ETHNobotany OF THE Tewa Indians

By

WILFRED WILLIAM ROBBINS
JOHN PEABODY HARRINGTON

AND

BARBARA FREIRE-MARRECO

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LETTER OF TRANSMITTAL

THE SCHOOL OF AMERICAN ARCHAEOLOGY
Santa Fe, N. Mex, November 1, 1912.

DEAR SIR: I herewith transmit the manuscript and illustrations of a paper entitled “Ethnobotany of the Tewa Indians,” by Wilfred W. Robbins, John P. Harrington, and Barbara Freire-Marreco. I am authorized by the managing committee of the School of American Archeology to offer this work for publication by the Bureau of American Ethnology as a part of the results of the cooperative work of our respective institutions during 1910 and 1911.

I am, very truly, yours,

EDGAR L. HEWETT,
Director.

Mr. F. W. HODGE,
Ethnologist-in-Charge,
Bureau of American Ethnology,
Washington, D. C.
LETTER OF SUBMITTAL

SMITHSONIAN INSTITUTION,
BUREAU OF AMERICAN ETHNOLOGY,
November 8, 1912.

Sir: I have the honor to submit a paper on the "Ethnobotany of the Tewa Indians," by Wilfred W. Robbins, John P. Harrington, and Barbara Freire-Marreco, which forms a part of the results of the ethnological and archeological research in the upper Rio Grande Valley of New Mexico, undertaken jointly by the Bureau of American Ethnology and the School of American Archaeology in 1910 and 1911. It is recommended that the paper be published as a bulletin of this bureau.

Very respectfully,

F. W. HODGE,
Ethnologist-in-Charge.

Honorable CHARLES D. WALCOTT,
Secretary, Smithsonian Institution.
PHONETIC KEY

1. Orinasal vowels, pronounced with mouth and nose passages open: ə (Eng. father, but orinasal), ã (French pas, but orinasal), ɔ (moderately close o, orinasal), u (Eng. rule, but orinasal), æ (Eng. man, but orinasal), ë (moderately close e, orinasal), i (Eng. routine, but orinasal).

2. Oral vowels, pronounced with mouth passage open and nose passage closed by the velum: a (Eng. father), o (moderately close o), u (Eng. rule), e (moderately close e), i (Eng. routine).

Very short vowels following the glottid (') are written superior. Thus, h'ã'ã', wild rose. A slight aspiration is heard after a vowel followed by qw, k, kw, k', s, t, t', ts, tf, p, p'. Thus, h'tu, kernel of a nut, written h'tu in this memoir.

3. Laryngeal consonants: h (Eng. house), ' (glottid or glottal exclusive, produced by closing and suddenly opening the glottis).

4. Velar consonants: w (Eng. water), qw (Span. juez; Ger. ach labialized), k (unaspirated, Span. carro), kw (unaspirated, Span. cual), k' (glottalized), kw' (aspirated, Eng. cookhouse), q (levis, Span. abogado), y (preposively nasal, Eng. finger), y (nasal, Eng. singer), qw (nasal labialized, Eng. Langworthy; variant of Tewa w).

In absolute auslaut and before h and 'y is somewhat palatal. Before palatal consonants y is assimilated to n or n, before frontal consonants to n, before labial consonants to m.

5. Palatal consonants: j (Ger. ja), ɲ (Span. mañana).

In the Hano dialect a tʃ or palatal t occurs.

6. Frontal consonants: s (Eng. sin), ʃ (Eng. ship; ʃ is the capital of ʃ), t (unaspirated, Span. te), ʈ (glottalized), t' (aspirated, Eng. sweathouse), ts (consonant diphthong, Ger. zehn, but not followed by an aspiration), tf (consonant diphthong, Eng. chew, but not followed by an aspiration), ʈʃ (glottalized), ʈʃ (glottalized), s (levis d, more r-like than in Span. abogado), ʃ (preposively nasal, Eng. cinder), n (nasal, Eng. now).

The sound of ʃ occurs in Rio Grande Tewa only in words of foreign origin and in the San Ildefonso word polamimi, butterfly; but it is common in Hano Tewa.

