians about their gods, the term "god" should not be used, for by this they understand the God of the white man. Their generic or class-name for god is often a term signifying "the ancients"—those who lived long ago—or some equivalent expression. Inquire, then, for wonderful ancient people, wonderful ancient animals; the first people, the first animals. The student of Indian languages can do royal service to ethnology by stopping now and then in his linguistic work to record the interesting stories which the more intelligent Indians may be induced to relate concerning the wonderful personages of their mythology. Nor should these stories be neglected because of their simplicity, inconsistency, or vulgarity.

Indian dances are generally of a religious character, and, with their names, a brief description should be given. A blank is left in the schedule for the names of gods, dances, songs, &c.

§ 21.—MORTUARY CUSTOMS, &c.

The mortuary customs of the Indians are of great significance to the ethnologist. The student who is pursuing his researches in this field should carefully note all of the customs, superstitions, and opinions of the Indians relating to—

1. The care of the lifeless body prior to burial, much of which he will find elaborated into ceremonies.

2. He should observe the method of burial, including the site, the attitude in which the body is placed, and the manner in which it is invested. Here, also, he will find interesting and curious ceremonial observances. The superstitions and opinions of the people relating to these subjects are of importance.

3. He should carefully observe the gifts offered to the dead; not only those placed with the body at the time of burial, but those offered at a subsequent time for the benefaction of the departed on his way to the other world, and for his use on arrival. Here, too, it is as important for us to know the ceremonies with which the gifts are made as to know the character of the gifts themselves.

4. An interesting branch of this research relates to the customs of mourning, embracing the time of mourning, the habiliments, the self-mutilations, and other penances, and the ceremonies with which these are accompanied. In all of these cases the reason assigned by the Indians for their doings and their superstitions are of prime importance.

5. It is desirable to obtain from the Indians their explanation of human life, their theory of spirits, and of the life to come.

The following methods of burying the dead have been discovered:

1. By inhumation in pits, graves, holes in the ground, mounds, cists, and caves.

2. By cremation, generally on the surface of the earth, occasionally beneath, the resulting bones or ashes being placed in pits in the ground, in boxes placed on scaffolds or trees, in urns, sometimes scattered.

3. By embalmment or a process of mummifying, the remains being afterwards placed in the earth, caves, mounds, or charnel-houses.

4. By ærial sepulture, the bodies being deposited on scaffolds or trees, in boxes or canoes, the two latter receptacles supported on scaffolds or posts, or on the ground. Occasionally baskets have been used to contain the remains of children, these being hung to trees.

5. By aquatic burial, beneath the water or in canoes which were turned adrift.

Some tribes periodically collect the bones of the dead and bury them in common ossuaries.

§ 22.—MEDICINE.

Among Indians the practice of medicine is usually the practice of sorcery. Diseases are not understood to be the result of the improper working of the bodily functions, but are believed to be entities—the evil spirits that take possession of the body. Often these evil spirits have definite forms assigned them, as spiders, crickets, frogs, grasshoppers, &c. The practice of medicine is largely the practice of the driving away of evil spirits. There may, to a limited extent, be an objective understanding of diseases, and, perhaps, objective remedies employed.

Diseases are also attributed to malign influences due to the failure to perform religious duties, or to the non-observance of curious prohibitions. To a very large extent diseases are attributed to the practice of witchcraft.

The study of this subject, therefore, involves the study of the theory of life, both that of man and that of animals; of the theory of diseases as spiritism and as arising from malign influences due to the neglect of ceremonies, the failure to comply with prohibitions, &c., and to the study of witchcraft.

The medicine-man is both priest and physician. To some extent there may be special medicines for special diseases, but to a very large extent each medicine man has some great medicine, which cures all diseases and other evils, and has the further virtue of bringing "luck."

Often the virtue of medicine lies in the ceremonies with which it is made, and, still further, the ceremonies with which it is administered.

Some of the great medicines are compounded of many ingredients. The composition and preparation of medicines are often held as profound secrets.

Medicines are prepared not only to drive away diseases, but to bring success in enterprise, as in war, hunting, &c.

With many tribes the phratries are secret medical societies, each one of which is charged with the preparation and custody of some important medicine, the preparation of which is concluded with a great festival, to which the entire tribe is invited.

§ 23.—AMUSEMENTS.

Indian children play with stilts, bows and arrows, and slings; they make dolls, play-houses, and in clay, baked or unbaked, make imitations of various domestic utensils, and forms of prepared food. They have many sports in mimicry of the habits of animals.

Among the adults gambling is largely practiced. The simple game of "kill-the-bone" is the most widely spread. It consists essentially in guessing in which hand one of two little bones is held, the one being marked, but it is attended with much ceremony, singing, mimicry, and gesticulation. But many other gambling games are practiced. There are a variety of games of skill and athletic sports that are practiced, especially at their festivals, and often gens contend with gens, or phratry with phratry.

Many periodically recurring festivals are observed. These consist of feasts, with dancing accompanied by music, vocal and instrumental. All of these festivals are of a religious character, and the ceremonies performed are very elaborate and curious. The ceremony at a festival is often a crude theatrical performance, where individuals act as characters, especially as the mythic animals of their religion. The personification is assisted by the use of masks and various devices of costume.

The names of games, the implements used, and the plan of the play should all be recorded.

One of the most important points to be observed is the relation of these games to medicine and religious festivals.

The names and import of festivals should be recorded. Plays, with their plans and characters, should be given.

The chief musical instruments of the Indians are rattles, bells, drums, and whistles. The most common form of a rattle is a gourd shell, which is often highly ornamented. Bells are made of strings of deer claws, strings of bones, strings of shells, &c. A drum is sometimes a log beaten with a stick. Sometimes a section of a log is somewhat hollowed so as to form a ponderous bowl. Basket bowls covered within and without with pitch are also used. Sometimes this basket bowl is inverted over a hole dug in the ground. There is sometimes an addition to this last musical instrument. The player uses a stick two or three feet long, deeply notched, and places one end upon the inverted bowl and the other against his stomach, and with his hands plays another stick up and down over the notches. A variety of crude tambourines and drums are used. Whistles are made of reeds and hollow stems of wood.

Every tribe has a great number of simple songs. Very little of value is known of the vocal music of the Indians, as their musical scale or scales are not yet determined.

Every tribe has a number of dances. The time and movement of these dances should be studied.

Dancing with music, instrumental and vocal, is the principal amusement at the frequent festivals or feasts held by every tribe. As each phratry is charged with the maintenance of certain great medicine festivals, so each phratry is the custodian of certain songs and dances, which are usually held sacred.

Musical instruments should be described and their names recorded.

Songs should be collected in the native tongue. Dances should be described, and the names of dances given.

§ 24.—NEW WORDS.

The schedules corresponding with the preceding sections call for words which the Indian possessed prior to his association with the white man. But since the first settlement of this continent from Europe the mental life of the Indian has rapidly changed. His original home on shores, in valleys,

on mountains, has been changed, and he has been placed under new physical environments. The force of acculturation under the overwhelming presence of millions of civilized people has wrought great changes. Primitive Indian society has either been modified or supplanted, primitive religions have been changed, primitive arts lost, and, in like manner, primitive languages have not remained unmodified. The period of European association has been one of rapid growth and development, especially in the accumulation of new words.

The Indian method of coining new words and adapting old words to new uses is an interesting branch of philologic study. Hence, a long list of such names are called for in Schedule 24.

REMARKS ON NOUNS.

Twenty-four schedules are given to the collection of nouns.

There are some characteristics of Indian nouns that may well receive some explanation here.

"Little" is a surname often found among English-speaking people. By its use the persons to whom it is applied are named, but not described. Should we meet with a similar appellation in an Indian tongue, the person named would also be described. Personal names and all other names are, to a large extent, descriptive in Indian tongues. In denoting the person or thing, they connote characteristics, qualities, &c. That is, in the Indian tongues, as compared with the civilized tongues, names are excessively connotive, and this appears in their morphology, as many names are found to be phrases, clauses, or even sentences. The name of the bear may be "he who seizes" or "the one with the brown nose"; the name of the wolf may be "the prowler," "the roamer," " or the "howler." Like illustrations are found on every hand.

Again, names are often compounded of other names, with adjectives, verbs, and prepositions.

§ 25.—NUMBER AND GENDER OF NOUNS—DEMONSTRATIVE AND ADJECTIVE PRONOUNS.

In Indian languages gender is usually something more than a distinction of sex. The primary classification of objects is usually into animate

and inanimate. In some few languages the animate gender is again divided into male and female, but sometimes the genders of Indian tongues are very elaborate and curious. As these distinctions belong chiefly to the personal and article pronouns, they will be hereafter more fully explained in treating of those subjects.

There are usually three numbers—singular, dual, and plural—though often the dual number pertains only to the pronoun. In nouns sometimes the names of animate objects only are changed to express number. Nouns are rarely varied to denote case. This subject belongs to the pronouns. Schedule 25 will draw out the principal facts necessary to a proper understanding of these matters. At the same time the student will have discovered some of the demonstrative and adjective pronouns.

§ 26.—PERSONAL AND ARTICLE PRONOUNS—TRANSITIVE VERBS.

In the pronouns we often have the most difficult part of an Indian language. Pronouns are only to a limited extent independent words.

Among the free pronouns the student must early learn to distinguish between the personal and the demonstrative. The demonstrative pronouns are more commonly used. The Indian is more accustomed to say *this* person or thing, *that* person or thing, than *he*, *she*, or *it*. In the preceding schedule the student has obtained the demonstrative pronouns. Among the free personal pronouns the student may find an equivalent of the pronoun "I," another signifying "I and you;" perhaps another signifying "I and he," and one signifying "we," more than two, including the speaker and those present; and another including the speaker and persons absent. He will also find personal pronouns in the second and third person, perhaps with singular, dual, and plural forms.

To a large extent the pronouns are incorporated in the verbs as prefixes, infixes, or suffixes. In such cases we will call them article pronouns. These article pronouns point out with great particularity the person, number, and gender both of subject and object, and sometimes of the indirect object. When the article pronouns are used the personal pronouns may or may not be used; but it is believed that the personal pronouns will always be found. Article pronouns may not always be found. In those languages which are characterized by them they will be used alike when

the subject and object nouns are expressed and when they are not. The student may at first find some difficulty with these article pronouns. Singular, dual, and plural forms will be found. Sometimes distinct incorporated particles will be used for subject and object, but often this will not be the case. If the subject only is expressed, one particle may be used; if the object only is expressed, another particle; but if subject and object are expressed, an entirely different particle may stand for both.

But it is in the genders of these article pronouns that the greatest difficulty may be found. The student must entirely free his mind of the idea that gender is simply a distinction of sex. In Indian tongues, genders usually are methods of classification primarily into animate and inanimate. The animate may be again divided into male and female, but this is rarely the case. Often by these genders all objects are classified on characteristics found in their attitudes or supposed constitution. Thus we may have the animate and inanimate, one or both, divided into the *standing*, the *sitting*, and the *lying;* or they may be divided into the *watery*, the *mushy*, the *earthy*, the *stony*, the *woody*, and the *fleshy*. The gender of these article pronouns has rarely been worked out in any language. The extent to which these classifications enter into the article pronouns is not well known. The subject requires more thorough study. These incorporated particles are here called *article* pronouns. In the conjugation of the verb they take an important part, and have by some writers been called *transitions*. Besides pointing out with particularity the person, number, and gender of the subject and object, they perform the same offices that are usually performed by those inflections of the verb that occur to make them agree in gender, number, and person with the subject. In those Indian languages where the article pronouns are not found, and the personal pronouns only are used, the verb is usually inflected to agree with the subject or object, or both, in the same particulars.

The article pronouns, as they point out person, number, gender, and case of the subject and object, are not simple particles, but to a greater or lesser extent compound; their component elements may be broken apart and placed in different parts of the verb. Again, the article pronoun in some languages may have its elements combined into a distinct word in such a manner that it will not be incorporated in the verb, but will be

placed immediately before it. For this reason the term "article pronoun" has been chosen rather than "attached pronoun." The older term, transition, was given to them because of their analogy in function to verbal inflections.

The personal and article pronouns can best be studied in connection with the transitive verbs with which they are used.

§ 27.—POSSESSION.

Possession is usually indicated by the use of possessive pronouns, personal or article. Usually the possessive pronouns differ but little from the personal pronouns. Nouns rarely or never have possessive forms, the method being to say "John his horse," rather than "John's horse." Two characters of possession are recognized in Indian tongues, natural and artificial. Natural possession is inherent possession; that which is possessed cannot be transferred, as "my hand," "my eye," "my father," "my mother." Artificial possession is accidental; the thing possessed may be transferred, as "my hat," "my horse."

These classes of possession will appear in the use of two distinct forms of possessive pronouns.

Possession is usually affirmed by the use of a verb signifying to have or to possess, and natural possession may be predicated with one verb, and artificial possession with another.

There is still another way of affirming possession. The noun which is the name of the article possessed will have attached to it a particle predicating possession, and this particle may be changed or modified to denote mode, tense, &c.: and, finally, we may have the noun, which is the name of the thing possessed, varied to denote person, number, and gender of the possessor, the noun itself varied to denote person, number, and gender of the thing possessed, and the attached predicating particle varied to denote mode and tense, all constituting one word.

§ 28.—INTRANSITIVE VERBS—ADJECTIVES, ADVERBS, PREPOSITIONS, AND NOUNS USED AS VERBS.

The verb is relatively of much greater importance in an Indian tongue than in a civilized language. To a large extent the pronoun is incorpo-

rated in the verb as explained above, and thus constitutes a part of its conjugation.

Again, adjectives are used as intransitive verbs, as in most Indian languages there is no verb "to be" used as a predicant or copula. Where in English we would say "the man is good," the Indian would say "that man good," using the adjective as an intransitive verb, *i. e.*, as a predicant. If he desired to affirm it in the past tense, the intransitive verb "good" would be inflected, or otherwise modified, to indicate the tense; and so, in like manner, all adjectives when used to predicate can be modified to indicate mode, tense, number, person, &c., as other intransitive verbs.

Comparison of adjectives may be effected by inflections, by the use of incorporated particles, by the use of independent words, or by paraphrastic expressions.

Adverbs are used as intransitive verbs. In English we may say "he is there"; the Indian would say "that person there," usually preferring the demonstrative to the personal pronoun. The adverb "there" would, therefore, be used as a predicant or intransitive verb, and might be conjugated to denote different modes, tenses, numbers, persons, &c. Verbs will often receive adverbial qualifications by the use of incorporated particles, and, still further, verbs may contain within themselves adverbial limitations without our being able to trace such meanings to any definite particles or parts of the verb.

The comparison of adverbs may be effected by inflections, by incorporated particles, by the use of distinct words, or by paraphrastic expressions.

Prepositions are transitive verbs. In English we may say "the hat is on the table"; the Indian would say "that hat on table"; or he might change the order and say "that hat table on"; but the preposition "on" would be used as an intransitive verb to predicate and may be conjugated. Prepositions may often be found as particles incorporated in verbs, and, still further, verbs may contain within themselves prepositional meanings without our being able to trace such meanings to any definite particles within the verb. But the verb connotes such ideas that something is needed to complete its meaning, that something being a limiting or qualifying

word, phrase, or clause. Prepositions may be prefixed, infixed, or suffixed to nouns; *i. e.*, they may be particles incorporated in nouns.

Nouns may be used as intransitive verbs under the circumstances when in English we would use a noun as the complement of a sentence after the verb "to be."

The verb, therefore, often includes within itself subject, direct object, indirect object, qualifier, and relation-idea. Thus it is that the study of an Indian language is, to a large extent, the study of its verbs.

From the remarks above, it will be seen that Indian verbs often include within themselves meanings which in English are expressed by adverbs and adverbial phrases and clauses. Thus the verb may express within itself direction, manner, instrument, and purpose, one or all, as the verb "to go" may be represented by a word signifying "go home"; another, "go away from home"; another, "go to a place other than home"; another, "go from a place other than home; one, "go from this place," without reference to home; one, "to go up"; another, "to go down"; one, "go around"; and, perhaps, there will be a verb "go up hill"; another, "go up a valley"; another, "go up a river," &c. Then we may have "to go on foot," "to go on horseback," "to go in a canoe"; still another, "to go for water"; another, "for wood," &c. Distinct words may be used for all these, or a fewer number used, and these varied by incorporated particles. In like manner, the English verb "to break" may be represented by several words, each of which will indicate the manner of performing the act or the instrument with which it is done. Distinct words may be used, or a common word varied with incorporated particles.

The verb "to strike," which appears so often in the schedule, may be represented by several words, as signifying severally "to strike with the fist," "to strike with a club," "to strike with the open hand," "to strike with a whip," "to strike with a switch", to strike with a flat instrument," &c. A common word may be used with incorporated particles or entirely different words used.

§ 29.—VOICE, MODE, AND TENSE.

The student will find the passive voice an interesting subject of study, as in most languages there is no verb "to be" with which it can be formed;

and in those languages where a verb "to be" has been partially developed it is probably never used to form the passive voice. The most common method of forming the passive voice is to use an indefinite subject signifying "some one" or "something," and to place what in English would be the subject of the verb immediately before the verb in the objective case. Other indirect methods are used.

The student will probably find a middle or reflexive voice, *i. e.*, a form of the verb which is used when the subject is represented as acting upon itself; as, I strike myself; he cuts himself.

A reciprocal voice may also be found, *i. e.*, a form of the verb which is used to denote that the persons or things of a plural subject act upon each other; as, they kick each other; they cut each other. This form of the verb will often be used in speaking of games and sports, for the purpose of showing that parties strive with each other.

Mode in an Indian tongue is a rather difficult subject. Modes analagous to those of civilized tongues are found, and many conditions and qualifications appear in the verb which in English and other civilized languages appear as adverbs, and adverbial phrases and clauses. No plane of separation can be drawn between such adverbial qualifications and true modes. Thus there may be a form of the verb which shows that the speaker makes a declaration as certain, *i. e.*, an *indicative* mode; another which shows that the speaker makes a declaration with doubt; *i. e.*, a *dubitative* mode; another that he makes a declaration on hearsay, *i. e.*, a *quotative* mode; another form will be used in making a command, giving an *imperative* mode; another in imploration, *i. e.*, an *implorative* mode; another form to denote permission, *i. e.*, a *permissive* mode; another in negation, *i. e*, a *negative* mode; another form will be used to indicate that the action is simultaneous with some other action, *i. e.*, a *simultative* mode; another to denote desire or wish that something be done, *i. e.*, a *desiderative* mode; another that the action ought to be done, *i. e.*, an *obligative* mode; another that action is repeated from time to time, *i. e.*, a *frequentative* mode; another that action is caused, *i. e.*, a *causative* mode; etc.