7. Labial consonants: p (unaspirated, Span. padre), b (glottalized), p' (aspirated, Eng. scalphouse), b (levis, Span. abogado), b (preposively nasal, Eng. lambent), m (nasal, Eng. man).
A grave accent over a vowel indicates falling tone and weak stress. Thus, Šabê, Athapascan, approximately rhymes with and has accent of Span. sabe. Where practicable for distinguishing two words, vowel length is indicated by the macron. Thus ’oku, hill, but ’ōkū, turtle.

**Phonetic Spelling of Non-Tewa Words**

Vowels: ã (French pas), y (unrounded u), â (French patte), ā (French patte, but orinasal). The acute accent over a vowel indicates loud stress. Surdness is indicated by a circle beneath a vowel.

Consonants: ’ (aspiration), g, d, b (as in Eng.), l (surd l), f (bilabial f).
ETHNOBOTANY OF THE TEWA INDIANS

By WILFRED W. ROBBINS, JOHN P. HARRINGTON, and BARBARA FREIRE-MARRECO

INTRODUCTION

SCOPE OF ETHNOBOTANY

ETHNOBOTANY is virtually a new field of research, a field which, if investigated thoroughly and systematically, will yield results of great value to the ethnologist and incidentally also to the botanist. Ethnobotany is a science, consequently scientific methods of study and investigation must be adopted and adhered to as strictly as in any of the older divisions of scientific work. It is a comparatively easy matter for one to collect plants, to procure their names from the Indians, then to send the plants to a botanist for determination, and ultimately to formulate a list of plants and their accompanying Indian names, with some notes regarding their medicinal and other uses. Ethnobotanical investigation deserves to be taken more seriously: it should yield more information than this; it should strike deeper into the thoughts and life of the people studied. If we are to learn more of primitive peoples, we must attempt to gain from them their conceptions not of a part but of the entire environment. Ethnobotany is a special line of ethnologic investigation, the results of which must receive consideration in our ultimate analysis.

Ethnobotanical research is concerned with several important questions: (a) What are primitive ideas and conceptions of plant life? (b) What are the effects of a given plant environment on the lives, customs, religion, thoughts, and everyday practical affairs of the

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1 The earlier, larger, and more systematic part of this memoir is the work of the two authors first named on the title-page, Mr. Wilfred W. Robbins and Mr. John P. Harrington. Their methods of investigation and collaboration are explained in the Introduction.

When the memoir, in its original scope and form, was in type, it was thought advisable to enlarge it by including notes on some of the economic, industrial, and medicinal uses of the plants, made by the third author, Miss Barbara Freire-Marreco, in the course of work supported by the Research Fellowship fund of Somerville College, Oxford, England, and by the late Miss Mary Ewart's trustees, as well as many additional plant-names. It was thought well also to add, for the sake of comparison, information gained from the Tewa colony settled since the end of the seventeenth century among the Hopi at Hano, Arizona, although the winter season had made it difficult to learn much of the plant environment. Mr. Harrington is not responsible for the form of the Tewa words recorded at Hano, nor Mr. Robbins for the tentative identifications of the plants obtained or described there; Mr. Harrington and Mr. Robbins are alone responsible for the views expressed in pages 1 to 75; and Miss Freire-Marreco for those contained in pages 76 to 118.
people studied? (c) What use do they make of the plants about them for food, for medicine, for material culture, for ceremonial purposes? (d) What is the extent of their knowledge of the parts, functions, and activities of plants? (e) Into what categories are plant names and words that deal with plants grouped in the language of the people studied, and what can be learned concerning the working of the folk-mind by the study of these names?

Ethnobotany will become a more important subject when its study has progressed to a point where results can be studied comparatively. The ethnobotany of one tribe should be compared with similar studies of other tribes. And in such comparative work there arises the necessity for a standard in the quality of and in the manner of conducting the several investigations. Conceptions of plant life differ among different peoples: a particular plant here does not react in the same way upon one people as it does upon another; it has a different name and probably a different usage; while different ideas are held concerning it. Furthermore, we encounter different vegetal environments as we pass from tribe to tribe. Attempt should ultimately be made to investigate the causes and extent of these variations.

E th n ob o t a n i c a l F i e l d W o r k

The method of conducting ethnobotanical researches is of considerable importance, and the value of results obtained may be judged in great measure by the methods pursued in obtaining them. A prime necessity is a good native informant; indeed it is better to have several informants, preferably older men or women. The reasons for selecting the older persons as informants are obvious: they have greater knowledge concerning aboriginal things than have younger persons; they are less inclined to regard the work lightly and to attempt to give wrong and misleading answers; they are steadier, and above all they are able to give, as a result of their maturer years and greater experience, more trustworthy information. The writers found a distinct advantage in taking with them into the field several old Indians: time was saved; questions were answered more readily; furthermore, they frequently discussed the point in question among themselves, thus arriving at conclusions and bringing out facts that one individual could not. It is also true that several Indians together usually feel less restraint in answering freely such questions as are asked than would one in the presence of one or more questioners. As a means of checking the accuracy of information obtained it is also well to work with different individuals or groups of individuals separately, and to compare the results. Questions asked should not suggest the answers. Questioning should be systematic, yet so conducted as not to weary or offend the informants. It is well to intersperse the questioning with jokes and light conversation. The Indian language should be used as
largely as possible in asking the questions and in recording the information. The reasons for this are that the Indian words are largely not susceptible of exact translation, and the use of a foreign language is apt to modify and render un-Indian the conceptions of the informants.

In the present work the writers took with them into the field three old Indians, one of whom could speak fairly good English. The services of this individual were of considerable value; it is very desirable that the services of such an informant be enlisted if possible. Although not absolutely essential, it is probably true that the best ethnobotanical work can be done by the close cooperation of a botanist with an ethnologist and linguist experienced in the methods of recording Indian languages, the scientific recording of which is by no means an easy task. With their informants the two should go into the field together. It is essential that investigation be done in the field with growing plant life; showing fragments of plants picked up here and there, or even herbarium specimens, to the informants is far less satisfactory. The botanist will relieve his co-worker of collecting and preserving the plant material; the latter can thus better concentrate his efforts on obtaining the ethnologic information. Furthermore, it is natural that questions of botanical interest will occur to the botanist that would not occur to the linguist. Once in the field, the Indians are shown growing plants and are questioned fully about each, the smaller as well as the larger and more conspicuous forms. The nature of the questions will depend somewhat on the plant. In the present work the questions were framed so as to elicit the following facts about each plant: Indian name; etymology of name; uses of various parts, and methods of preparing them for use; names of the parts of plants, even the most inconspicuous; descriptive terms applied to this or that shape of leaf, kind of bark, stem, etc., and the extension of these terms in describing non-botanical phenomena; native ideas of the relation of the use of the different structures to the plant itself; and the lore connected with the plant.

It is needless to say that field notes should be made complete in the field; it is unsafe to depend on one’s memory and attempt to record certain information after reaching camp. It is well not to hasten from plant to plant: the informants should be given abundant time to think over and discuss points among themselves.

It is often of advantage to photograph some of the more striking and important plants, showing their habitat and general appearance. Drawings of plants may be used to supplement photographs. In addition, native representations of plants can often be obtained, notably in the form of designs of pottery, basketry, from glyphs, etc. An attempt should be made to identify these, as they are important in indicating the Indian conception of various plants.
In any case, even if the plant be well known, specimens should be collected. These, prepared in the manner to be discussed, make valuable specimens for the ethnological museum. In view of the fact that many individuals doing ethnobotanical work may not be familiar with the proper methods of pressing and handling plants, the following suggestions are made rather explicit and detailed. The necessity for this is suggested by the experience of the writers, who have known such collections to consist of a few dried, shriveled, and undeterminable fragments of plants.