These forms of the verb, which we are compelled to call modes, are of great number. Usually with each of them a particular modal particle or

incorporated adverb will be used; but the particular particle which gives the qualified meaning may not always be discovered; and in one language a different word will be introduced where in another the same word will be used with an incorporated particle.

It is stated in section 28 that incorporated particles may be used to indicate direction, manner, instrument, and purpose; in fact, any adverbial qualification whatever may be made by an incorporated particle instead of an adverb as a distinct word. No line of demarkation can be drawn between these adverbial particles and those mentioned above as modal particles. Indeed, it seems best to treat all these forms of the verb arising from incorporated particles as distinct modes. In this sense, then, an Indian language has a multiplicity of modes. It should be further remarked that in many cases these modal or adverbial particles are excessively worn, so that they may appear as additions or changes of simple vowel or consonant sounds. When incorporated particles are thus used, distinct adverbial words, phrases, or clauses may also be employed, and the idea expressed twice.

It will usually be found difficult to elaborate a system of tenses in paradigmatic form. The student will find a great many tenses or time particles incorporated in verbs. Some of these time particles will be excessively worn, and may appear rather as inflections than as incorporated particles. Usually rather distinct present, past, and future tenses will be discovered; often a remote or ancient past, and less often an immediate future. But great specification of time in relation to the present and in relation to other times will usually be found. All these time particles should be worked out and their meaning and use recorded.

It was seen above that adverbial particles cannot be separated from modal particles. In like manner tense particles cannot be separated from adverbial and modal particles.

In an Indian language adverbs are differentiated only to a limited extent. Adverbial qualifications are found in the verb, and thus there are a multiplicity of modes and tenses, and no plane of demarkation can be drawn between mode and tense. From preceding statements it will appear

that a verb in an Indian tongue may have incorporated with it a great variety of particles, which can be arranged in three general classes, *i e.*, pronominal, adverbial, and prepositional.

The pronominal particles we have called article pronouns; they serve to point out a variety of characteristics in the subject, object, and indirect object of the verb. They thus subserve purposes which in English are subserved by differentiated adjectives as distinct parts of speech. They might, therefore, with some propriety have been called adjective particles; but these elements perform another function; they serve the purpose which is usually called "agreement in language"; that is, they make the verb agree with the subject and object, and thus indicate the syntactic relation between subject, object, and verb. In this sense they might with propriety have been called relation particles, and doubtless this function was in mind when some of the older grammarians called them transitions.

The adverbial particles perform the functions of voice, mode, and tense, together with many other functions that are performed in languages spoken by more highly civilized people by differentiated adverbs, adverbial phrases and clauses.

The prepositional particles perform the function of indicating a great variety of subordinate relations, like the prepositions used as distinct parts of speech in English.

By the demonstrative function of some of the pronominal particles they are closely related to adverbial particles, and adverbial particles are closely related to prepositional particles, so that it will be sometimes difficult to say of a particular particle whether it be pronominal or adverbial, and of another particular particle whether it be adverbial or prepositional.

Thus the three classes of particles are not separated by absolute planes of demarkation.

The use of these particles as parts of the verb; the use of nouns, adjectives, adverbs, and prepositions as intransitive verbs; and the direct use of verbs as nouns, adjectives, and adverbs, make the study of an Indian tongue to a large extent the study of its verbs.

§ 30.—ADDITIONAL INVESTIGATIONS SUGGESTED.

Should the student pursue his investigation beyond the limits indicated by the schedules, it is very desirable that he should be on the lookout for certain linguistic phenomena that have received no mention in the foregoing sections.

To set forth what is meant in a manner that may be understood some explanation seems necessary.

Possible ideas and thoughts are vast in number. A distinct word for every distinct idea and thought would require a vast vocabulary. The problem in language is to express many ideas and thoughts with comparatively few words.

Again, in the evolution of any language progress is from a condition where few ideas are expressed by a few words to a higher, where many ideas are expressed by the use of many words; but the number of all possible ideas or thoughts expressed is increased greatly out of proportion with the increase of the number of words.

And still again, in all of those languages which have been most thoroughly studied, and by inference in all languages, it appears that the few original words used in any language remain as the elements for the greater number finally used. In the evolution of a language the introduction of absolutely new material is a comparatively rare phenomenon. The old material is combined and modified in many ways to form the new.

How has the small stock of words found as the basis of a language been thus combined and modified?

The way in which the old materials have been used gives rise to what will here be denominated THE GRAMMATIC PROCESSES. They are as follows:

I. The process by COMBINATION. Two or more words may be united to form a new one, or to perform the office of a new one, and four methods or stages of combination may be noted.

a. By *juxtaposition*, where the two words are placed together and yet remain as distinct words. This method is illustrated in Chinese where the words in the combination when taken alone seldom give a clew to their meaning when placed together.

b. By *compounding*, where two words are made into one, in which case the original elements of the new word remain in an unmodified condition, as in "house-top," "rain-bow," "tell-tale."

c. By *agglutination*, in which case one or more of the elements entering into combination to form the new word is somewhat changed—the elements are fused together. Yet this modification is not so great as to essentially obscure the primitive words, as in "truthful," where we easily recognize the original words "truth" and "full"; and "holiday," in which "holy" and "day" are recognized.

d. By *inflection*. Here one or more of the elements entering into the compound has been so changed that it can scarcely be recognized. There is a constant tendency to economy in speech by which words are gradually shortened as they are spoken by generation after generation. In those words which are combinations of others there are certain elements that wear out more rapidly than others. Where some particular word is combined with many other different words the tendency to modify by wear this oft-used element is great. This is more especially the case where the combined word is used in certain categories of combinations, as where particular words are used to denote tense in the verb; thus "did" may be used in combination with a verb to denote past time until it is worn down to the sound of "d." The same wear occurs where particular words are used to form cases in nouns and a variety of illustrations might be given. These categories constitute conjugations and declensions, and for convenience such combinations may be called paradigmatic. Then the oft-repeated elements of paradigmatic combinations are apt to become excessively worn and modified, so that the primitive words or themes to which they are attached seem to be but slightly changed by the addition. Under these circumstances combination is called inflection.

As a morphologic process, no well-defined plane of demarkation between these four methods of combination can be drawn, as one runs into another; but, in general, words may be said to be juxtaposed, when two words being placed together the combination performs the function of a new word, while in form the two words remain separate.

Words may be said to be compound when two or more words are combined to form one, no change being made in either. Words may be said to be agglutinated when the elementary words are changed but slightly, *i. e.*, only to the extent that their original forms are not greatly obscured; and words may be said to be inflected when in thec ombination the oft-repeated element or formative part has been so changed that its origin is obscured. These inflections are used chiefly in the paradigmatic combinations.

In the preceding statement it has been assumed that there can be recognized, in these combinations of inflection, a theme or root, as it is sometimes called, and a formative element. The formative element is used with a great many different words to define or qualify them, that is to indicate mode, tense, number, person, gender, etc., of verbs, nouns, and other parts of speech.

When in a language juxtaposition is the chief method of combination, there may also be distinguished two kinds of elements, in some sense corresponding to themes and formative parts. The theme is a word the meaning of which is determined by the formative word placed by it; that is, the theme is a word having many radically different meanings; with which meaning it is to be understood is determined only by the formative word, which thus serves as its label. The ways in which the theme words are thus labeled by the formative word are very curious, but the subject cannot be entered into here.

When words are combined by compounding, the formative elements cannot so readily be distinguished from the theme; nor for the purposes under immediate consideration can compounding be well separated from agglutination.

When words are combined by agglutination, theme and formative part usually appear. The formative parts are affixes; and affixes may be divided into three classes, prefixes, suffixes, and infixes. These affixes are often called incorporated particles.

In those Indian languages where combination is chiefly by agglutination, that is, by the use of affixes, *i. e.*, incorporated particles, certain parts of the conjugation of the verb, especially those which denote gender, number, and person, are affected by the use of article pronouns; but in those

languages where article pronouns are not found the verbs are inflected to accomplish the same part of their conjugation. Perhaps, when we come more fully to study the formative elements in these more highly inflected languages, we may discover in such elements greatly modified, *i. e.*, worn out, incorporated pronouns.

The above explanation is given that the student who may desire to make a somewhat exhaustive study of a language may be on the lookout for different ways of combination, especially to discover if the Chinese method by juxtaposition is used even to a limited extent.

II. The process by VOCALIC MUTATION. Here, in order to form a new word, one or more of the vowels of the old word are changed, as in "man"—"men," where an "e" is substituted for "a"; "ran"—"run," where "u" is substituted for "a"; "lead"—"led," where "e," with its proper sound, is substituted for "ea" with its proper sound. This method is used to a very limited extent in English. When the history of the words in which it occurs is studied it is discovered to be but an instance of the wearing out of the different elements of combined words; but in the Hebrew this method prevails to a very large extent, and scholars have not yet been able to discover its origin in combination as they have in English. It may or may not have been an original grammatic process, but because of its importance in certain languages it has been found necessary to deal with it as a distinct and original process.

III. The process by INTONATION. In English new words are not formed by this method, yet words are intoned for certain purposes, chiefly rhetorical. We use the rising intonation (or inflection, as it is usually called) to indicate that a question is asked, and various effects are given to speech by the various intonations of rhetoric. But this process is used in other languages to form new words with which to express new ideas. In Chinese eight distinct intonations are found, by the use of which one word may be made to express eight different ideas, or perhaps it is better to say that eight words may be made of one.

IV. The process by PLACEMENT. The place or position of a word may affect its significant use. Thus in English we say "John struck James." By the position of those words to each other we know that John is the actor, and that James receives the action.

It has thus been explained what is meant by the four grammatic processes, and this has been necessary in order to call the attention of the student to three methods with which he may not be so familiar, viz: the second, third, and fourth.

In the study of an Indian language the student should take pains to discover for what purposes and to what extent either or all of these methods are used; and, especially, is attention directed to the use of intonation, from the fact that several Indian tribes are known to greatly intone their words. This characteristic has been frequently mentioned by those familiar with certain tribes, and the writer has himself noticed it, especially with the people of Oraibi and Zuni, who inhabit pueblos but speak different languages.

Placement is known to be used for important purposes in some of the Indian tongues which have been studied; that is, the order of words in a sentence is of great significance. This subject should receive careful study.

In the thirtieth schedule a list of verbs is given which it would be well for the student to write out in all of their forms, and especially should he look for irregular and defective verbs, and for different methods of conjugation.

A particular form of irregularity exists in the Ute language which may be discovered elsewhere. In that language there are many verbs where the singular and dual are formed on one theme and the plural on another.

§ 31. ON THE BEST METHOD OF STUDYING MATERIALS COLLECTED.

The schedules and the preceding sections have been given for the purpose of directing students into the best methods of collecting Indian material for study.

The study of the materials collected is the second stage in linguistic research. On this branch of the subject Mr. J. Hammond Trumbull has written somewhat at length, in the Transactions of the American Philological Association, 1869–'70, from which the following extract is taken:

> In the English language the *analytical* tendency has attained its highest results. By employing independent words to express grammatical relations, it has reduced a great part of its vocabulary to monosyllables. The very essence of the Indian languages on the contrary is *synthesis*, and their capacity for synthetical development is

apparently unlimited. Their highest aim is to express in a single word "not only all that modifies or relates to the same object, or action, but both the action and the object; thus concentrating in a single expression a complex idea, or several ideas among which there is a natural connection."* There is hardly any modification of which the action of a verb is susceptible which may not be effected by means of inseparable particles having the character of adverbs: "thus the action may be intended, or be about to be done; it may be done well, better, ill, in a different manner, quickly, attentively, jointly, probably, rarely, repeatedly, habitually":† it may be affirmed, doubted, questioned, denied, prohibited. A single example will illustrate this, and I select one which Mr. Bancroft (History of the United States, vol. iii, p. 259) has used for a similar purpose, in his observations on "the synthetic character of the American languages."

"The Indian never kneels; so, when Eliot translated *kneeling* [Mark, i, 40] the word which he was compelled to form fills a line, and numbers eleven syllables."

As an instance of extreme synthesis this word — *wut-ap-pe'sit-tuk-qus'-sun-noo-weht-unk'-quoh*‡—is well taken, but its significance is by no means limited, as Mr. Bancroft supposed it to be, by that of the English participle "kneeling." In the verse cited it stands as the translation of the words "kneeling down to him" of the English text, or, more exactly, for "he kneeled down to him"—Eliot having substituted the indicative mood for the participle, as Indian syntax requires. We have thus *five* English words represented by the Indian synthesis. But the denotation of the latter is not yet exhausted. Eliot might have found, in the Massachusetts or any other Algonkin dialect, an equivalent for the verb "to kneel", in its literal and primary signification—"to rest on the bended knees" or (active-intransitive) "to assume the position of kneeling." In 2 Chron., vi, 13: Daniel, vi, 10: Acts, xx, 36, he translated "he kneeled down" by *ap-pe'-sit-tuk-qus'-sin;* but in the verse first cited, something more than the mere *act* of bending the knees or resting on them is implied. The verb here connotes supplication, submission, and worship, and all this is expressed in the eighth and ninth syllables (*-noo-weht-*) of the Indian synthesis, the whole of which may be translated, literally: "He, falling down upon his knees, worshiped [or made supplication to] him." Thus the *one* Indian word of *eleven* syllables requires for its accurate interpretation *eight* or *ten* English words and at least eleven syllables.

This tendency to synthesis is not manifested only in the grammatical structure. It may be traced far back to the roots of the language, and characterizes the primary verbs as truly as it does the many-syllabled cluster-words of later growth. Father Le Jeune, a Jesuit missionary in Canada in 1634, mentions as a peculiarity of the language of the Montagnars "the infinite number of words which signify many things together," and which yet had no etymological affinity with any of the words which signify those things severally; and he gave as an example the Montagnais verb *piouan*, meaning "the wind drives the snow," but in which no trace appears of the words for

* Gallatin, in Trans. Am. Antiquarian Society, vol. ii, p. 165.

† Gallatin, in Trans. Am. Ethnological Society, vol. ii, p. cxlii.

‡ Duponceau pointed out this word as the longest he had met with in any Indian language except the Chippeway (of Schoolcraft), in which "there were some verbal forms of thirteen and fourteen syllables. (Mémoire sur le Système Grammatical etc., p. 143.) A more remarkable illustration of "the Indian way of compounding words" was given by the Rev. Experience Mayhew, preacher to the Indians on Martha's Vineyard, in a synthesis of *twenty-two* syllables, signifying "our well-skilled looking-glass makers"—*Nup-pahk-nuh-tô-pe-pe-nau-wut-chut-chuh-quô-ka-neh-cha-e-nin-nu-mun-nô-nok.* (MS. Letter, 1722.)

"wind," "snow," or "to drive."* This synthesis which precedes grammar and concentrates complex ideas—thought-clusters—in a single word or syllable, is found in all the American languages of which we have any knowledge. The primary verb affirms conditioned or modified existence, specific and restricted action. There is—I speak now only of that group of languages to which my studies have been chiefly directed, the Algonkin—there is no independent substantive verb; but there are verbs of *being* under every conceivable condition of time, place, and circumstance. "He is" cannot be exactly translated by any Algonkin verb, but every dialect has verbs signifying "he is well—or ill," "he lives," "he *was* (and *is not*)," "he *was* (and *continues* to be)," "he has himself," "he abides," "he remains," "he is the same as," "he is of the kind of," "*il y a*," etc.

Every standard vocabulary includes the verb "to eat," yet this verb has not, so far as I can discover, its equivalent in any American language. The Algonkin has four or five primary and a great many composite verbs of eating, but none of these expresses the simple act of taking food, without reference to the manner, mode, subject, or object. One verb, for example, signifies "to eat animal food" (or that which has or has had life); another, "to eat vegetable food;" another, "to eat *soft* food" (that which may be *dipped up*, spoon-victuals, such as samp, succotash, and the like); others, "to eat ravenously, to devour like beasts of prey," "to graze," or take food from the ground as cattle do, and so on. Others, again, by the insertion of a particle, or by receiving a characteristic affix, are made to express the act of eating *in company* with others, of eating *enough* or satisfying one's self with food, of eating *all* that is provided, of feasting, etc.

No Indian language, probably, has any verb which exactly corresponds to the English verb "to go," yet the Indian verbs of motion are almost numberless. There are verbs of going by land, by water, by paddle, by sail; of going *from* the speaker, from the place of the action narrated, and from a place other than that of the speaker or the action; of going *to* a person, place, inanimate object; of going by running, jumping, flying, swimming, etc. (and these are not to be confounded with the verbs which express the *acts* of running, jumping, flying, and swimming); of going fast, slow, before, after, aslant, in a straight course, by a devious path; and scores of others. A special vocabulary of the verbs of motion in any Indian language, giving an analysis of each and its precise signification, would be of some real value to philologists; but what is to be gained by entering against the English infinitive "to go," in a standard vocabulary, some one or another of these Indian verbs of going, the entry carrying its own evidence of inaccuracy?

The defects of the vocabulary method are still more obvious when we consider the nature of Indian *names*. A peculiar strength of the English language lies in its concrete general names, and in the facility with which these names are made to pass from the concrete to the abstract. The peculiar excellence of the Indian languages is in the nice machinery by which *definitions* or *descriptions* of individual objects are made to stand for names, and by means of which names which in English are general or abstract become individual or concrete. The English abounds with predicates of a class or genus; but the Indian noun—*verbum nominale*—itself predicates a *differentia* or an *accidens*, occasionally a genus or a species. I say the Indian noun *predicates*, for

* Relation de la Nouvelle France en l'année 1634 (repr. Quebec, 1858, p. 50).

I can find no less objectionable form of expression, though this conveys only half the truth. Strictly regarded, *the Indian noun is not separable, as a part of speech, from the verb.* Every name is not merely descriptive but *predicative*—not as in Indo-European languages by implication or suggestion, or by reason of remote derivation from a predicative root, but it retains the verb form unchanged; is varied by *conjugation*, not by declension; has *tenses*, not cases; may become active, passive, reciprocal, frequentative, like other verbs. In short, every Indian name is in fact a verb—is formed as a *participial* immediately from a verb, or *contains within itself* a verb.