A portable plant-press is recommended for use in collecting. The collector will supply himself with sheets of thin, cheap paper (newspapers will serve the purpose), cut to the size of the press; these are used to separate the specimens as collected. The specimens should be large, including, if possible, underground parts, flowers, and fruit. As collected the specimens are temporarily placed between the sheets of paper in the plant-press. Special driers made for pressing plants are highly desirable; these are of soft, felt-like material and are very durable; two hundred will be sufficient for collections of ordinary size. The material collected should either be numbered (the numbers referring to data in the field book) or the related data should be included with each specimen. In addition to the information obtained from the Indians, each plant should bear the following data: locality collected, date collected, name of collector. The specimens brought from the field are immediately put into driers; if not pressed while fresh the plants will lose their color and will mold. Each plant is placed between two sheets of paper and two or more driers. The stack of plants, papers, and driers is weighted down with a heavy stone, and all is kept in a dry place. Driers should be changed at least once every 24 hours; the wet driers are placed in a sunny place to dry; plants should dry within four or five days.

Whenever possible, information about plants should be obtained from the Indian from the growing plant, as he is thus accustomed to see and know it or to gather it for use. It is sometimes important that the plant be examined by the informant in its natural environment, since it has been learned by experience that plants removed from the places in which they grew tend to confuse the informant and are identified by him only with considerable difficulty and uncertainty.

Probably the best way to exhibit ethnobotanical specimens in the museum is in such mounts as the “Riker specimen mounts,” by which the material may be displayed in an attractive, instructive, and permanent form. These mounts, made in various sizes, are provided with glass covers; the specimens are arranged on a
ground of raw cotton and held in place by pressure of the glass front. They are particularly useful in that they admit of grouping, under a glass cover in one frame, specimens that are to be associated in the mind of the observer. In each mount should be placed the plant specimen, with portions of products, if any, made from it, and all other material of ethnological interest. This method of exhibiting ethnobotanical specimens is recommended as being the most attractive and instructive, at the same time eliminating the danger of destruction of the exhibited material.

Another method of exhibiting ethnobotanical specimens is to mount them on heavy paper; such paper is specially prepared for the purpose. Each specimen is fastened to a sheet of the mounting paper by narrow strips of gummed paper; gummed Chinese linen paper may be obtained in sheets or in strips cut in varying lengths and widths. A label bearing the data desired is then pasted at one corner of the sheet, when the specimen is ready for exhibition. The content of the label is a matter of some consequence. It should include the scientific name of the plant, the common name, the Indian name with etymology, the locality and the date collected, the name of the collector, and brief mention of special points of interest connected with it.

The ethnologist who is collecting his own material should take pains to collect large specimens with all the parts present if possible in order that the botanist to whom they are sent may readily identify them. The writers have known instances in which plants submitted for classification could not be identified because of insufficient material, or because, if named the designations were followed by question marks. Although primarily an ethnological subject, ethnobotany does not exclude the necessity for accuracy as regards the botanical part of the work.

**Previous Ethnobotanical Studies**

Ethnobotany has received attention from a number of ethnologists; and valuable data have been accumulated. It is desirable that this material be assembled, so that the present state of ethnobotany may be better ascertained; and furthermore, that problems and methods of research may be outlined and work in this field be conducted systematically and with a definite purpose in view.

Harshberger\(^1\) in a paper published in 1890 discussed the purposes of ethnobotany and pointed out the importance of the subject in general. He made the interesting suggestion that ethnobotanical gardens, in which should be grown only aboriginal plants, be established in connection with museums. Havard\(^2\) has written two

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articles giving valuable accounts of the most important food and
drink plants of the North American Indians. Barrows has discussed
the ethnobotany of the Coahuilla Indians of southern California,
including much information on the general ethnology of the tribe.
Chamberlin gives lists of the plant names of the Ute and the Gosiute
Indians, including in many instances etymology and uses to which
the plants were put. Plants known to have been utilized by the
Luiseños of southern California are listed by Sparkman, with their
Luiseño, botanical, and English names.

Attention is drawn also to the papers by Powers, Coville, Fewkes,
Hough, Matthews, Stevenson and others.

1 Barrows, David Prescott, The Ethno-botany of the Coahuila Indians of Southern California, pp. 1-82, Chicago, 1900.
7 Hough, Walter, The Hopi in Relation to their Plant Environment, ibid., X, no. 2, pp. 33-44, 1897.
TEWA CONCEPTS OF PLANT LIFE

FUNCTIONS OF PLANT PARTS

We speak of the functions of certain plant parts; for example, we say the leaf makes food for the plant, the bark has a protective function, the colored petals of a flower attract insects. What are the Indians’ ideas of the functions of the parts of plants? It seems that the majority of their ideas arise directly from their observation of life phenomena; they do not arise as the result of thought and deliberation; there is little evidence of philosophizing or of inquiry into the reasons for the existence of things and conditions. They say that the leaves make the plant grow; when the leaves fall off the plant stops growing. The tree in the winter condition is not considered to be dead; they say it does not grow then because it has no leaves; the tree stays just the way it is in the fall until leaves come again. This idea arises purely from their observation of seasonal vegetative events; they have not thought out nor wondered how and why it is that the leaves cause resumption of growth. The leaves fall from the tree because they get ripe like fruit. If you ask them why a cottonwood sheds its leaves and a pine tree does not, they have no answer. They observe the fact, but so far as could be ascertained they have not thought about the reason therefor. We find no folklore connected with the great majority of phenomena relating to plant life. The roots of a tree are the parts upon which the plant sits. The word for root, pu, is the same as that for haunches, buttocks; base, bottom, or foot of inanimate objects. They have not observed that roots take up water, but they say the “roots have to get wet or the plant dies.” The bark is considered to be a protection to the tree; the word for bark, also for skin, is k’owò; the bark is the skin of the tree. Spines, thorns, prickles are not thought to have any protective function. The Tewa appear to have a very vague idea of sex in plants. To corn pollen, which is used so much by them in their religious ceremonies and which is produced by the plant in such great abundance, was ascribed no use; the informants had not observed that it falls on the corn silk and that its presence there is necessary for the development of the ear of corn. It is merely something finely divided and yellow, and holy when used in certain ways. A Tewa once made the statement, however, that one can not get a field of purely white corn because the wind always mixes the colors (see p. 84), but his idea was perhaps vague. The little plant is thought
to be within the seed; the informant said “the plant is in the seed, but you can not see it.” They say that when you put the seed into the ground and pour water on it, and it “gets a good shock,” it grows up. “Bees go to the flowers to get honey; after a while they get their young from [by the help of] the flower.”

**Classification of Plants**

Although the Tewa distinguish plants from animals and again from minerals, and also recognize more or less consciously such classes as trees, shrubs, small flowering plants, vines, grasses, fungi, mosses, etc., much as Europeans do, the classificatory words in the Tewa language are very few as compared with a language such as English.

There is not even a word meaning ‘plant’ unless it be *p’e*, which signifies primarily a ‘stiff long object,’ and is variously applied to stick, pole, stake, stalk, trunk, timber, log, stave, staff, plank, board, lumber, wood, plant. Yet the morphology of the language shows how consistently plants are recognized as not being animals or minerals. All nouns denoting plants and most nouns denoting parts of plants have vegetal gender,¹ a fact shown by a peculiar form of adjectives and verbs construed with such nouns. Thus *p’e p’i’y*, ‘red stick’ (*p’e*, stick; *p’, red), has vegetal gender: sing. *p’e p’i’y*, dual *p’e p’i’y*, 3+ plu. *p’e p’i’i’t*, ‘red dog’ (*tse*, dog; *p’, red), has animal gender: sing. *tse p’i’i’t*, dual *tse p’i’y*, 3+ plu. *tse p’i’y*; *ku p’i’i’t*, ‘red stone’ (*ku*, stone; *p’, red), has mineral gender: sing. *ku p’i’i’t*, dual *ku p’i’y*, 3+ plu. *ku p’i’y*.