Without pursuing this branch of the subject further at present or multiplying examples, I repeat that, in view of the fundamental differences in grammatical structure and in plan of thought between the American and the Indo-European languages, it is nearly impossible to find an Indian name or verb which admits of exact translation by an English name or verb. But the standard vocabularies which have been most largely used in the collection and exhibition of materials are framed on the hypothesis that such translation *is* generally possible. They assume that equivalents of English *generic* names may be found among Indian *specific* and *individual* names; that English analysis may be adequately represented, word for word, by Indian synthesis. Such vocabularies, as has been remarked, have their uses, but to linguistic science or to comparative philology they contribute nothing which is worth the cost of obtaining. When a collector or an editor has acquired a thorough knowledge of the grammatical structure of a language and has learned how to resolve synthesis by analysis, he may undertake the arrangement of his materials in the form of a vocabulary with some probability of imparting to the result real and permanent value. Without such preparation for his work—no matter how cautiously or with what ability he prosecutes it—he must not hope for great success.

It is easier to discover the defects in the old method than to point out a new and a better one. The details of such a method could not be discussed without exceeding the limits of this paper, nor is such discussion called for. The way to a more thorough and exact knowledge of the Indian languages is not unknown or untried. There are laborers already in the field who have not only proved that higher results than the compilation of brief vocabularies are attainable, but have shown how to attain them; and for the study of a considerable number of languages and dialects of the North, the South, the valleys of the Mississippi and Missouri, and the far West, scholars are no longer restricted in materials to *quasi* translations of lists of untranslatable English words.

The suggestions I shall offer have to some extent been anticipated by the drift of the foregoing remarks. The first is—

That a constant aim of the student of any of the American languages should be *the resolution of synthesis by analysis.* What the Indian has so skillfully put together—"agglutinated" or "incorporated"—must be carefully taken to pieces, and the materials of the structure be examined separately. Every Indian cluster-word is a sentence—a description, definition, or affirmation. Mere translation will not exhibit its construction or afford a trustworthy basis of comparison with word-groups in other languages. Something is gained, it is true, by *exact* translation; but this cannot be had if the translation must be shaped to the requirements of an English vocabulary. A single chapter of the Bible or a dozen sentences of familiar conversation accurately translated into

any Indian language, or a few selected words and phrases translated *from* it to English, will give a better insight to its structure and do more to determine its relationship to other American languages than long lists of concrete names or verb-forms compiled on the usual plan. But something more than translation, however accurate, is wanted. These languages must be studied in their *roots*, for these are the elements of synthesis. The possible forms of synthesis are infinite, but the radicals or primaries are, in any language, few. The forms, both inflectional and syntactic, are subject to change from year to year and in passing from tribe to tribe; and these changes, it is said, have in some instances been surprisingly rapid and extensive. We are told of a vocabulary compiled by missionaries to a Central American tribe in 1823 which had become useless in 1833, so greatly had the language changed in the ten years which intervened.* With better knowledge of the structure of these languages such changes would probably have been found to be for the most part only superficial—the *synthesis* being differently constructed, while its elements, the predicative and demonstrative roots, remained the same. Of such changes some further notice will be taken in another part of this paper.

To single out and fix the primary meanings of the *verbal roots* should be the ultimate aim in the study of every Indian language. What excessive synthesis has done, searching analysis must undo. The task is not so difficult as at first sight it may seem to be. As I have before remarked, the roots or primaries are few and constant, or nearly so, in all dialects and languages of the same family, allowance being made for recognized differences of pronunciation and accent. They preserve their independent signification, however combined. They enter into composition without undergoing change of form, while their affixes and formatives obey laws of harmonious sequence of vowels as nicely adjusted as in Turkish. The five, ten, or more syllables of a verbal-synthesis do not grow out of or coalesce with one another, but each is *built on;* so

* S. F. Waldeck, *Lettre à M. Jomard des environs de Palenqué*—cited by Max Müller, Lectures on the Science of Langnage, 1st series, p. 62 (Am. ed.). I confess that, without other explanation than appears, I find this statement hardly credible, and suspect that the worthlessness of the vocabulary should not have been attributed solely to the inconstancy of the language. Professor Müller (*l. c.*) refers also to Sagard's *Grand Voyage du Pays des Hurons* (Paris, 1632), for the statement "that among these North American tribes hardly one village speaks the same language as another; nay, that two families of the same village do not speak exactly the same language." And he adds, what is important, that "their language is changing every day, and is already so much changed that the ancient Huron language is almost entirely different from the present." But Sagard's statement must not be received without the qualification he himself gave it. He did not intimate that the differences of dialect were greater or the tendency to change more apparent in the Huron language *than in the French.* What he says—in the introduction to the *Dictionnaire de la langue Huronne*, printed with his *Grand Voyage*—is in substance this: that there was the same diversity of accent, pronunciation, and in the use of words, in provinces, towns, and villages in the Huron country *as in France;* that the same words might be differently pronounced or the same object called by different names even by inmates of the same cabin; one person would say "*etseignon*," and another "*etcheignon*"; one "*ochahenna*," another "*ochahenda*," etc.; and that, *as in France* (*comme par deçà*) new words were invented or brought in fashion and the pronunciation of the court had almost superseded (*presque ensevely*) the ancient Gallic, *so* "our Hurons, *and generally all other nations*, have the same instability of language, and change their words so that in process of time the old Huron becomes almost entirely different from the modern." The change, as he conjectured, was still going on; and yet Sagard's very imperfect dictionary of this unstable language, two hundred years or more after it was compiled, enabled Duponceau to make himself understood without apparent difficulty by the Wyandots, a remnant of the lost nation of the Hurons. (Duponceau's *Mémoire*, p. 110.)

that when the key is once found the word-puzzle may be taken in pieces as easily as it was put together. Indeed, it is a requirement of the Indian languages that every word *shall* be so framed as to admit of immediate resolution to its significant elements by the hearer. It must be thoroughly *self-defining*, for (as Max Müller has expressed it) "it requires tradition, society, and literature to maintain words which can no longer be analyzed at once." . . . In the ever-shifting state of a nomadic society no debased coin can be tolerated in language, no obscure legend accepted on trust. The metal must be pure and the legend distinct.* The more cumbrous and unwieldy the structure, the greater is the necessity for exact adjustment of its parts; and the laws of verbal composition are well-established, admitting *no exceptions*.

How far such an analysis as I have suggested can be successfully carried need not now be inquired. Every step taken in that direction will be something gained, will lead to more exact knowledge and to positive results. To determine and classify the *primary verbs* in any one language would be to bring a larger contribution to linguistic science than has often been made by students of the American tongues. Back of these verbs and of the primary demonstratives are the ultimate roots. These may not now be, possibly they never will be, attainable; yet I do not hesitate to express my belief that through the study of the American languages scholars may *as nearly* arrive at a solution of the great problem of the genesis of speech, in determining the character and office of its germs, as by any other avenue of approach. All attempts to establish relationship between the several great linguistic families by the identification of roots, may indeed be regarded as hopeless; for few will be disposed to question Professor Whitney's conclusion (Language and the Study of Language, p. 392) that "the difficulties in the way of a fruitful comparison of roots are altogether overwhelming"; and probably no one is yet "so sanguine as to expect to discover, amid the blind confusion of the American languages, where there are scores of groups which seem to be totally diverse in constituent material, the radical elements which have lain at the basis of their common development." But if order is ever to be brought out of this blind confusion—if any satisfactory classification of the hundreds of languages and dialects now so loosely grouped is to be established—if the genetic relation of one of these to another is to be demonstrated even in those cases where, on grounds independent of language, the probability of such relation is greatest—analysis must first do its work, until, at least, it shall have determined and classified the earliest traceable constituents of speech, though compelled to stop short of the discovery of ultimate roots.

If the method I have indicated is the true one, the collection of materials for the critical study of an American language should begin, not with the translation into it of a given number of English names, but by looking out its simplest, *i. e.*, least composite words, and fixing their meanings,—by detaching from the constant roots or themes terminations and formatives which are merely grammatical,—and by translating from the Indian to the English, provisionally and subject to correction by more rigid analysis, the syntheses which discharge the office of concrete names, by conveying concise definitions or specific descriptions of the objects to which they are severally appropriated.

Among the words and elements of words which claim earliest attention, may be mentioned—

1. The *Pronouns*, separable and inseparable, and pronominal suffixes: with which may be included the *demonstratives*.

*Lectures on the Science of Language, 1st series, pp. 292, 293.

2. *Particles* which serve as prepositions and post-positions, conjunctions and, occasionally, adverbs. Nearly all of these appear to be remnants of verbs and for the most part are susceptible of conjugation as verbs. Their verbal origin may be matter of subsequent investigation, but a careful study of them in their present forms is essential, at the very outset, to thorough knowledge of a language; for they have much to do with the construction of syntheses and exert great influence in the modification of verbal roots.

3. The *Numerals*, cardinal, ordinal, and distributive. For the collection and analysis of these, some suggestions are given in "Instructions for research relative to the Ethnology and Philology of America," prepared for the Smithsonian Institution by Col. George Gibbs.* As the numerals are always significant, it should be a special aim of the collector to ascertain the precise meaning of each. Does the word used for *one* signify "a small thing," "a begin ning," "the little one" (*i. e.* finger), "undivided," or "that which is left behind or passed by"? Does *three* mean "the middle finger"? Is *five* "the hand," "the closed fist," or "all" the fingers? Is *six* "five-one," "one more," or "one held up" (*i. e.* one of the fingers which had been doubled down)? Is *nine* "one left," or "one less than," or "one wanting"? Is *eleven* "one again" or "ten more one"? Is *twenty*, as in the Eskimo, "one man" (*i. e.* all the fingers and toes)? Every such question that is answered throws some light on the structure and method of synthesis and may help establish the relationship of the language.

4. *Primary Verbs.* Of these and of the tendency to the concentration of complex ideas in a single word, which is characteristic of the American languages, I have already spoken. Recollect that the Indian verb is almost always *holophrastic*. It affirms—not action or existence *generally*, but—some special and limited act or conditioned existence; consequently, it can seldom, if ever, be adequately translated by an English verb without adverbial qualification.

5. *Concrete Nouns.* We have seen that these are not, as in the inflectional languages so many names have come to be, mere unmeaning marks. They are descriptive and definitive; specific, not general; and each retains the verb form or embodies a verb. Every synthesis is so framed as to differentiate the object it serves to name from every other object known to the speaker, and this so explicitly as to be intelligible to every hearer. The English word *horse* tells us nothing about the animal it names. Etymologists who can establish its connection with the Sanskrit *hrêsh* may find a reason for its appropriation to "the neigher," but we use it without having a consciousness of any such intrinsic significance, recognizing it, only because we have been taught to do so, as the distinguishing mark which has been set upon a species, just as—regardless of etymological suggestions—we recognize "Charles" or "William" as the distinguishing mark of an individual. The American languages permit the use of no such names without meaning. The native of Massachusetts who saw a horse for the first time distinguished it from all animals he had previously known, as "the beast that carries on his back a living burden," and this name once heard enabled every Indian of the tribe, or who understood the language, to identify the animal whenever it came in his way. So the Chippeway could recognize by its name alone the creature "whose hoofs are all solid," and so the Dakota knew at sight the "wonderful domestic animal" introduced by the white man.

*Smithsonian Miscellaneous Collections, 160 (vol. vii, art. xi).

With this understanding of the nature of Indian names, we see how tribes speaking dialects of the same language and not widely separated may come to have different names for the same object—as many names, possibly, as there can be framed definitions or descriptions sufficiently exact for its differentiation. One Algonkin tribe calls the beaver a "feller of trees"; another describes him as "putting his head out of the water," *i. e.*, air-breathing water-animal. The Chippeways and some other tribes of the same family name the humming-bird by the cumbrous synthesis *no no no^{n}k'aus eé;* the Shyennes, a western offshoot of the same Algonkin stock, call it *ma ká i taí wĭ kis.* The two names have no apparent affinity. Standing side by side in a comparative vocabulary, their testimony would go to show the unlikeness of the languages to which they respectively belong. Yet both names would, probably, be alike intelligible to a Chippeway and a Sheyenne. When we have learned that the one means "an exceedingly slight (or delicate) little creature," and the other, "the iron bird," we shall be less likely to draw a wrong inference from their external non-resemblance.

Where such latitude is allowed in name-giving, and where a name is necessarily discarded when the description it gives of an object is no longer sufficient to distinguish it from every other, we must not expect to find the same constancy in the vocabulary as in languages like our own, in which names hold their places not by virtue of their inherent significance but by prescription. And here we have the reason of some of the changes which have been remarked in the languages of certain tribes, of which something was said in another place (p. 65). Such changes are likely to be most considerable and most rapid soon after the opening of intercourse with a civilized race. The significance of old names is lost in the changed condition of the tribe. One synthesis displaces another which has no longer any distinguishing force; one object after another is divested of the characteristic quality which had given it a name. When Europeans first came to New England, the Algonkin name of a pot or kettle (*aukuk*) described it as "made of earth"; but this name—still in use among the western Algonkins—could not long maintain its place in the language of Indians of the Atlantic coast after vessels of copper and iron were generally substituted for pots of clay or steatite. The introduction of fire-arms, of dogs and horses, of trading cloth and blankets, not only called for the invention of a dozen new names but made nearly as many old ones useless.

6. *Characteristic particles* found in composition with verbs, designating specific modifications of the action or special relations of the action to the subject or object of the verb. These are prefixed, added as terminations, or inserted between the root and the inflection proper.

7. *Generic formatives* which, in grammatical synthesis, discharge the office of appellatives or general names.

These two classes—characteristic particles and generic formatives—present the most formidable obstacles which are to be encountered in acquiring thorough knowledge of any American language. One or the other or both have place in nearly every synthesis. Both must be eliminated by analysis before the primary signification of the verbs with which they are associated can be ascertained. Biliteral or uniliteral—syllables or mere fragments of syllables—they probably all represent, as many of them are known to do, independent words, some of which still maintain their places in the vocabulary, while others have yielded to phonetic decay. The critical investigation of these

particles will compensate the student for all the pains it may cost him, for in it he will be brought very near the ultimate roots of the language.

To the former class—characteristic particles—belong all the grammatical machinery for *energizing* and *individualizing* the activity of the verb, making it intensive, frequentative, causative, possessive, reciprocal, dubitative, simulative, representative, etc.—for designating the *manner* of acting or of being, and sometimes the *instrument* or *agency* by which the act is performed.

The nature and office of these characteristics may be shown by a few examples from the Massachusetts-Algonkin, the Sioux-Dakota, and the Choctaw;* but of their number and variety in any language no adequate conception can be had without study of the language itself.

In the Massachusetts (as written by Eliot) *-uhk* or *ohk* interposed between the root and the formative denotes continued and *progressive* action—"to go on" doing: *pet-aü*, "he puts (or is put) into" *pet*UHK-aü, "he *goes* into"; *assa-maü*, "he gives food to," *assa*UHK-*amaü* (contracted to *sôhkamaü*, El.), "he keeps on giving food to," continues to feed (*e. g.*, a domestic animal); *amá-eu*, "he absents himself, departs"; *ama*UHK-*au*, "he *drives* away" (goes-after him-going); *wēk-eau*, "he houses himself, provides a dwelling place"; *wēk*UHK-*au*, "he builds or constructs a dwelling place," goes on housing himself.

When the action is performed *with the hand* the characteristic is *-nn* before the formative: *kenu*NN*um*, "he carries it *in his hand*"; *tohqu*NN*um*, "he holds it fast *with his hand*" [comp. Cree *tâkwâ*N*um*, "he holds it with his hand," *tâkwâ*T*um* "he holds it *in his mouth*"]. If the action is performed *by cutting* or *with a knife*, *-ss* takes the place of *-nn: sohqu-i*, "it is in small pieces," "broken fine"; *sohqu*NN*um*, "he breaks or pulls it to pieces *with his hand*"; *sohqu*SS*um*, "he *cuts* it in small pieces." The act of *tying* or making fast by a cord or thong is denoted by *-pi* or *-pin* after the root: *kish*PINN*um*, "he ties it firmly *with his hand*" (the characteristic is double here); *asse*PINN*um*, "he ties them together"; *togku*PINN*au*, "he holds him fast *by bonds*," etc. *Sudden*, *violent*, or *disastrous* action is denoted by the insertion of *-sh; petaü*, "he puts (or goes) into," becomes *pet*SH*aü*, "he falls into," (*e. g.*, a pit or a snare); *pohqui*, "it parts asunder"; *pok*SH*eau*, "it breaks, by violence or suddenly"; *togkun*, "it strikes"; *togku*SH*in*, "it strikes with violence, etc.

In the Dakota group, the instrumentive or modal characteristic is *prefixed* to the verb: *ba-* shows that the action is done by *cutting* or *sawing: bo-*, that it is done by *shooting* (lit. by *blowing*) or by some missile; *ya-*, that it is performed *with the mouth; pa-*, that it is done by *pushing, drawing, pressing*, or *rubbing* with the hand, *e. g.*: BA*ksa*, "to cut off"; BA*mda*, "to cut in slices"; BA*pta*, "to cut off a piece"; BA*pako*, "to cut or saw crooked" (from *pako*, "crooked"); *bohóho*, "to loosen by shooting" (from *hohó*, "loose"); BO*ïyowaza*, "to make an echo by shooting" (from *yaï'wowaza*, "to make an echo"); YA*chocho*, "to chew fine" (from *chocho* "soft"); YA*hóho*, "to make loose, with the mouth (from *hóho*, "loose"); PA*dopa*, "to push into the mud" (from *dópa*, "to mire"); PA*bu*, "to make a noise with drumming with the fingers" (from *bu*, "to make a noise"); PA*hmíyan*, "to make round like a ball, with the hands" (from *hmí-yañ'*, "round"), etc.

* The Massachusetts forms are taken from Eliot's version of the Bible, the Dakota from the Rev. S. R. Riggs's excellent grammar and dictionary of that language (Washington, 1852), and the Choctaw from the Rev. C. Byington's Choctaw Grammar (edited by Dr. D. G. Brinton, Philadelphia, 1870).

In the Choctaw, Mr. Byington (Grammar, p. 36) gives some of these forms for the verb *takchi*, "to tie": *ta^{n}kchi*, "to be tying"; *taɪʏakchi*, "to tie firmly"; *taʜa^{n}kchi*, "to keep tying"; *taʜkchi*, "to tie instantly" or suddenly; *takᴄʜɪchi*" to cause to tie," etc.

In some of the Algonkin languages there is a special form of the verb for denoting a *pretense* of doing or being, "feigning to do." In the Cree, this form has the characteristic *-kás;* from *nipp'ow*, "he sleeps," comes *nippaᴋᴀ'soo*, "he pretends to sleep"; *muskowissu*, "he is strong," *muskowisseᴋᴀ'soo*, "he pretends to be strong," &c. (Howse's Cree Grammar, pp. 20, 84.)

What I have called *generic formatives* have been regarded by some writers on the American languages, especially by Mr. Schoolcraft, as "primitive nouns never disjunctively used." All, however, which are found in the Algonkin languages may be shown to belong to one of two classes: verbals and participials regularly formed from primary verbs—some of which still retain their independent places in the language—and inflections, with a characteristic particle prefixed to each. They may be described, generally, as terminations which denote the class or kind to which the object designated by the synthesis belongs. Examples of these formatives may be observed in many geographical and local names. In the parts of the country where Algonkin dialects were spoken, *-paug* or *-pâg* final (or followed by the locative sign, *-ut, -it, -ing*) denotes "water at rest," "standing water," and is the substantival component of many names of lakes and ponds; *-hanne* or *-han*, "flowing," distinguishes a "rapid stream" or "current"; *-tuk* (Abnaki, *-tegœ́;* Delaware, *-ittuk*), "driven in waves," from a root signifying "to strike," is found in names of tidal rivers and estuaries and of broad, deep streams; *-ompsk*, contracted to *-psk* or *-msk* (Abnaki, *-peskoo;* Cree, *-pisk;* Chippeway, *-bik*), denotes "hard or flint-like rock."*

-Minne, or its contraction *-min*, is the generic affix of names of berries, nuts, and other fruits which may be eaten. It is never used independently, though a nearly-related word, *meen*, pl. *meenun*, is found in the Chippeway and some other dialects specially appropriated to a single species (the blueberry), and in the Cree the diminutives *menis* and *menissis* are used for "berry" generally. The cranberry was called by the Narragansetts, *sasê-min*, "very sour berry"; by the Chippeways, *muskegé-min*, "swamp-berry"; the strawberry is (Chip.) *odĕi-min*, "heart-berry"; Indian corn, in Massachusetts, *ewâchi-min* or *weatchi-min*, but among the western Algonkins, *mondamin*, "manito" (*i. e.*, supernatural or wonderful) "fruit."

-Pin denotes an esculent tuber or tuberous root; as in (Chip.) *o-pin*, "potato"; *wŭtŭ-pin*, "wild potato"; *muskode-pin*, "prairie-root"; *wawbeze-pin*, "swan-root" (a species of Sagittaria), etc.

-Asq in the Massachusetts and Narragansett dialects was the generic formative of the names of fruits which might be eaten "raw" or when "green," particularly melons and edible gourds. In the plural, *-asq* makes *-asquash*—whence our name "squash" for several varieties of Cucurbitaceæ.†

*Since the above was written a more extended notice of this class of generic formatives has been given in a paper, "On the composition of Indian geographical names," printed in the second volume of the Collections of the Connecticut Historical Society.

† The primary meaning of *asq* or *ask* seems to have been "before-time," "immature," "unfinished," or the like. As an adverbial *prefix* to verbs it denotes that the action is *not yet* performed. Hence, *aski-* and *ask-un*, "it is raw," *i. e.*, not yet prepared to be eaten; or "it is green," *i. e.*, not yet matured. *Eskimo* is the Algonkin name of one who "eats fish or flesh raw"; Abnaki, *'ski-moo-hoo*; Mass., *aski-moowhau*. The Dakota *sak* corresponds to the Algonkin *asq; sa'ka*, "raw"; dimin., *sa'ka-da^{n}*, "green," "immature"; *sa'ka-yutapi*, "something eaten raw," melons, cucumbers, &c.

In the Chippeway language, *-gan* and *-jigan* (*-gun* and *-jeegun*, Schoolcraft; Cree, *-gun, -chéggun*, Howse; Delaware, *-can, -schican*, Zeisberger) are the formations of many names of *instruments*. Mr. Schoolcraft regarded these names as "based upon the word *jeegun*, one of the primitive nouns, which, although never disjunctively used, denotes, in its modified forms, the various senses implied by our words 'instrument,' 'contrivance,' 'machine,' &c." Sometimes, he says, it is shortened to *-gun*.* These generics, however, are not primitive words, but the formatives of participles, and *-jigan* is never shortened to *-gan*, but is formed by the insertion of the characteristic of energetic action, *-ji*, between *-gan* and the verbal root. Participials in *-gan* (or *-gun*) serve as names of what may be distinguished as *passive* instruments—things "used for" some purpose by an animate agent; *e. g.*, *niba-gan*, "a bed" ("used for sleeping"); *opwâ-gan*, "a pipe," ("used for smoking"); *wassâitshie-gan*, "a window" ("used for lighting"), etc. Participials in *-jigan* (*-jeegun*) or *-chéggun* denote inanimate *agents*, instruments "for doing" something and which are regarded as exerting a degree of energy of their own. Of this class are all labor-saving machines and contrivances for *helping* the Indian do what he cannot do without them: *e. g.*, Chippeway *kîshkîbo-jigan*, "a hand-saw," *i. e.*, used for cutting crosswise; *tâshkîbo-jigan*, "a saw-mill or pit saw", used for cutting lengthwise; *bissibo-jigan*, "a corn-mill or coffee mill", used for making fine, reducing to powder. Delaware, *kinhan-schican* (Zeisb.) "a grindstone," used for sharpening.†

The preceding examples have been taken from the languages of the Algonkin family, in which the generic annex *follows* the qualificative. In other groups the order of synthesis is reversed and the generic is prefixed. The Dakota *cha^{n}* (*ch* as in *ch*in) meaning "tree" or "wood," corresponds to the Algonkin *-tukh*, for the designation of articles "made of wood" or "belonging to a tree," *e. g.*, *cha^{n}-ha*, "tree skin," bark; *cha^{n}ha^{n}pi*, "tree sap," sugar; *cha^{n}opiye*, "wood to put into," a box or wooden vessel; *cha^{n}shi^{n}*, "tree fat", gum or resin; *cha^{n}shu'shka*, "good for nothing wood," the box-elder, &c. *Ta* is a generic prefix of names of ruminating animals, but when used independently denotes the moose, *par excellence*. *Wa* limits certain names to the "bear" species. *Ho* refers others to the class "fish," as in *ho-a' pe*, "a fin" (from *a'pe* "leaf"); *ho-wa' sa pa*, "all-black fish", the catfish; *ho-ta^{n}ka*, "great fish," the sturgeon, &c.

§ 32.—THE RANK OF INDIAN LANGUAGES.

Students of Indian languages have sometimes fallen into error about their rank or value as instruments for the expression of thought, as shown

*Lectures on the Odjibwa Substantive. Gallatin in Trans. Am. Antiq. Soc., vol. ii, p. 228, adopts from Schoolcraft the statement that "a numerous class of compounds is *derived* from *jeegun* or *gun*, meaning 'instrument,' words never used alone."

†This characteristic *-ji* is itself a compound or derivative, as we find by going back to simpler forms of the verb. In the Cree and Chippeway, *t* or *d* (Massachusetts, *tt* or *dt*) is the characteristic of verbs of action performed on inanimate objects; but if the object is *not expressed*, the verb takes a different inflection and its characteristic becomes *che* or *ji* (*i. e.*, *t-she, d-zhe*). From this form of the verb comes the participial in *-jigan* or *chéggun*, which by its formative, *-an* or *-un* ascribes action to an *inanimate* subject employed to do an act, *generally*, or of which the object is not specified; it cuts (something or anything) crosswise," "it makes something sharp," etc.

in many of the dissertations on Indian languages found in the literature of the subject.

The assumed superiority of the Greek and Latin languages to the English and other modern civilized tongues, has in part been the cause of the many erroneous conceptions of the rank of Indian tongues. When the student discovers that many of the characteristics of the classic languages appear in the Indian which are to a greater or less extent lost in the modern civilized languages, he has at once assumed the superiority of the Indian tongue; and when he has further discovered that some of these characteristics are even more highly developed than in the classic ones he has been led to still further exalt them. This exaggeration has still another cause. The many curious linguistic devices by which great specification of expression is attained has led some scholars into undue admiration, as they have failed to appreciate the loss in the economy and power which these peculiar methods entail.

It is proposed to set forth the rank of Indian languages by briefly comparing them with the English and incidentally with some other languages. In the comparison we have but fragmentary materials for use. Any extended discussion, therefore, would be out of place, but it is believed that a brief statement of the matter will result in clearing away the errors into which some persons have fallen.

This leads us to speak of language as organized.

By the grammatic processes mentioned in the last section, language is organized. Organization postulates the differentiation of organs and their combination into integers. The integers of language are sentences, and their organs are the parts of speech. Linguistic organization, then, consists in the differentiation of the parts of speech and the integration of the sentence. For example, let us take the words, *John*, *father*, and *love*. John is the name of an individual; love is the name of a mental action, and father the name of a person. We put them together, John loves father, and they express a thought; *John* becomes a noun, and is the subject of the sentence; *love* becomes a verb, and is the predicant; *father* a noun, and is the object; and we now have an organized sentence. A sentence requires

parts of speech, and parts of speech are such because they are used as the organic elements of a sentence.

The criteria of rank in languages are, first, grade of organization, *i. e.*, the degree to which the grammatic processes and methods are specialized, and the parts of speech differentiated; second, sematologic content, that is, the body of thought which the language is competent to convey.

The grammatic processes may be used for three purposes:

First, for *derivation*, where a new word to express a new idea is made by combining two or more old words, or by changing the vowel of one word, or by changing the intonation of one word.

Second, for *modification*, a word may be qualified or defined by the processes of combination, vocalic mutation or intonation.

It should here be noted that the plane between derivation and qualification is not absolute.

Third, for *relation*. When words as signs of ideas are used together to express thought the relation of the words must be expressed by some means. In English the relation of words is expressed both by placement and combination, *i. e.*, inflection for agreement

It should here be noted that paradigmatic inflections are used for two distinct purposes, qualification and relation. A word is qualified by inflection when the idea expressed by the inflection pertains to the idea expressed by the word inflected; thus a noun is qualified by inflection when its number and gender are expressed. A word is related by inflection when the office of the word in the sentence is pointed out thereby; thus, nouns are related by case inflections; verbs are related by inflections for gender, number, and person. All inflection for agreement is inflection for relation.

In English, the three grammatic processes are highly specialized.

Combination is used chiefly for derivation, but to some slight extent for qualification and relation in the paradigmatic categories. But its use in this manner as compared with many other languages has almost disappeared.

Vocalic mutation is used to a very limited extent and only by accident, and can scarcely be said to belong to the English language.

Intonation is used as a grammatic process only to a limited extent—

simply to assist in forming the interrogative and imperative modes. Its use here is almost rhetorical; in all other cases it is purely rhetorical.

Placement is largely used in the language, and is highly specialized, performing the office of exhibiting the relations of words to each other in the sentence, *i. e.*, it is used chiefly for syntactic relation.

Thus, one of the four processes does not belong to the English language; the others are highly specialized.

The purposes for which the processes are used are *derivation*, *modification*, and *syntactic relation*.

Derivation is accomplished by combination.

Modification is accomplished by the differentiation of adjectives and adverbs, as words, phrases, and clauses.

Syntactic relation is accomplished by placement. *Syntactic relation* must not be confounded with the relation expressed by prepositions. Syntactic relation is the relation of the parts of speech to each other as integral parts of a sentence. Prepositions express relations of thought of another order. They relate words to each other as words.

Placement relates words to each other as parts of speech.

In the Indian tongues combination is used for all three purposes, performing the three different functions of derivation, modification, and relation. Placement also is used for relation, and for both kinds of relation, syntactic and prepositional.

With regard, then, to the processes and purposes for which they are used we find in the Indian languages a low degree of specialization; processes are used for diverse purposes; and purposes are accomplished by diverse processes.

It is next in order to consider to what degree the parts of speech are differentiated in Indian languages, as compared with English.

In a previous section it was explained that Indian nouns are extremely connotive, that is, the name does more than simply denote the thing to which it belongs; in denoting the object it also assigns to it some quality or characteristic. Every object has many qualities and characteristics, and by describing but a part of these the true office of the noun is but imperfectly

performed. A strictly denotive name expresses no one quality or character, but embraces all qualities and characters.

In Ute the name for bear is "he seizes," or "the hugger." In this case the verb is used for the noun, and in so doing the Indian names the bear by predicating one of his characteristics. Thus noun and verb are undifferentiated. In Seneca the north is "the sun never goes there," and this sentence may be used as adjective or noun; in such cases noun, adjective, verb, and adverb are found as one vocable or word, and the four parts of speech are undifferentiated. In the Pavänt language a school-house is called Pó-kûnt-ĭn-ĭñ-yĭ-kăn. The first part of the word, pó-kûnt, signifies "sorcery is practiced," and is the name given by the Indians to any writing from the fact that when they first learned of writing they supposed it to be a method of practicing sorcery; ĭn-ĭñ-yĭ is the verb signifying "to count," and the meaning of the word has been extended so as to signify "to read"; "kăn" signifies wigwam, and is derived from the verb "kări," to stay." Thus the name of the school-house literally signifies "a staying place where sorcery is counted," or where papers are read. The Pavänt in naming a school-house describes the purpose for which it is used. These examples illustrate the general characteristics of Indian nouns; they are excessively connotive; a simply denotive name is rarely found. In general their name-words predicate some attribute of the object named, and thus noun, adjective, and predicant are undifferentiated.

In Indian languages nouns are highly connotive; in English, nouns are highly denotive. This connotive character of Indian nouns is well exemplified by the explanation given in section 2, where it is set forth that an Indian in speaking of the parts of the body says "my eye," "my hand," "my foot," "your eye," "your hand," "your foot," &c., and has no command of a fully differentiated noun expressive of eye, hand, or foot. Similar facts are exemplified in section 17, where it is explained that kinship terms are usually found with attached possessive pronouns.

As explained in section 26, there is found in many Indian languages a series of pronouns incorporated in verbs; that is, the verb contains within itself incorporated article pronouns which point out with great particularity the gender, number, and person of the subject and the object. In this

manner verb, pronoun, and adjective are combined, and to this extent these parts of speech are undifferentiated.

In section 27 it was shown that nouns sometimes contain particles within themselves to predicate possession, and to this extent nouns and verbs are undifferentiated. In some languages the article pronoun constitutes a distinct word, but whether free or incorporated it is a complex tissue of adjectives.

In section 28 it was shown that adjectives, adverbs, prepositions, and nouns are used as intransitive verbs, and to such extent adjectives and verbs, adverbs and verbs, prepositions and verbs, are undifferentiated.

To the extent that voice, mode, and tense are accomplished by the use of agglutinated particles or inflections, to that extent adverbs and verbs are undifferentiated.

To the extent that adverbs are found as incorporated particles in verbs, the two parts of speech are undifferentiated.

To the extent that prepositions are particles incorporated in the verb, prepositions and verbs are undifferentiated.

To the extent that prepositions are affixed to nouns, prepositions and nouns are undifferentiated.

In all these particulars it is seen that the Indian tongues belong to a very low type of organization. Various scholars have called attention to this feature by describing Indian languages as being holophrastic, polysynthetic, or synthetic. The term synthetic is perhaps the best, and may be used as synonymous with undifferentiated.

Indian tongues, therefore, may be said to be highly synthetic in that their parts of speech are imperfectly differentiated.

In these same particulars the English language is highly organized, as the parts of speech are highly differentiated. Yet the difference is one of degree, not of kind.

To the extent in the English language that inflection is used for qualification, as for person, number, and gender of the noun and pronoun, and for mode and tense in the verb, to that extent the parts of speech are undifferentiated. But we have seen that inflection is used for this purpose to a very slight extent.

There is yet in the English language one important differentiation which has been but partially accomplished. Verbs as usually considered are undifferentiated parts of speech; they are nouns and adjectives, one or both, and predicants. The predicant simply is a distinct part of speech. The English language has but one, the verb *to be*, and this is not always a pure predicant, for it sometimes contains within itself an adverbial element when it is conjugated for mode and tense, and a connective element when it is conjugated for agreement. With adjectives and nouns this verb is used as a predicant. In the passive voice also it is thus used, and the participles are nouns or adjectives. In what is sometimes called the progressive form of the active voice nouns and adjectives are differentiated in the participles, and the verb "to be" is used as a predicant. But in what is usually denominated the active voice of the verb, the English language has undifferentiated parts of speech. An examination of the history of the verb "to be" in the English language exhibits the fact that it is coming more and more to be used as the predicant, and what is usually called the common form of the active voice is coming more and more to be limited in its use to special significations.

The real active voice, indicative mode, present tense, first person, singular number, of the verb "to eat," is "am eating." The expression "I eat" signifies "I am accustomed to eat." So, if we consider the common form of the active voice throughout its entire conjugation, we discover that many of its forms are limited to special uses.

Throughout the conjugation of the verb the auxiliaries are predicants, but these auxiliaries, to the extent that they are modified for mode, tense, number, and person, contain adverbial and connective elements.

In like manner many of the lexical elements of the English language contain more than one part of speech: "to ascend" is to go up; "to descend" is to go down; and "to depart" is to go from.

Thus it is seen that the English language is also synthetic in that its parts of speech are not completely differentiated. The English, then, differs, in this respect from an Indian language only in degree.

In most Indian tongues no pure predicant has been differentiated, but

in some the verb *to be*, or predicant, has been slightly developed, chiefly to affirm existence in a place.

It will thus be seen that by the criterion of organization Indian tongues are of very low grade.

It need but to be affirmed that by the criterion of sematologic content Indian languages are of a very low grade. Therefore, the frequently-expressed opinion that the languages of barbaric peoples have a more highly organized grammatic structure than the languages of civilized peoples has its complete refutation.

It is worthy of remark that all paradigmatic inflection in a civilized tongue is a relic of its barbaric condition. When the parts of speech are fully differentiated and the process of placement fully specialized, so that the order of words in sentences has its full significance, no useful purpose is subserved by inflection.