’Akon, ‘field’, ‘open country’, prepounded to the names of plants in some cases distinguishes the wild from the cultivated variety; thus: ’akonsi, ‘wild onion’ (’akon, ‘field’; si, ‘onion’). Plants are distinguished also as mountain plants, valley plants, good plants, bad plants, etc. Edible wild plants are sometimes grouped as *tsiŋw¿’i’t*, ‘green things’ (*tsiŋw¿ blue, green*).

There is no general word meaning ‘tree’ unless it be *p’e*, ‘stiff long object,’ ‘stick,’ ‘lumber,’ ‘plant,’ referred to above. English ‘tree’ or Spanish arbol is sometimes rendered by *te*, *Populus wislizeni*, *pwi’, *Pinus brachyptera*, or some other name of a large ‘tree’ species; cf. *be*, ‘fruit tree,’ below.

There is no word meaning ‘shrub’ or ‘bush’ unless it be this same word *p’e*. The diminutive postbound *e* may be added to a tree name to show that the plant is dwarfed or young. Thus: *h¿y, Juniperus monosperma, h¿y’e*, dwarfed or young plant, bush, shrub of *Juniperus monosperma*.

¹ *P’in*, ‘mountain,’ and some other nouns which do not denote plants or parts of plants also have this gender.
Be, meaning originally ‘roundish fruit,’ as that of the chokecherry or wild rose, has become applied to all kinds of introduced fruits and also to the plants which bear them. Thus Be means fruit tree, as apple, peach, plum, or orange tree. Fruit tree may also be called Bepe (Be, roundish fruit, fruit, fruit tree; P'e stick, plant).

To, meaning originally piñon nut, i.e. nut of the To, ‘piñon tree,’ has become extended in application to all kinds of nuts except coconuts. Nut tree might be called Top'e (To, piñon nut, nut; P'e, stick, plant), but there would rarely be occasion to use so general and inclusive a term.

P'enh, ‘rubbish,’ ‘litter,’ ‘lint,’ ‘weed,’ ‘herbaceous plant,’ is very common, its application not being restricted to useless plants. It is the nearest equivalent of Spanish yerba. Cf. French chenille which originally meant only ‘rubbish’ and now usually means ‘caterpillar’.

Po'b, ‘flower,’ like the English word ‘flower,’ in the case of smaller plants of which the flowers are a conspicuous part often loosely denotes the entire plant. Several of the Tewa specific plant names contain po'b with the meaning ‘flower plant’.

There is no word meaning ‘vegetable’ in the sense of German Gemüse.

'Apa, ‘vine,’ exactly covers the meanings of the English ‘vine’.

Ta ‘grass,’ ‘hay’.

Te is said to signify almost any kind of fungus.

K'owà, ‘tegument,’ ‘skin,’ is applied to any skinlike vegetal growth, as many kinds of moss and lichen.

**DISCRIMINATION**

Small differences in plants are observed by the Tewa. It is remarkable how closely distinctions are made by them. For instance, they have a name for every one of the coniferous trees of the region; in these cases differences are not conspicuous. The ordinary individual among the whites does not distinguish the various coniferous trees, but, as a rule, calls them all pines. It is clear that the majority of white people are less observant and in many cases know far less about plant life than does the Indian, who is forced to acquire knowledge in this field by reason of his more direct dependence on plants.
PLANT NAMES OF THE TEWA

CHARACTER OF PLANT NAMES

A majority of the Tewa names of plants are descriptive, having reference to some striking characteristic of the plant, to its use, its habitat, etc. The same is true to a great extent of common English names of plants; for instance, ground ivy, monkey flower, pine drops, crane’s bill, monkshood, jack-in-the-pulpit, etc. Just as among English common names of plants we find some the reason for the original application of which is not understood, so we find similar cases among the Indians. Why do we call a certain tree dogwood? And why do the Tewa call a certain plant ‘coyote plant’? As a result of the descriptive character of plant names by far the larger proportion of them are compound. Following is a list of such names.

NON-COMPOUNDED TEWA PLANT NAMES

It will be seen from the following list that the plants which have non-compounded and distinctive names are the most common, conspicuous, and widely used ones of the region. The etymology of these words is unknown to the Tewa, the words being merely phonetic symbols employed to designate the various plants. There are comparatively few of these unetymologizable names. Many other plant names are formed by compounding them.