Economy in speech is the force by which its development has been accomplished, and it divides itself properly into economy of utterance and economy of thought. Economy of utterance has had to do with the phonic constitution of words; economy of thought has developed the sentence.

All paradigmatic inflection requires unnecessary thought. In the clause "if he was here," "if" fully expresses the subjunctive condition, and it is quite unnecessary to express it a second time by using another form of the verb "to be," and so the people who are using the English language are deciding, for the subjunctive form is rapidly becoming obsolete with the long list of paradigmatic forms which have disappeared.

Every time the pronoun *he*, *she*, or *it* is used it is necessary to think of the sex of its antecedent, though in their use there is no reason why sex should be expressed say one time in ten thousand. If one pronoun non-expressive of gender were used instead of the three, with three gender adjectives, then in nine thousand nine hundred and ninety-nine cases the speaker would be relieved of the necessity of an unnecessary thought, and in the one case an adjective would fully express it. But where these inflections are greatly multiplied, as they are in the Indian languages, alike with the Greek and Latin, the speaker is compelled in the choice of a word to

express his idea to think of a multiplicity of things which have no connection with that which he wishes to express.

A Ponca Indian, in saying that a man killed a rabbit, would have to say the man, he, one, animate, standing, in the nominative case, purposely killed, by shooting an arrow, the rabbit, he, the one, animate, sitting, in the objective case; for the form of a verb to kill would have to be selected, and the verb changes its form by inflection and incorporated particles to denote person, number, and gender as animate or inanimate, and gender a standing, sitting, or lying, and case; and the form of the verb would also express whether the killing was done accidentally or purposely, and whether it was by shooting or by some other process, and, if by shooting, whether by bow and arrow, or with a gun; and the form of the verb would in like manner have to express all of these things relating to the object; that is, the person, number, gender, and case of the object; and from the multiplicity of paradigmatic forms of the verb to kill this particular one would have to be selected. Perhaps one time in a million it would be the purpose to express all of these particulars, and in that case the Indian would have the whole expression in one compact word, but in the nine hundred and ninety-nine thousand nine hundred and ninety-nine cases all of these particulars would have to be thought of in the selection of the form of the verb, when no valuable purpose would be accomplished thereby.

In the development of the English, as well as the French and German, linguistic evolution has not been in vain.

Judged by these criteria, the English stands alone in the highest rank; but as a written language, in the way in which its alphabet is used, the English has but emerged from a barbaric condition.

CHAPTER III.

SCHEDULES.

Old man of Joshua gens, Tcĕ-mĕ'-tûn tca'ne-yu'-ne (J. G.)
" woman " " " " " " mĕ'-ste-yu'ne (J. G.)
Man " " " Tcĕ-mĕ'-tsqĕ
Woman " " " Tcĕ-mĕ'-tsqĕ

1-17 (Kisa)

ENGLISH.		REMARKS.
1 Man	tĭ-snĕ'	single or married
2 Woman (qluc-man)	tsa'-qe	
3 Old man (ole-man)	stca'-myu	he is getting old ô-lti'-stca, or she is getting old lti'-stca-yu
4 Old woman (lûm' mi-ai)	mĕ-ste-yu'	tsat-qe stcá' "boy large enough to marry"
5 Young man	nxai-yĕg'l'ne	
6 Young woman	tcû-li'-nĕ	
7 Virgin (qluc-man wek klamtaks man / ole-man)	(1) tu gan'-t'i	(2) single girl t'i na'-xan-nĕ
8 Boy about 5 or 6 years old	tĭ-snĕ' ya'-slĭ.	(2) about 7 or 9 years old tĭ-snĕ' sqĕ'-qe
9 Girl	(1) tsa'-qe sqĕ'-qe	(2) girl who has not had the catamenia, tu tcaç'-tûn
10 Infant (fci tenas)	(1) qa'-not-tsa ni-niçl-tĭ'	(2) baby carried in a basket, ka'-yu
11 Male infant (fci tenas man)	sqĕ'-qe ya'-slĭ,	about 5 days or a month old
12 Female infant (fci tenas qluc-man)	t'eqç'-l'-e ya'-slĭ	
13 Twins (mĕks fci tenas) (" new born, na-tne no'-tsa niçl-tĭ'		(2) adult do., na-tne mic'-qle-qta'-i
14 Married man		
15 Married woman		
16 Widower (man yaka qluc-man mĕm'-k'tus)	qwan+-yu', or	qwĕ-nas'-ta wa'-tsat, he has lost his wife
17 Widow (qluc-man yaka man mĕm'-k'tus)	ts'a-' si	
18 Bachelor (old)		
19 Maid (old)		
20 The old people		
21 The young people		
22 A great talker (man mămuk kai-as wawa)		
23 A silent person (man wĕk tik-e măm-uk wawa)		
24 Thief (igt tĭl'-a kûm mămuk)	kĕ'-swal-la	
8c. boy from 10 to 14 yrs	sqĕ'-qe	
7b first catamenia,	tcaç'-tûn ; subsequent do. of a maiden, tcal+-si-nĕ	
" returned to a married woman,	kût'-sis-ta' (as after weaning her child)	
middle-aged woman	qa' tsa+-qe	
she has a child	tsqĕ ri-t'i', or sqĕ-qe cxûn-ri'-sĭ	

to laugh tcû-si'

his, man ya-kâ — | kait, mĕn klăs'-kâ — | dual: măks mĕn klăs-kâ —
thy, mai'-kâ — | your, mi-sai'-kâ — | " mi-sai'-kâ —
my nai'-kâ — | our ni-sai'-kâ — | " ni-sai'-kâ —

SCHEDULE 2.—PARTS OF THE BODY.

(Carefully read § 2, Chapter II.)

ENGLISH.		REMARKS.
1 Head la-tet'	ši	ši tqlĕn, all the head (Q.C.)
2 Hair tĭp'-so, yăk'so	ši; or sû'-ăă (C)	
" parting " kăt'-sûk tĭp-oo		
3 Crown of the head sa'-âle la-tet' kump'-le (kump'-le-la-tet', back " ")	top of head, si-kat	crown (at back) si-kat'-let (C)
4 Scalp loak		
5 Face si-au'-ĭst Ka'-nawe	ni	See p. 228
6 Forehead	"nĭk'-kĕt; nĭk'-kĕt-ă"	" " "
7 Eye si-au'-ĭst	na-txĕ'	" " "
8 Pupil of the Eye		
9 Eyelash si-au'-ĭst tĭp-so		
10 Eyebrow sa'-âle si-au'-ĭst tĭp-so		
11 Upper eyelid sdale ——— ok$_{ni}$		
12 Lower eyelid ki'-kuri'-li		
13 Ear-lobe ki'-kuri'-li kuv'-lăn		
14 Ear kuv'-lăn		
ki'-kuri'-li kuv'-lăn qle-hwăp'		
15 Perforation in ear		
16 External opening of the ear kuv'-lăn		
i qle-hwăp'		
17 Nose i'-mits or nōz		
18 Ridge of nose sdale kopâ i'-mits		
19 Nostril i'-mits qle-hwăp'		
20 Septum of nose kăt'-alk i'-mits qle-hwăp'		
21 Perforation of Septum of nose		
22 Cheek kăp'-e-lâ		
23 Beard kle-pu'-toûs		
24 Mouth le-lqus'		
25 Upper lip sdale lelqus'-okin		
26 Lower lip ki'-kuri'-li " "		
27 Tooth le-ta'-jăts ăts-ăte		
28 Tongue lâ-lăz'		
29 Saliva toh'; lelqus'-tcĕk		
30 Palate		
31 Throat		
32 Chin		
33 Neck le-ku'-o-kwăn'-ăks	q'wûs	See p. 228

ENGLISH.		REMARKS.
34 Adam's apple		
35 Body		
36 Shoulder ăk'-tcăk		
37 Shoulder-blade		
38 Back i-mĕk'		
39 Breast of a man man tu-tsuć		
40 Breast of a woman, (mamma) i-mtq' (2) or gluc-man tatuć		
41 Nipples gluc-man tatuć o pûts (imtq' o pûts)		
42 Hip		
43 Belly ya-wa'-tĭn		
44 Navel Ănas kâpâ ya-wa'-tĭn		
45 Arm le-mâ'		
46 Right arm		
47 Left arm		
48 Arm-pits		
49 Right arm above elbow		
50 Left arm above elbow		
51 Elbow kŏm'-ta le-ma'		
52 Right elbow		
53 Left elbow		
54 Right arm below elbow		
55 Left arm below elbow		
56 Wrist		
57 Right wrist		
58 Left wrist		
59 Hand		
60 Right hand		
61 Left hand		
62 Palm of hand		
63 Back of hand		
64 Fingers le-du' / te-liks'-ăte		
65 Thumb kai-ăs le-du', ra		
66 First finger		

ENGLISH.		REMARKS.
67 Second finger	kŭn'ta ledú, re	
68 Third finger		
69 Small finger	tŭ'äs ledú, re	
70 Finger-nail		
71 Knuckle		
72 Space between knuckles		
73 Rump	o-pŭts	
74 Leg	ti-au'-it	
75 Leg above knee		
76 Knee		
77 Knee-pan		
78 Leg below knee		
79 Calf of the leg		
80 Ankle		
81 Ankle-bone		
82 Instep	oa'ale le pi-e'	
83 Foot	le pi-e'	
84 Sole of foot	kŭ'mŭ'lŭ le pi-e'	
85 Heel		
86 Toe		
87 Large toe		
88 Second toe		
89 Third toe		
90 Fourth toe		
91 Toe-nail		
92 Blood	pŭl'-pŭl	
93 Vein or artery		
94 Brain		
95 Bladder		
96 Caul		
97 Gall		
98 Heart	tăm-tăm	
99 Kidney		

ENGLISH.		REMARKS.
100 Lung		
101 Liver		
102 Stomach		
103 Spleen		
104 Rib	i-tŭ'wŭl; tĕl'-i-mŭn	
105 Pulse	pĕl'pĕl hŭl'hăl	
106 Vertebræ		
107 Spine		
108 Foot-print		
109 Skin	skin	
110 Bone	stone	
111 Intestines	kai-ya	75
112 waist		
113 thigh		
114 under knee		
115		
116 shin		
117 anus		
118 penis		
119 vagina		
120 uterus		
121 testicles	man stone kŏpâ pätsăk ti au'-it (?)	
122 scrotum	man stone le oa e kŏpâ pätsăk ti au'-it (?)	
123 diaphragm		
124 temahŭn		

SCHEDULE 3.—DRESS AND ORNAMENTS.

(Carefully read § 3, Chapter II.)

ENGLISH.		REMARKS.
1 Cap	si-a'-pro	
2 Tunic	cût	
3 Breech cloth	o-pûts sil	
4 Breech-cloth belt	" " " lâ sän-djêl'	
5 Pair of leggins	mai-täs'	
6 Pair of moccasins	skin shoes	
7 Toga	Ke-pro'	
8 Woman's basket-work cap		
9 Short petticoat	käl'-ak wap'-ti yuts-kût	
10 Long petticoat	" " yutl'-kût	
11 Girdle		
12 Woman's moccasins		
13 Garters		
14 Blanket	pâ-si'si	
15 Robe of bear skin	~~Skin~~ tcawat ~~am~~ pâ si'si(?)	
16 Robe of buffalo skin		
17 Robe of deer skin		
18 Robe of rabbit skins		
19 Robe of wild-cat skins		
20 Buckskin	man mau'-to skŭ	
21 ~~Antelope skin~~		
22 Sheep skin	lâ mutó skŭ	
23 Elk skin	mul'-lăk "	
24 Rabbit skin	kwĕt cădi "	
25 Beaver skin	tena "	
26 Otter skin	tena'-tă mŭks "	
27 Fringe of skin		
28 Sinew		
29 Thread (of sinew)		
30 Thread (of skin)		
31 Head-dress of feathers		
32 Necklace of bone		
33 Necklace of bird-bills		

ENGLISH.		REMARKS.
34 Necklace of bird-claws		
35 Necklace of bears' claws		
36 Necklace of shells		
37 Paint (black)	qûl pent	
38 Paint (red)	yul "	
39 Paint (yellow)	qâ'-qâ-wăk pent	
40 Tattoo marks		
41 Pouch	le sac	
42 A ring	Kwĕ'u Kwĕ'u	
43 Barehead		
44 Barefoot		
45 Naked		

SCHEDULE 4.—DWELLINGS.

(Carefully read § 4, Chapter II.)

ENGLISH.		REMARKS.
1 Village — tĕn äs town		
2 Wigwam (permanent dwelling)		
3 Doorway — lâ pot'		
4 Smoke-hole — lâ cĕm'-mâ-ne		
5 Fire-place		
6 Fire — pät a		
7 Fire-wood — pai'a stuck		
8 Blaze		
9 A light		
10 Living coals		
11 Dead coals		
12 Ashes		
13 Smoke — = smoke		
14 Soot		
15 Poker		
16 A seat		
17 The place where seats are		
18 A post		
19 My home		
20 Describe wigwams and give names for architectural parts and divisions into compartments.		

ENGLISH.		REMARKS.
34 Lodge (temporary dwelling)		
35 Doorway		
36 Smoke-hole		
37 Lodge-pole		
38 Lodge-pin		
39 Mat — Klĭs'-Kwĭs		
40 Bed — bĕd		
46 Pueblo		
47 A division of a pueblo (one set of compartments constituting a communal house.)		
48 Family compartments (set of rooms for family)		
49 Give name of each room		
55 Floor		
56 Ceiling		
57 Wall		
58 Post		
59 Joist		
60 Lintel		
61 Doorway		
62 Wooden trap-doorway		
63 Opening for window		
64 Fire-place		
65 Chimney		
66 Permanent seat (masonry)		

ENGLISH.		REMARKS.
67 Stairway		
68 Ladder		
69 A stone		
70 Mortar		
71 Court		
72 Street		
73 Garden		
74 Irrigating canal		
75 Spring		
76 Water Ferik		

Describe dwellings: State how they are arranged, &c.

SCHEDULE 5.—IMPLEMENTS AND UTENSILS.

(Carefully read § 5, Chapter II.)

ENGLISH.		REMARKS.
1 Bow of wood (o-pit-kegh)		
2 Bow of horn		
3 Bow-string		
4 Sinew on back of bow		
5 Arrow (stick klai'-â-tûn)		
6 Notch in end of arrow for bow-string		
7 Notch in end of arrow for arrow-head		
8 Arrow-head of stone		
9 Arrow-head chipper (made of horn)		
10 Point of arrow-head		
11 Arrow-shaft of reed		
12 Arrow-shaft of wood		
13 Groove in arrow-shaft		
14 Arrow-shaft straightener (made of horn)		
15 Arrow-shaft polisher (made of stone)		
16 Cement used in fastening arrow-heads		
17 Arrow feathers (stick klai'-â-tûn tip'-so)		
18 Quiver (" " " le-oac		
19 Quiver-strap		
20 Wrist-guard		
21 War-club		
22 War-spear (gtûn'-â-hûm(?))		
23 Fish-spear		
24 Knife of stone (o-pit-oa)		
25 Knife-handle		
26 Shield		
27 Sling		
28 Canoe (ke-nûm')		
29 Canteen made of a bladder		
30 Fish-line		
31 Fish-net		
32 Fish-hook (ik'-kûk, e-kûk)		
33 Net for catching rabbits		

awl, (kai'-wâc kip'-wût)

SCHEDULE 5.—IMPLEMENTS AND UTENSILS—Continued.

ENGLISH.		REMARKS.
34 Net for catching fish		
35 Pipe, of stone	lâ-pip'	
~~36 Pipe-stem, of reed~~	lâ-pip-stick	
37 Pipe-stem, of wood		
38 oar (lâ-lâm')		
39 paddle (tsik)		

ENGLISH.		REMARKS.
1 Cup or dipper		
2 Bread-tray		
3 Meat-tray		
4 Bowl (ūs'-kăn)		
5 Mortar		
6 Pestle		
7 Fire-drill		

ENGLISH.		REMARKS.
1 Axe lă-kăc'		
2 Adze		
3 Hoe lă-pi-ōc'		
4 Knife		
5 Knife-handle		
6 Knife-point		
7 Knife-edge		
8 Scraper		
9 Borer		
10 Mealing-stone, large		
11 Mealing-stone, small		
12 Mortar		
13 Pestle		

ENGLISH.		REMARKS.
1 Large water-jug (for holding water in lodge)		
2 Large water-bottle (for carrying water on back)		
3 Pilgrim bottle		
4 Grease-jar		
5 Meal-jar (round)		
6 Meal-jar (square)		
7 Large bowl		
8 Small bowl		
9 Tray		
10 Cup		
11 Ladle		

ENGLISH.		REMARKS.
1 Food	Ká nawe mûk á mûk	
2 Meal (of seeds)		
3 Meal (of corn)		
4 Meal (of grasshoppers)		
5 Cake		
6 Mush		
7 Meat	Tgwitoli	
8 Stew		
9 Soup	lip'-lip- mûk á mûk	
10 Bread	pai-'a sá' polil	
11 Corn (green)	ni-sólg	
12 Hominy		
13 Milk	to-tuc' took	
14 Honey		
15 Juice	took tá'ko lá pōm'	

SCHEDULE 7.—COLORS.

(Carefully read § 7, Chapter II.)

ENGLISH.		REMARKS.
1 Black	qlēl	
2 Blue	tqhō shó-a / dark qlēl	
3 Brown		
4 Gray	qlo-le qle	
5 Green	pēk-hugh	
6 Purple		
7 Red	pūl	
8 Roan	sän'-di-li	
9 Scarlet	kai-äs pūl	
10 Sorrel	"le klau'"	
11 Vermilion		
12 White	tkōp	
13 Yellow	kā kâ wūk' / pale green	
	light dun, cream colored le-klēm'	
	spotted, le-kai	

SCHEDULE 8.—NUMERALS.—Cardinal Numbers.

(Carefully read § 8, Chapter II.)

ENGLISH.		REMARKS.
1 One	iqt	
2 Two	māks	
3 Three	qlon	
4 Four	lăk'-t	
5 Five	kuăn'-ûm	
6 Six	"tagh-kum"	
7 Seven	sin'-nâ-māks	
8 Eight	sto'-te-kŭn	
9 Nine	twē'ist	
10 Ten	tă'-tkun	
11 Eleven	pi iqt	
12 Twelve	" pi māks	
13 Thirteen		
14 Fourteen		
15 Fifteen		
16 Sixteen		
17 Seventeen		
18 Eighteen		
19 Nineteen		
20 Twenty	māks tă'tkun	
21 Twenty-one		
22 Twenty-two		
23 Twenty-three		
24 Twenty-four		
25 Twenty-five		
26 Twenty-six		
27 Twenty-seven		
28 Twenty-eight		
29 Twenty-nine		
30 Thirty	qlon tă'tkun	
31 Forty	lăk-t "	
32 Fifty	kuăn ûm "	
33 Sixty		

ENGLISH.		REMARKS.
34 Seventy		
35 Eighty		
36 Ninety		
37 One hundred igt taká mó nûks		
38 One hundred one		
39 One hundred two		
40 One hundred three		
41 One hundred four		
42 One hundred five		
43 One hundred six		
44 One hundred seven		
45 One hundred eight		
46 One hundred nine		
47 One hundred ten		
48 One hundred eleven		
49 One hundred twelve		
50 Two hundred		
51 Three hundred		
52 Four hundred		
53 Five hundred		
54 Six hundred		
55 Seven hundred		
56 Eight hundred		
57 Nine hundred		
58 One thousand (tá'tlem tá'há mbonak)		
59		
60 One-half (in length)		
61 One-half (in quantity)		
62 A part (in length)		
63 A part (in quantity)		
64 All		
65 Some		
66 None		

ENGLISH.		REMARKS.
1 First i-lip		
2 Second		
3 Third		
4 Fourth		
5 Fifth		
6 Sixth		
7 Seventh		
8 Eighth		
9 Ninth		
10 Tenth		
11 Eleventh		
12 Twelfth		
13 Thirteenth		
14 Fourteenth		
15 Fifteenth		
16 Sixteenth		
17 Seventeenth		
18 Eighteenth		
19 Nineteenth		
20 Twentieth		
21 Thirtieth		
22 Fortieth		
23 Fiftieth		

ENGLISH.		REMARKS.
1 Once	Kûbet igt time	
2 Twice	" mâks "	
3 Thrice	" qlōn "	
4 Four times	" lâkit "	
5 Five times		
6 Six times		
7 Seven times		
8 Eight times		
9 Nine times		
10 Ten times		
11 Eleven times		
12 Twelve times		
13 Thirteen times		
14 Fourteen times		
15 Fifteen times		
16 Sixteen times		
17 Seventeen times		
18 Eighteen times		
19 Nineteen times		
20 Twenty times		
21 Thirty times		
22 Forty times		
23 Fifty times		

ENGLISH.		REMARKS.
1 Two-fold		
2 Three-fold		
3 Four-fold		
4 Five-fold		
5 Six-fold		
6 Seven-fold		
7 Eight-fold		
8 Nine-fold		
9 Ten-fold		
10 Eleven-fold		
11 Twelve-fold		
12 Thirteen-fold		
13 Fourteen-fold		
14 Fifteen-fold		
15 Sixteen-fold		
16 Seventeen-fold		
17 Eighteen-fold		
18 Nineteen-fold		
19 Twenty-fold		
20 Thirty-fold		
21 Forty-fold		
22 Fifty-fold		

ENGLISH.		REMARKS.
1 A year		
2 A moon		
3 First half of moon		
4 Second half of moon		
5 First quarter of moon		
6 Second quarter of moon		
7 Third quarter of moon		
8 Fourth quarter of moon		
9 Day — dûn		
10 Night — pɔ-t'lăk-lĕ		
11 A day (24 hours)		
12 Dawn — tŭn-ăs dûn		
13 Sunrise — dûn mit'ərt (?)		
14 Morning — klĕp ərkûm dûn (?)		
15 Mid-forenoon		
16 Noon — ərt-kûm dûn		
17 Afternoon — kŭm'ta ərkûm dûn (?)		
18 Sunset — Klĕp-dûn		
19 Dusk — tuz eight (twa)		
20 Evening — Lark, pho-lăk-lĕ tĕwăs pɔldk-lĕ (night)		
21 Midnight (ərt kûm ")		
22 Day before yesterday (ĕgt tăl-ki)	hi k'qûn-ta	
23 Yesterday (tăl-ki dûn)	k'qûn-ta; or k'qurn'-ta	
24 To-day (ərkuk dûn)	tĕi-dûs	
25 To-morrow (te-ma'lâ)	qurn'-te	
26 Day after to-morrow (ĕgt te-ma'lâ)	hĕ qurn'-te (?)	
27 Now (adverb)		
28 Past time (adverb)		
29 Future time (adverb)		

ENGLISH.		REMARKS.
1 Armadillo		
~~2 Antelope~~		
3 Bat	hó'tak-i-kŭlă'kŭl'a (Cree)	
~~4 Buffalo~~ hai-~~sas~~	mūs'-mūs	
~~5 Bison~~		
~~6 Bison~~, wood		
7 Beaver	ĭ-na	
8 Badger		
9 Bear, grizzly	sai-ăm'	
10 Bear, cinnamon	(Kĕĕ'ewut, Yuk-wut.)	
11 Bear, black	A	
12 Caribou (woodland)		
13 Caribou (barren ground)		
14 Chipmunk	See squirrel	
15 Cat, wild	kai'-as pūs'-pūs	
16 Cat, civet		
17 Cat, black		
18 Dog	Kau'-mŭks	
19 Deer	mau'-ĭtc	
20 Deer, mule, (Rocky Mountains and west)	moose, kai-as mau'-ĭtc	
21 Deer, white-tailed		
22 Deer, black-tailed (Sierra Nevada)		
23 Elk	mu'-čăk	
24 Ermine		
25 Fox	[tăl'-â pūs ?] 93	
26 Fox (yellow)		
27 Fox (small, dark)		
28 Fox (red)		
29 Fox (gray)		
30 Fox (cross)		
31 Fox (silver)		
32 Fox (black)		
33 Fox (kit)		

ENGLISH.		REMARKS.
34 Fisher		
35 Gopher		
36 Gopher, pocket		
37 Goat, mountain		
38 Ground-hog		
39 Jaguar		
40 Lynx		
41 Lemming		
42 Lion, mountain, or Panther — swâd-wâ'		
43 Manatee, or sea-cow, (Florida)		
44 Mouse (~~stone~~) — hul'-hul		
45 Mouse (tuft-tailed)		
46 Mouse (jumping)		
47 Mouse (house)		
48 Mouse (wood)		
49 Mouse (white-footed)		
50 Mouse (field)		
51 Mouse (meadow)		
52 Mouse (prairie)		
53 Mole — skâd		
54 Martin		
55 Marmot		
56 Moose — (hai'-äs mau'-tc, or lil'-tce)		
(Kuetsina) 57 Muskrat — (b'puts ka'kuâ lâ'lim)		
58 Otter — (ŝ'a'muks pe'nau'uks)		
59 Otter, sea — (ĉ-läk'-â)		
? 60 Opossum		
? 61 Ox, musk — klwe'lil'-shi kau'muks		
62 Prairie-dog		
(?) 63 Porcupine		
64 Porpoise — (fish) kwai'-di-o'tcin		
(?) 65 Peccary		
66 Rat, common house — hai-äs hul-hul (kol'-kol) or		

ENGLISH.		REMARKS.
67 Rat (black)		
68 Rat (bush)		
69 Rat (Kangaroo)		
70 Rat (mountain)		
71 Rabbit — kwĕt-cäd-i		
72 Rabbit (white)		
73 Rabbit (gray)		
74 Rabbit (jackass)		
75 Rabbit (small, cotton-tail)		
76 Rabbit (little chief or cony)		
77 Raccoon		
78 Sable — mink		
79 Seal — ăl-lai yu; sai'wăc kuĉu		
80 Skunk or Polecat — kûm o'puts		
81 Sheep, mountain — ca'manto' ca'mu-to'		
82 Squirrel — kwĭs' kwĭs		
83 Squirrel (gray) — le glé kwĭs kwĭs		
84 Squirrel (black) — glēk "		
85 Squirrel (ground) — klăki "		
86 Squirrel (red) — pŭl "		
87 Squirrel (striped) — = lekai "		
88 Squirrel (flying) — kâ'wĕk "		
89 Wolf — le lu'		
90 Wolf (white) — le lu' (tkōk)		
91 Wolf (gray) — le glé le lu'		
92 Wolf (dusky) — pŏläklu le lu'		
93 Wolf (prairie, coyote) — tăl'-â-pō		
94 Weasel		
95 Whale — (ê-ko-li or kwa'nais)		
96 Wolverine		
97 Woodchuck		

ENGLISH.		REMARKS.
34 Tendon, or leader		
35 Teeth		
36 Tongue		
37 Testicles		
38 Wind-pipe		
39 Womb		

ENGLISH.		REMARKS.
1 Bird — kâl'â kâl'â		
2 Albatross		
3 Avocet, or Blue Stockings		
4 Auk		
5 Bittern — tsâ'â		
6 Blackbird — qlelj kâlâ kâl â		
7 Blackbird (red-winged)		
8 Blackbird (white-winged prairie)		
9 Blackbird (yellow-head)		
10 Blackbird (crow)		
11 Bluebird — spô'a kâlâ kâl â		
12 Bobolink, (of the North; Reedbird of the South.)		
13 Bobwhite, (Quail of New England, Partridge of the South.)		
14 Bunting		
15 Bunting (towhee)		
16 Bunting (snow) — hô'cäkli cäk-cäk		
17 Bullbat, or Night Hawk		
18 Butcher bird, or Shrike		
19 Catbird — kuspîs kâlâkâlâ kamustick kâlâkâlâ		
20 Cedar-bird, or Cherry-bird		
See (38) 21 Chaparral cock, or Ground Cuckoo		
22 Chicadee, or Titmouse		
23 Cock of the plains		
24 Coot		
25 Cormorant, or Shag		
26 Cowbird		
27 Crane (white or whooping)		
28 Crane (brown or roundbill)		
29 Creeper (brown)		
30 Creeper (black and white)		
31 Crow — kâ kâ		
32 Crossbill		
33 Curlew (long billed)		

ENGLISH.		REMARKS.
34 Cuckoo		
35 Dipper, or Water-ouzel		
36 Dove		
37 Dove, Turtle		
38 Dove (small ground)		
39 Duck		
40 Duck (mallard)	Kwe'kwe hat-hat	
41 Duck (pin-tail)		
42 Duck (red-head)		
43 Duck (golden eye or whistler)		
44 Duck (black-head)		
45 Duck (canvas-back)		
46 Duck (wood or summer)		
47 Duck (buffle-head)		
48 Duck (shoveler)		
49 Duck (surf or scoter)		
50 Duck (merganser or saw-bill)		
51 Duck (ruddy)		
52 Eagle	tcäk-tcäk	
53 Eagle (golden)		
54 Eagle (white-headed)		
55 Finch		
56 Finch (grass)		
57 Fly-catcher		
58 Godwit		
59 Goldfinch, or Thistle-bird		
60 Goose (white-fronted)	kăl-akăla	
61 Goose (blue)		
62 Goose (white)		
63 Goose, Canada		
64 Grackle		
65 Grebe or dab-chick		
66 Grosbeak		

ENGLISH.		REMARKS.
67 Grouse	pai'wăc lă-pūl'	
68 Grouse (pinnated) or Prairie Hen		
69 Grouse (sharp-tailed)		
70 Grouse (white), Tarmigan		
71 Grouse (ruffed), Partridge of New England—Pheasant of the South.		
72 Gull		
73 Gull (heron)		
74 Gull (ring-billed)		
75 Gull (black-headed)		
76 Hawk	căk-căk	
77 Hawk (marsh)		
78 Hawk (chicken)		
79 Hawk (hen)		
80 Hawk (pigeon)		
81 Hawk (sparrow)		
82 Hawk (duck)		
83 Hawk (red-tailed)		
84 Hawk (swallow-tailed)		
85 Hawk (fish or osprey)		
86 Heron (great blue)		
87 Heron (little blue)		
88 Heron (great white)		
89 Heron (little white)		
90 Heron (green)		
91 Heron (night)		
92 Humming-bird		
93 Ibis (glossy)		
94 Ibis (white)		
95 Indian-hen or Courlan—Crying-bird		
96 Jay (gray mountain)		
97 Jay (blue-crested)		
98 Jay (chapparral)		
99 Kingbird, or Bee Martin		

ENGLISH.		REMARKS.
100 Kingfisher		
101 Loon		
102 Magpie (yellow-billed)		
103 Magpie (common)		
104 Martin (purple)		
105 Martin (bee)		
106 Meadow or Field Lark		
107 Mocking-bird		
108 Mother Cary's chicken, or Petrel		
109 Mutch-hotch		
110 Oriole, Bullock's (western)		
111 Oriole (Baltimore)		
112 Owl (great-horned) (kaag-waag')		
113 Owl (screech)		
114 Owl (eared)		
115 Owl (white snowy)		
116 Owl (burrowing), Western U. S., Florida		
117 Oyster-catcher (common), Atlantic coast		
118 Oyster-catcher (black), Pacific coast		
119 Paroquet (Florida) (wâwâ kwâ kûlâ)		
120 Peewee		
121 Pelican (white) (tkoh klebus'le sâk')		
122 Pelican (brown), Pacific and Atlantic coasts		
123 Pigeon (wild), Eastern U. S. (Kwâs kûl-â kûl a)		
124 Pigeon (band-tailed), Western U. S.		
125 Pigeon (sea)		
126 Plover (black-bellied)		
127 Plover (golden)		
128 Plover (killdee)		
129 Plover (ring-necked)		
130 Plover (mountain)		
131 Rail		
132 Raven (common) (kai-as Kâ'kâ)		

ENGLISH.		REMARKS.
133 Raven (white-necked)		
134 Redbird (pîl kûl-â kûla)		
135 Redbird (crested)		
136 Redbird (black-winged), or Scarlet Tanager, (Eastern U. S.)		
137 Robin		
See 7-1 — 138 Road-runner, or Chaparral Cock (Western U. S.)		
139 Sage-cock		
140 Sandpiper		
141 Sandpiper (spotted, or tipup)		
142 Scissor-bird		
143 Shearwater, or Black Skimmer (southern coast)		
144 Snipe		
145 Snow-bird (ono' kwe'a kûl-â)		
146 Song-sparrow		
147 Sparrow		
148 Stilt (black-necked)		
149 Swan (Ka-lo'kêu / au-wu'-kee)		
150 Swallow		
151 Swallow (chimney)		
152 Swallow (barn)		
153 Swallow (white-bellied)		
154 Swallow (green-backed)		
155 Swallow (cliff)		
156 Swallow (bank or sand)		
157 Teal		
158 Teal (green-winged)		
159 Teal (blue-winged)		
160 Teal (cinnamon)		
161 Tern		
162 Tern (black)		
163 Thrush		
164 Thrush (water), or Wagtail		
165 Titlark		

ENGLISH.		REMARKS.
166 Turkey		
167 Turnstone		
168 Vulture (great Californian)		
169 Vulture (black)		
170 Vulture (red-headed		
171 Warbler		
172 Warbler (yellow), or Yellow-bird		
173 ~~Whip-poor-will~~		
174 Woodpecker (Ko'-Kostick)		
175 Woodpecker (yellow-shafted, or Yellow-hammer).		
176 Woodpecker (spotted)		
177 Woodpecker (yellow-bellied)		
178 Woodpecker (large black)		
179 Woodpecker (ivory-billed), Southern States		
180 Woodpecker (red-head)		
181 Woodpecker (white-headed)		
182 Woodpecker (Lewis)		
183 Woodpecker (black-breasted)		
184 Woodpecker (red-shafted), of the Western U. S.		
185 Widgeon		
186 Woodcock		
187 Wren (house)		
188 Wren (marsh)		
189 Yellow-shanks		

ENGLISH.		REMARKS.
1 Beak, or bill	kŭl'a kŭl'a tĕtes'	
2 Mouth		
3 Tongue	K——— lă lăn'	
4 Eye	——— si au'ĭsk	
5 Comb		
6 Crest		
7 Neck	——— le ku'	
8 Feathers	——— tĭp'so	
9 Neck-feathers	——— le ku' tĭp'so	
10 Wings	(——— le ma'ŏti-pé)	
11 Wing-feathers	——— tĭp so	
12 Tail		
13 Tail-feathers		
14 Legs	——— tiau'it	
15 Toes		
16 Claws		
17 Spur		
18 Heart	——— tĕm tĕm	
19 Gall		
20 Liver		
21 Lights		
22 Gizzard		
23 Entrail	——— Kai-ya	
24 Vent		
25 Egg	le pĕk'	
26 Shell (of egg)	le sŏp'shŭ	
27 Yolk (of egg)	——— ~~tkŏp~~ qâqâ wăk	
28 White (of egg)	——— tkŏp	
29 Bird's nest	kul'a kula house	
30 Bird's tracks	——— o-e hat (?)	
31 To fly	Kâ wăk	

ENGLISH.		REMARKS.
1 A fish	(pĭc)	
2 Cat-fish		
3 Crab		
4 Craw-fish		
5 ~~Dog~~-fish	razor clam (o'-nâ) (lâk'k tai) ocean cod fish	
6 ~~Drum~~-fish		
7 Eel	(lamprey) (skwăk-wăl) (common) mud-fish (in rivers	
8 Gar-fish		
9 ~~Halibut~~	do. (in ocean)	
10 ~~Mullet~~		
11 Mussel	(to'liks)	
12 Oyster	(tsăt-ls) or (klogh-klogh)	
13 Salmon	(sämʼmon)	
14 Shark	(kaiʼ-as Kauʼmŭks pĭc)	
15 Smelt		
16 Sturgeon	(stŭtcʼûn)	
17 Sucker		
18 Trout	see below	
19 Whjte fish		
~~Porpoise~~	~~kwat-chis~~	gold fish (in ocean,
~~Sea fish~~	~~(tʼ'ats)~~ small	ocean flounder (lake " (
Salmon (dry) large		
" (silver) winter		
" (Chinook) summer		
" Dilets winter		
18 { trout, salmon (tzŭm sämmon)		
18 { " , speckled		
18 { " small, 6 in. long		
herring (ulʼ tsûs)		

ENGLISH.		REMARKS.
1 Mouth	(pĭc lâbus)	
2 Eye	(" siauĭst)	
3 Gills		
4 Breast-fin		
5 Belly-fin		
6 Back-fin		
7 Tail-fin		
8 Roe-fin		
9 Bladder		
10 Gall		
11 Liver		
12 Scales	(pĭc skin)	
13 To swim	(ăitʼtsûm)	
shell		
entrails (pĭc kaiʼ-ya)		
heart (pĭc tŭmtŭm)		
roe (pĭc leseh)		

ENGLISH.		REMARKS.
1 Alligator		
2 Chameleon		
3 Frog (bull) (c-wa'-kŭk)		
4 Frog (small)		
5 Horned Lizard or Toad		
6 Lizard		
7 Moccasin		
8 Rattlesnake (okwagh o-hrots)		
9 Rattlesnake (horned)		
10 Rattle of snake (shugh)		
11 Snake (o'llŭk')		
12 Snake (water)		
13 Snake (garter)		
14 Terrapin		
15 Toad		
16 Tortoise		

ENGLISH.		REMARKS.
1 Ant		
2 Bedbug		
3 Bee		
4 Bee (humble)		
5 Beetle (tumblebug)		
6 Butterfly		
7 Caterpillar		
8 Cricket		
9 Dragon-fly		
10 Flea (co-pĕn i nâ pu or tco-tŭb)		
11 Fly		
12 Gnat		
13 Grasshopper		
14 Horse-fly (black)		
15 Katydid		
16 Locust		
17 Louse (i-nâ-pu)		
18 Maggot		
19 Mosquito (mi-läk-wâ)		
20 Prairie-fly (green)		
21 Snail		
22 Spider		
23 Tick		
24 Wasp (yellow)		
25 Worm		

(State how animals are classified.)

ENGLISH.		REMARKS.
1 Bud of tree		
2 Leaf (tip-so)		
3		
4 Limb stick (oma')		
5 Outside bark (stick skin)		
6 Inner bark		
7 Body or trunk		
8 Stump		
9 Root (stick lut)		
10 Tree (stick) (mitwit stick)		
11 Wood stick		
12 fallen tree (wim stick)		
13		
14 Brush		
15 Brushy		
16 A flower		
17 Flowers (glō tip'so)		
18 Forest (ka'nawe stick)		
19 Fruit		
20 Grass tip'so		
21 Thicket		
22		
23		
24 Ripe		
25 Unripe		
oak tree (Kanáwe stick)		
acorns (Kanáwe)		
pine tree (gūm stick)		
fir " (" ")		
hemlock		
cedar (Kaenūm stick)		

ENGLISH.		REMARKS.
hazel nuts (tĕk-wĭllă)		
berries (ŏlil-ĭz)		
huckleberries (săl ŏliliz)		
"		
"		
"		
"		
raspberries (siă'po ŏliliz)		
salal " (säl-lăl ŏliliz)		
cranberries (só-li-mĕ)		
onion (lâ onion) or (ŭl-ăl-ătc')		
arbutus (lăb),		

ENGLISH.		REMARKS.
1 North (sto-bi-lŏ)		
2 Northeast		
3 East (sûn 'cá-ko)		
4 Southeast		
5 South (ste-wa')		
6 West (sûn mŭt-'lait)		
7 Southwest		
8 Northwest		
river ('tcûk)		
brook (tĕnăs 'tcûk)		
sea, ocean (hai-'ás salt 'tcûk)		
a rough sea (săl-lĕks' 'tcûk)		
mountain (lă măn-te')		
sea beach (nâ'-ĭts)		
Irish potato (wăp-â-tes)		
carrot (le căl-lĕt)		
beet		
turnip (lâ mu'-au)		
strawberry (a-mó'-te)		
Kamas ('Kăm'-ăs)		
blackberries (Kĕk'-a-mûk)		
dewberries		
apple (le pŏm)		
oats (la lŭm)		
wheat (lĕ bley") (siăpo-ary)		
peas (le puă)		
rice (lais)		
crab-apple (pau'-ĭto)		

ENGLISH.		REMARKS.
1 A cloud		
2 Clouds, the		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14 Sky (Ku-ba)		
15 Horizon		
16 Sun (pûn)		
17 Moon (mûn)		
18 Full-moon		
19 Half-moon		
20 Crescent-moon		
21 Stars (kăil-tăil)		
22 Meteor (po tăil'tăil?)		
23 Aurora		
24 Rainbow		
25 Fog (Kăltăs omŏk)		
26 Frost		
27 Snow (ono/tkŏp snäs)		
28 Hail (Kŭl snäs)		
29 Ice (Kŏl tcâk)		
30 Icicle		
31 Water (tcûk)		
32 Image reflected by water		
33 Foam		

waterfall (tûm wâlâ tûm tcûk)

ENGLISH.		REMARKS.
34 Wave		
35 Current (ăku-kûm tcûk)		
36 Eddy		
37 Overflow		
38 Tide (hîgh, oă'ali tcûk / lŏw, pi'kwălĕ tcûk)		
39 Rain (onăs)		
40 Thunder (oă'alĕ ăkŭ'kûm wâwă)		
41 Lightning (oă'alĕ pai'-ă)		
42 Wind (omnd)		
43 North wind		
44 Northeast wind		
45 East wind		
46 Southeast wind		
47 West wind		
48 Northwest wind		
49 Whirlwind (calm & hels wind)		
50 The ground (Ilăhi)		
51 Dust (hŏ'-lăl-lĭ)		
52 Mud (Ilăhi) (po tăkle tcûk tcûk?)		
53 Sand		
54 Salt (salt)		
55 Rock (thai-as stone)		
56 Stone (tĕĭ'as stone)		
57 Eclipse of the Sun		
58 Earthquake (ĭlahihaiăs kwăs?)		
59 Shower (Cĕwăs snäs)		
60 Storm (skuckûm snäs kopâ wind)		
61 Tornado (" " " kopâ skuckûm wind)		
62		
63		
64 Ursa major		
65 Pleiades		
66 Morning Star		

see p. 1129

(Carefully read § 17, Chapter II.)

ENGLISH.		REMARKS.
1 My son	ci'-e ; rarely cic-la'-me	
2 (Omitted) My child (m or f)	ct'hă, voc; cüs-qĕ' (spoken f)	
3 My son's son		
4 My son's daughter		
5 My son's son's son		
6 My son's son's daughter		
7 My son's daughter's son		
8 My son's daughter's daughter		
9 My son's son's son's son		
10 My son's son's son's daughter		
11 My son's son's daughter's son		
12 My son's son's daughter's daughter		
13 (Omitted)		
14 My daughter	si'-e	
15 My daughter's son		
16 My daughter's daughter		
17 My daughter's son's son		
18 My daughter's son's daughter		
19 My daughter's daughter's son		
20 My daughter's daughter's daughter		
21 My daughter's daughter's son's son		
22 My daughter's daughter's son's daughter		
23 My daughter's daughter's daughter's son		
24 My daughter's daughter's daughter's daughter		

ENGLISH.		REMARKS.
25 My father	ct'ha	voc. ct'ha-nu!
26 (Omitted)		
27 My father's father	c'a-mĕ'	
28 My father's mother	ci'-sûn-nê'	
29 My father's father's father		
30 My father's father's mother		
31 My father's mother's father		
32 My father's mother's mother		
33 My father's father's father's father		
34 My father's father's father's mother		
35 (Omitted)		
36 My mother	stu; ci'-stu	
37 My mother's father	ci-stu' kû-lĕ ; or stu' kû-lĕ	
38 My mother's mother		
39 My mother's father's father		
40 My mother's father's mother		
41 My mother's mother's father		
42 My mother's mother's mother		
43 My mother's mother's mother's father		
44 My mother's mother's mother's mother		

ENGLISH.		REMARKS.
34 Name of tribe		
35 Indian (sai'-wăc)		
36 White man (Boston man)		
37 Negro (glol tlil'ăkum)		
38 My fellow		
39 Give the names by which other tribes are designated with which they are acquainted.		

ENGLISH.		REMARKS.
1 Council of gens		
2 Council man		
3 Council woman		
4 Chief of gens		
5 Gentile council-house		
6 Tribal council (Nanaiwe k'ăkûm wâcwâ)		
7 Tribal council man		
8 Tribal council woman		
9 Sachem, or chief of tribe (Nanaiwe k'ăkûm ~~hai'-ăs tai-ĕ~~)		
10 Tribal council-house		
11 War council (——— wâcwâ)		
12 War chief (mămuk pait tai-ĕ)		
13 Warrior (——— man)		
14 The warriors		
15 Friend (one of the tribe) (Sitka)		
16 Friend (one of another tribe)		
17 Enemy (one of the tribe) (mi sa-tco klăkûm)		
18 Enemy (one of another tribe)		
19 Slave (mŭsk-kai-măs, or i-kai-ti)		
20 Confederacy		
21 War (mămuk pait)		
22 A coward (wĕk skŭkum tlŭstlum măn)		
23 Battle		
24 War-whoop		

SCHEDULE 20.—RELIGION.

(Carefully read § 20, Chapter II.)

ENGLISH.		REMARKS.
1 God. (The Supreme Ruler—the white man's God.)	(Sá á lĭ hai-ĕ)	
2 The gods (com. noun)		
3 The ancients—wonderful beings of the past		
4 The future world		

SCHEDULE 21.—MORTUARY CUSTOMS.

(Carefully read § 21, Chapter II.)

ENGLISH.		REMARKS.
1 Dead body		
2 Corpse of man		
3 Corpse of woman		
4 Corpse of boy		
5 Corpse of girl		
6 Spirit or soul		
7 Grave in the ground		
8 Scaffold for the dead		

Give account of Mortuary Customs.

ENGLISH.		REMARKS.
1 Healthy (wèk sick)		
2 Sickness		
3 Pain		
4 Vertigo		
5 Headache (Câ tet' sick)		
6 Toothache (lo ta' sick)		
7 A cold		
8 Ague (Kol sick)		
9 Fever (Ram sick)		
10 Diarrhœa		
11 Rheumatism		
12 Syphilis (Pai-a sick)		
13 Smallpox		
14 A boil		
15 A sore		
16 A cut		
17 A scar		
18 A bruise		
My father is sick	cìc t'ha (or cha) tsi-i-te	
" child " "	cô "	
I have a boy sick,	tu-one yasli cûn tsi-i-te	
Have you a boy sick?	ha nûn-tsi-i-te	
cough (hoh-hoh)		
My son is sick	cié cûn tsi-i-te	
" daughter is sick	sié "	

SCHEDULE 24.—NEW WORDS.

(Carefully read § 24, Chapter II.)

ENGLISH.		REMARKS.
1 Live stock	(mūs'-mūs)	
2 Horse	(Kyu'ai-tăn)	
3 Colt	(tĕnăs Kyu'ai tăn)	
4 Mule	(lă-mĕl')	
5 Bull	(man mūs mūs)	
6 Ox	" " " helo stone)	
7 Cow	(luc man mūs' mūs)	
8 Calf	(tĕnăs " ")	
9 Sheep	(li me-to')	
10 Hog	(Ko'co, Ku'cu)	
11 Cat	(pūs'pūs)	
12 Kitten	(tĕn'ăs pūs'pūs)	
13 Cock	(man lă pūl')	
14 Hen	(gluc man la pūl')	
15 Goose	(Boston Kăl a kă-la)	
16 Saddle	(lă sĕl')	
17 Bridle	(la-blid')	
18 Girth		
19 Lariat	(akin lŏp)	
20 Whip	(la hwĕt')	
21 Hopples		
22 Spur	(li si'blo)	
23 Crupper		
24 Axe	(lă kăc')	
25 Auger		
26 Iron arrow-head		
27 Awls of metal	(ke) rekamin Ou Kip' wut)	
28 Beads	(Ka-mo'sŭk)	
29 Broom	(blŭm)	
30 Cloth	(mock Heck / (ts wŭt pas'si)	
31 Comb		
32 Clock		
33 Knife, pocket		

SCHEDULE 24.—NEW WORDS—Continued.

ENGLISH.		REMARKS.
34 Fork		
35 Gimlet		
36 Hoe		
37 Hammer		
38 Brass kettle		
39 Iron kettle		
40 Tin plate		
41 Plow		
42 Reaper		
43 Scissors		
44 Table		
45 Watch		
46 Pistol		
47 Gun		
48 Rifle		
49 Ramrod		
50 Cannon		
51 Bullet		
52 Cap, percussion		
53 Powder		
54 Saber		
55 Brass		
56 Gold		
57 Iron		
58 Lead		
59 Silver		
60 Money		
61 Cap or hat		
62 Necktie or neckerchief		
63 Coat		
64 Vest		
65 Shirt		
66 Pants		

ENGLISH.		REMARKS.
67 Their (mas. plural) oxen		
68 Her ox	nû-gĕ' nas-i cgl'-gĕ tci-gas'-mûl-lĕ nûn-hi' cĕ-tĕ'-sib-tcūt lă? (two; ××(this morning); you; you stole my)	
69 Their (fem. dual) oxen		
70 Their (fem. plural) oxen	cūc-tgi'-i-tcu (my horse)	
71 I have a father		
72 You have a mother	Who stole mine? ûn-tu'-i tĕgl'-tcut (+ha)	
73 He has a sister	"Shell-head Charley" stole the horse, ~~Shell-head Tcă'-lĕ hi-nĕ'~~	
74 We have a grandfather	Tgi'-i-tcu Cal'-hat Tcă'-lĕ hi-nĕ' tĕgl-tcūt'	
75 You have a grandfather		
76 They have a grandfather	He stole a horse can be expressed in three ways,	
77 I have two hands	(1) tci'-hi tĕgl'-tcut tgi-i-tcu, = this one stole a horse (××)	
78 You have two hands		
79 He has two hands	(2) ci-hi' tĕgl'-tcut tgi-i-tcu, that one (seen), &c.	
80 We have two hands	(3) gu-hi tĕgl'-tcut tgi-i-tcu, that one (unseen), &c	
81 You have two hands		
82 They have two hands	I know who stole it, uc-tsĭt ûn-ni'-ne tĕgl tcūt' (I know; ebe aka; stole it)	
83 I have a dog		
84 You have a dog	Who is stealing my ——? ûn-la'-hi cé'-tĕgl-tcūt'	
85 You and I have dogs		
86 He and I have dogs	The horse (he) steals (acts, ra), tgi-i-tcu tcû-tĕgl'-tcut	
87 You and I have horses	Charley stole a horse, tgi-i-tcu Tcă'-lĕ tcû-tĕgl'-tcut	
88 We have horses		
89 They have horses	Do you know who stole our (du.) horses? = tgi-i-tcu nû-quĕs'-tĕgl-tcūt' tlu-wo' ugl-tcūt' ne'-nu li'-tce ha' (×perhaps; you know; our; horse; ?)	
90 I have a gun		
91 You have a hat		
92 He has a bow		
93 They have arrows		
94 This is my hat		
95 That is his hat		
96 These are my horses		
97 These are your horses		
98 Whose cow is this?		
99 This is my cow		

114(b) Did he steal your horse? tgi'-i-tcu nĕs'-tĕgl-tcūt' ha

114(c) Henry stole your horse. ~~I saw who stole it~~ tgi'-i-tcu nĕs'-tĕgl-tcut' Hĕn-ri' Nĕc'-i ûn-ni'-tĕgl-tcu'-te (×)

ENGLISH.		REMARKS.
100 Whose horse is this? ✓	(tgi-i-tcu tci-tĕ'-stû-li ci-li'-tce ûn'-te) (××)	
101 This is his horse ✓		
102 Whose dog is this? ✓	ûn lă-tce-la ûn-tĕ' tci tgi (××)	
103 This is John's dog		
104 Whose bow is this	ûn tûk-kûc hé'-la ûn'-te tci'-stha-nĕ tûk'-kûc (××)	
105 This is his bow		
106 Whose ~~arrow~~ house is this?	ûn nûn' hé'-la ûn-te tci-da'-nĕ nûn' (××)	
107 This is my arrow		
108 Whose ~~knife~~ ax (old) is this?	ûn' tcût-tûl'-lagl hé'-la ûn'-te tci-nat'-i-ya'-nĕ tcût-tûl'-lagl? (××)	
109 This is my knife		
110 Whose hat is this? ✓	ûn ta'-nŭc hé'-la ûn'-te tci'-da-nĕ ta'-nŭc (××)	
111 This is your hat		
112 Which is your horse? ✓	i-é'-la nûn-li'-tce tgi'-i-tcu ci'-te-lagl-kuûl'-lĕ (A)	
113 He stole my horse	at night, tgi'-i-tcu k'lĕ'-ta' cĕs'-tĕgl-tcut' lă (at night, k'lĕ'-ta')	
114 He stole your horse	in the day, tgi'-i-tcu sĕs'-tcu nĕs'-tĕgl-tcut' (by day, sĕs'-tcu) (×)	
115 He stole his horse ✓	tgi'-i-tcu mĕs'-tĕgl-tcut'	
116 They stole our horses (du.)	tgi'-i-tcu nû-quĕs'-tĕgl-tcūt' (belonging to us two)	
117 They stole your horses (du.)	tgi'-i-tcu ne-yas'-tĕgl-tcūt' (" " you two)	
118 They stole their horses (du.)	tgi'-i-tcu me-yas'-tĕgl-tcūt' (" " the two)	
119 He ~~killed my dog~~ stole your horse	nûn tgi-i-tcu nĕs'-tĕgl-tcut (Euphatic form)	
120 He killed your dog		
116(b) He stole all our (du.) horses	né-nu li'-tce tá-que' nû-quĕs'-tĕgl-tcūt'	
116,c, 121 He killed his dog. He stole our (pl.) horses		
118(b) 123 He killed her dog	They stole their horses, tgi-i-tcu ~~tinque'-ti~~ me-yas' tu-'xûl-tcūt	
117(b) 122 They killed our dogs	stole your (pl.) horses tgi-i-tcu nû-que-yas' tu-'xûl'-tcūt	
124 I lost my bow		
125 He lost his arrow		
126 I cut my foot		
127 You cut your foot		
128 He cut his foot		
He goes with his wife		nat' 'xûth-'xût-tĕgl'
You go with your wife		nat' 'xûth'-nu-tĕgl' lĕ
I go with my wife		cat' 'xûth'-'xi-tĕgl

(Carefully read § 28, Chapter II.)

ENGLISH.		REMARKS.
1 I am hungry		
2 I was hungry		
3 I will be hungry		
4 You and I are hungry		
5 You and I were hungry		
6 You and I will be hungry		
7 He and I are hungry		
8 He and I were hungry		
9 He and I will be hungry		
10 We (ye and I) are hungry		
11 We (ye and I) were hungry	k'qûn'-ta [hi-tci-tugdlí] ya-te'-si-t-ʳxûs' tû-wa' tca'	
12 We (ye and I) will be hungry	qunn'-te tû-wa' ya-tí'-ta-ʳxûs'	
13 We (they and I) are hungry		
14 We (they and I) were hungry	[tû-wa' ti-ʳxûs' ti'-i-ʳxĕs'	(bic) meaning uncertain]
15 We (they and I) will be hungry		
16 You are hungry	tĕs-si'-ʳxûs } tĕs-si-ʳxûs ucl'-tsit, I know (that) you are hungry.	
17 You were hungry	k'qûn'-ta tĕs-si-ʳxûs (± ucl'-tsit, I know)	
18 You will be hungry	qunn'-te tû-wa' tĕ-ʳxĕs'-si [or qunn'-te ti-ʳxĕs' tû-wa'	
19 Ye (dual) are hungry		
20 Ye (dual) were hungry		
21 Ye (dual) will be hungry		
22 Ye (plural) are hungry		
23 Ye (plural) were hungry		
24 Ye (plural) will be hungry		
25 He is hungry	täs'-ʳxûs } ri-ta'-stă täs'-ʳxûs, that one st. on (something in sight) is hungry.	
26 He was hungry	täs'-ʳxûs i'-me	
27 He will be hungry	qunn'-te ri-ta-wa' ta-ʳxûs'-si	
28 They (mas. dual) are hungry	tci-sûs qli ya-tĕ-ʳxûs (te-day very they-are-hungry)	
29 They (mas. dual) were hungry	k'qûn'-ta ya-tĕ-si-ʳxûs	
30 They (mas. dual) will be hungry	qunn'-te ri-na-tĕ-lĕ tû-wa' ya-ti'-ʳxûs-si	
31 They (mas. plural) are hungry	tá-qa'-ne ya-tĕ-si-ʳxûs	the three are hungry.
32 They (mas. plural) were hungry		
33 They (mas. plural) will be hungry		

k'qûn'-ta or

ENGLISH.		REMARKS.
34 She is hungry		
35 She was hungry		
36 She will be hungry		
37 They (fem. dual) are hungry		
38 They (fem. dual) were hungry		
39 They (fem. dual) will be hungry		
40 They (fem. plural) are hungry		
41 They (fem. plural) were hungry		
42 They (fem. plural) will be hungry		
43 I am thirsty		
44 I was thirsty		
45 I will be thirsty		
46 You and I are thirsty	nú-si-na-ʳxastl'-tsĕ [± tci'-sûs, to-day]	
47 You and I were thirsty	k'qûn'-ta nú-si-na-ʳxastl'-tsĕ	
48 You and I will be thirsty	qunn'-te tû-wa' nú-si-na-ʳxal'-tsĕ	
49 He and I are thirsty	nú-si-na-ʳxûl'-tsĕ	
50 He and I were thirsty	k'qûn'-ta	
51 He and I will be thirsty	qunn'-te tû-wa'	
52 We (ye and I) are thirsty		
53 We (ye and I) were thirsty		
54 We (ye and I) will be thirsty		
55 We (they and I) are thirsty		
56 We (they and I) were thirsty		
57 We (they and I) will be thirsty		
58 You are thirsty		
59 You were thirsty		
60 You will be thirsty		
61 Ye (dual) are thirsty		
62 Ye (dual) were thirsty		
63 Ye (dual) will be thirsty		
64 Ye (plural) are thirsty		
65 Ye (plural) were thirsty		
66 Ye (plural) will be thirsty		

(Carefully read § 30, Chapter II.)

The student should take the different verbs signifying "to eat" and "to drink" and elaborate them in all possible forms of voice, mode, and tense. The same should be done with the different verbs signifying "to go;" the different verbs signifying "to lie;" the different verbs signifying "to hunt;" the different verbs signifying "to fish;" the different verbs signifying "to talk," &c., &c. Many other verbs will occur to him, such as "to stand," "to sit," "to lie," &c., &c.

	Face	Forehead		Eye
S. 3	ɤɤi'-ni	3 ɤɤi-ɣik-ket-ä'	3 ɤɤi-ɣik-ket-ä'	3 ɤɤi'-na-'xĕ'
2	nûn-ni	2 nûn-ɣik'-ket	2 nûn-ɣik'-ket-ä'	2 nûn-na-'xĕ'
1	cic-ni	1 cnik-ket	1) cnik'-ket-ä'	1 cic'-na-'xĕ'

	Neck (throat)	Father		
S. 3	ɤɤi-q'ûs	3 ɤɤi-tha, hrs.	D. 3 ɤɤi-ge-t'ha	3 ɤɤi-ne'-ge-t'ha
2	nûn-q'ûs	2 nûn—	2 nu-ne-nu'-t'ha	2 nu-ne-nu'-t'ha
1	cq'ûs	1 cic—, or cit'ha	1 ne-nu'-t'ha	1 ne-nu'-t'ha
		voc. ct'ha-nu!		

Possessive fragment-pronouns

	S.	Du.	Pl.
3	mĕs-	me-yas'	me-yas'
2	nĕs-	ne-yas'	nû'-qwe-yas'
1	ce—	nû-qwĕs'	nû-qwe'-yĕs-

(See v. to steal, p. 209)

Man (one)	Son (one's)	Daughter	Child
3 ɤɤi-ne	3 ɤɤi-'a'-me	3 ɤɤi-si'e	3 ɤɤi-mûs-qĕ'
2 nûn—	2 nûn-a'me	2 nûn—	2 nûn-mûs'-qĕ
1 {cnĕe or cite	1 cic-la'me or cla'-me	1 si'e	1 cŭs-qĕ'
			voc. ct'hă
an ɤɤi'-aqk, cnĕ'e, Come, my man!		an ɤɤi'-aqk ct'hă, Come, my daughter!	an ɤɤi'-aqk ct'hă, Come, my child!

ɤɤi-na'-tĕ-lĕ, those walking

ɤɤi tcĕ' tqi
that | tied | horse

tci-t'ê-ate-lĕ, this one who stands

tci-ati, this red one

ɤɤi-né ye-tĕgl'-taut tqi-i-tcu, those (3 or more) stole a horse (Sub. visible
yu-né " " those (3 or more) " " " (Sub. unseen
tci-ne " " these (3 or more) " " "

ɤɤi-né-hi-né ye-tĕgl'-taut, those (all) stole it
tci-ya'-qût tĕgl'-taut (du.)

ɤɤi-qûtgl'-tcâ-kă tĕgl'-taut tqi-i-tcu, those two (seen) stole a horse
yu- _____
hi- _____
tci- _____ these two stole a horse

hihi tĕgl-taut, he (that one) stole it - Preceded by name of subject.
hi-nĕ ye tĕgl'-taut they " " names " "
ɤɤi-hi tĕgl-taut, that (seen) one stole it
yuhi _____ that (unseen) one stole it
tcihi _____, this " " "

Cal'-hĕt Tcălĕ tcû-tĕgl'-taut Hĕn'-ri, Shellhead Charley stole something from Henry.
ûn-tcaya tĕgl-taut, whose did he steal?
Henryaye " , He stole Henry's.
Telâye " , What did he steal?

Nûn-acĕ ye tĕ-silg'-taut,
Co-hacĕ-yĕ tĕ-silg'-taut, Are you stealing my _____?
Tcûtal'agl ûn-la-hi' ce-tĕgl'-taut tû-wa'-ugl-tcŭt! Do you know who stole my ax?

K'qûn'ta tci-'tcûtĕgl'taut tqi-i-tcu, This one stole a horse yesterday.

K'qûn'ta ɤɤi-nat'xa-nĕ stu' tcŭt tăs-'xûs ɣi'-me
Yesterday | that walking one | nearly | dies | hungry | was

tcă'-qût-tca-e hi-yugl'-tĕ, They wish to eat
tcĕc-ya-nĕ' ucl'-tĕ, I " " "
Tĕs-si-'xûs kqĕ anĕ'te. Tci'-tca ɤɤi'-aqk.
You hungry | it seems as if | Eat!

ɾɬan-nĕ nat-i-ya-nĕ, the one std. on this side.
tsĕs-pat-tĭn nat-i-ya-ne, the one " " in the middle
ɾɬe-nĕ " " " " " beyond or on that side.

{ ûn tsqé-qe hé-la ûn-te k'ûla' ma-qwê-ĕ kaɬ-nĕ tsqé-qe

Whose boy is that going along by the fence?

ûn tsqé-qe hé-la qwê-ĕ kaɬ,

ûn tsqé-qe hé-la k'â-la' ma-qwê-ĕ kaɬ ɾɬan-nĕt-s-ĕ,
fence / going along / near / on this side
Whose boy is that walking along on this side of the fence?

tût-la-hi-sti, where is the recl. one? (an. obv.)
stă " " sitting one?
té-stu-lĕ " " standing " ?
nas-i-ya, where is he walking? (sic)
tût-la
hi să mal-nĕ, where is the knife lying? (in. ob.) (on ground)
hi tă-să ——— (on an elevated ob.)?

tût-la ɾɬi-te-stûɬ tsitcu, where is the horse standing?

tût-la hĭntûl-laɬ

tcûtûl-laɬ tût-la nat-i-ya, where is the ax (standing)?
cic-tcûtûl-laɬ ——— " " (")?
tût-la-sɬ'a' ——— (sitting?)?

tû-qwûl-la te-si-ya, Whither go you?

1 tû-qwû-an'la ɾɬi-i-yaɬ, Where have you been?
2 tû-qwûn' na-si-i-ya-ye-la' anite, do. do.
3 tû-qwan' ɾɬi-tă-li-la ɢla' do. do.
4 tû-qwan' ɾɬi-i-ya-lĕ (said rapidly). do. do.

Does that man go, ɾɬi-tu tu-wa-tûc.
Does that man go too, ɾɬi-tcu ha kaɬ-tĕ

That horse eats, | tsi-i-tcu / horse | ɾɬi-te-stû-lĕ / that (near) std. one | tc'a' / eats |

The horse tied in the stable eats,
tsi-i-tcu / horse | mûn-né-ni / house-in | tc'ĕs' / tied | tsi tc'a' / horse eats

The knife is (lies) on the table, măl-mĕ wa-tă'-s'ă.

I wish to see where the recl. man is,
(1) tût-la-hi-sti ŭcl-te' ʔxûc-i-nĕ? or
2 ——— ʔxûc-i-nĕ' ŭcl-tĕ'

He lies awake, ta-l-go-sti

To desire
S. 3 yugl'-tĕ, as in Tutu
2 ŭgl-tĕ } differ only in ŭ from Tutu.
1 ŭcl'-tĕ }
P. 1 il'-te as in Tutu
May be a personal (not a dialectic) variation

He is moving this way (towards us), ɾɬan'-ta-la' a-kaɬ'
He is mv. that way (from us) ɾɬe'-ta-la' a-kaɬ'
He is going along on this side of the fence, k'û-la' ɾɬan-nĕt'-s-ĕ ma'-qwê-ĕ kaɬ'
He is going along on that side of the fence, k'û-la' ɾɬe-nĕt'-s-ĕ ma'-qwê-ĕ kaɬ'

He is walking (back + forth) on this side of the fence,
ɾɬan-nĕt'-s-ĕ k'û-la' mĕn ná-ʔxa.

ɾɬan-ta nat-i-ya-nĕ tcûtûl-laɬ, the ax which is standing on this side (of an ob.)
ɾɬe'-ta ——— / ——— that ——— (" " ")

SMITHSONIAN INSTITUTION——BUREAU OF ETHNOLOGY
J. W. POWELL DIRECTOR

INTRODUCTION

TO THE

STUDY OF INDIAN LANGUAGES

WITH

WORDS PHRASES AND SENTENCES TO BE COLLECTED

BY J. W. POWELL

SECOND EDITION—WITH CHARTS

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212

(DO NOT FAIL TO FILL THIS BLANK.)

Gens ~~Tribe~~, Tcĕ-mĕ' tûn-nĕ (= Joshua, white name)

Locality, Siletz Agency, Oregon.

Recorded by J. Owen Dorsey

Date of Record, from Aug. to 1884

III, IV

See Tu-tu tûn-ne book.

PREFACE.

During the past ten years students of Indian languages have rapidly multiplied. When the author of this volume began the exploration of the Colorado River of the West under the auspices of the Smithsonian Institution, Professor Henry, as its secretary, urgently recommended a study of the Indians of that country, although the work was organized primarily as a geographic and geological survey. The region was practically unknown to white men, and the Indians found therein were less modified by the influences of civilization than any others of the United States. The only inhabitants of the country being Indians, the members of the survey were thrown the more directly into contact with them, as their services were needed in finding trails, fords, passes, and watering places. Under these circumstances favorable opportunities were utilized, and from time to time since then this work has gradually expanded until a Bureau of Ethnology, under the direction of the Smithsonian Institution, has been organized by law.

In the mean time, through the efforts of this organization in its various forms many persons have been enlisted in the study of North American anthropology and the philologic branch has received special attention. To intelligently prosecute linguistic research it was found necessary to make a summary of what had previously been done in this field, and a classification of the linguistic stocks of North America was undertaken. In the progress of this work vocabularies and grammars from various sources have been studied and compared with the large amount of matter pouring in from the assistants and collaborators with the Bureau. Those engaged in the work needed constant direction and were frequently calling

for explanations. Thus there came to be an urgent demand for an "Introduction to the Study of Indian Languages." In the year 1877 the first edition was issued. The progress made by various students, and the studies made by the author, alike require that a new edition be prepared to meet the more advanced wants and to embody the results of wider studies. Under these circumstances the present edition is published. It does not purport to be a philosophic treatment of the subject of language; it is not a comparative grammar of Indian tongues; it is simply a series of explanations of certain characteristics almost universally found by students of Indian languages—the explanations being of such a character as experience has shown would best meet the wants of persons practically at work in the field on languages with which they are unfamiliar. The book is a body of directions for collectors.

It is believed that the system of schedules, followed *seriatim*, will lead the student in a proper way to the collection of linguistic materials; that the explanations given will assist him in overcoming the difficulties which he is sure to encounter; and that the materials when collected will constitute valuable contributions to philology. It has been the effort of the author to connect the study of language with the study of other branches of anthropology, for a language is best understood when the habits, customs, institutions, philosophy,—the subject-matter of thought embodied in the language are best known. The student of language should be a student of the people who speak the language; and to this end the book has been prepared, with many hints and suggestions relating to other branches of anthropology.

In preparing the first edition the author appealed to the eminent scholar, Prof. J. D. Whitney, for assistance in devising an alphabet; since then further experience has demonstrated the propriety of some changes and a considerable enlargement of the scheme. For the alphabet as it is now presented, Professor Whitney is not responsible, but the writer is greatly indebted to him for laying the foundation of the chapter as it appeared in the previous edition.

In the second chapter, entitled "Hints and Suggestions," the fourth section embodies a series of questions prepared by the Hon. Lewis H. Morgan,

and by him presented to the Archæological Institute of America, March 1880, in a "Statement concerning the Objects of an Expedition to New Mexico and Arizona, and of one subsequently to Yucatan and Central America." In many other ways the author is indebted to Mr. Morgan as the pioneer investigator into the sociology of the North American Indians. The section on Kinship especially is a summary and condensation of a portion of his great work on "Consanguinity and Affinity," published by the Smithsonian Institute; but the schedule has been considerably enlarged, and diagrams have been devised with the hope of leading to more exhaustive research and more nearly accurate records.

The writer had prepared a section on the study of materials which was thought might be useful in a more advanced stage of linguistic study than that represented in the collection of the schedules. In this he had discussed, to some extent, methods of analyzing Indian languages; but his own work had been rather that of the pioneer, and in such advanced studies he had taken but little part; and the section as written was unsatisfactory. After it had gone into the printer's hands it occurred to the writer to consult again a paper written some years ago and read by Mr. J. Hammond Trumbull before the American Philological Association.* On reading the paper again it was thought best to cut out what had been written on this subject and to insert in lieu thereof a large portion of Mr. Trumbull's paper.

The method of treatment here employed has one characteristic requiring mention. In its preparation, from time to time, illustrations from Indian languages have been more and more eliminated. To the general scholar perhaps this is a fault, but experience has fully demonstrated to the author that illustrations from unknown languages, presented to the working student in the field, serve rather to obscure than elucidate the subject in hand. Illustrations to be of value in such cases must come from materials familiar to the student. In incorporating Mr. Trumbull's paper, which was written for scholars rather than for students in the field, the writer did not consider himself authorized to modify in any manner what Mr. Trumbull had said. His matter appears, therefore, with all its wealth of example.

* On the Best Method of Studying the North American Languages. By J. Hammond Trumbull. Trans. Am. Phil. Asso., 1869-70. Hartford: 1871, 8°. pp. 55-79.

This method of treatment has another important reason for its justification. It seemed desirable to make the hints and suggestions as brief as possible, so that the whole volume would form a convenient handbook for the collector in the field. In preparing this chapter, in its earliest stage, illustrations were accumulated from many sources. Had they been used the work would have been more than doubled in size, and as its practical purpose would not be subserved thereby they were chiefly eliminated.

As the work of the Bureau has extended from time to time, it has been found necessary to prepare a series of volumes like the present, each to be an introduction to some branch of anthropologic research. The previous edition of the present "Introduction" was the first of the series; since that time the following have been published:

SECOND, "Introduction to the Study of Sign Language among the North American Indians," by Lt. Col. Garrick Mallery, U. S. A.; and

THIRD, "Introduction to the Study of the Mortuary Customs of the North American Indians," by Dr. H. C. Yarrow, U. S. A. Several others are in course of preparation and will soon be issued.

This field of research is vast; the materials are abundant and easily collected; reward for scientific labor is prompt and generous. Under these circumstances American students are rapidly entering the field. But the area to be covered is so great that many more persons can advantageously work therein. Hundreds of languages are to be studied; hundreds of governments exist, the characteristics of which are to be investigated and recorded. All these peoples have, to a great extent, diverse arts, diverse mythologies, as well as diverse languages and governments; and while the people are not becoming extinct but absorbed, languages are changing, governments are being overthrown, institutions are replaced, and arts are becoming obsolete. The time for pursuing these investigations will soon end. *The assistance of American scholars is most earnestly invoked.*

J. W. POWELL.

WASHINGTON, *March*, 1880.

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