UNETYMOLOGIZABLE PLANT NAMES OF NATIVE ORIGIN

'Añá, chokecherry
'Awá, cattail
'Awi, Galium, bedstraw
Hú, one-seeded juniper
Jó, willow
Jó, chandelier cactus
Koja, Span. yerba de viberna
Kwá, oak
Kwu, skunk-bush
K'áwa, rose
K'wu, corn
Núnq, aspen
Nwaw, rock pine (pl 1)
Ota, globe mallow.
Po, squash, pumpkin
Po, Phragmites, “carrizo”
P'hy, four-o’clock
P'a, Yucca baccata, Span.
"datil"
P'y, large rabbit-brush
Qwá, mountain mahogany
Qwó, guaco
Sa, tobacco
Sagóbe, potato-like plant
Sa, Opuntia
Sek'ye, cotton
Si, onion
Su, amaranth
Ta, grass
Te, valley cottonwood
Te, fungus
Tu, bean
Tó, Rocky Mountain sage
Tó, piñon pine (pl. 1)
Tse, Douglas spruce
T'wy, alder
Wójoka, ragweed
It appears that about thirty Spanish plant names of etymology unknown to the Tewa and for which there are no common Tewa equivalents have been taken into the everyday language, and are used precisely as are the thirty-six native plant names listed above. In addition to these there are many other Spanish designations of plants with which the Tewa are familiar.

**PLANT NAMES OF SPANISH ORIGIN THAT HAVE NO COMMON EQUIVALENTS OF TEWA ORIGIN**

<table>
<thead>
<tr>
<th>Spanish Name</th>
<th>Tewa Equivalent</th>
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<tr>
<td>Almond</td>
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<td>Añil</td>
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<tr>
<td>Sunflower</td>
<td>Añil</td>
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<td>Celery</td>
<td>Apio</td>
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<td>Asparagus</td>
<td>Esparrago</td>
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<td>Banana</td>
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<td>Fresa</td>
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<td>Caña</td>
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<td>Col</td>
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11
PARTS AND PROPERTIES OF PLANTS

Tewa names designating parts of plants do not correspond closely with those used in English. A part which may be designated in English by a single term is frequently called by various terms in Tewa according to the species. Thus: Eng. ‘bark,’ Tewa $k'$ow&$, said of most trees, but gwib$e$, said of the one-seeded juniper; Eng. ‘stalk,’ Tewa $p'$e, said of many plants, but $k'$u$y$u, ‘corn stalk.’ Again, the opposite is frequently true. Thus Tewa $k$a is applied to leaves, petals of flowers, and needles of coniferous trees.

Another interesting feature is the extension of application of a word originally used to denote one conception only, to include related conceptions. Thus the Tewa called the piñon tree $t$o, while $t{o}$ is used for the piñon nut, the seed of the piñon tree, and original etymological connection between $t{o}$ and $t{o}$ seems certain after an examination of cognate words in other Tanoan languages. The Tewa of the present day, however, apply $t{o}$ also to the seeds of some other coniferous trees, thus: $q$wep$t{o}$, ‘seed of the rock pine’ ($q$wep$y$, rock pine; $t{o}$, piñon nut, nut), and even to any kind of introduced nut, peanuts, the kind of introduced nuts with which the Tewa are most familiar, being regularly called $t{o}$.

It is commonly supposed that the vocabularies of Indian languages are meager and that to translate scientific works into them would be almost impossible. Quite the opposite is true, at least as regards Tewa, the vocabulary of which is rich and capable of expressing abstract thought. Indeed, it would be possible to translate a treatise on botany into Tewa, although the translation would be somewhat clumsy.

FLOWERS, THEIR PARTS AND FUNCTIONS

$Pob$, ‘flower’, ‘flowering plant.’ This word applies to any flowers.

The name of the species is often prepounded, thus: $k'$a$'a$ po$b$, ‘wild rose flower’ ($k'$a$'a$, wild rose; po$b$, flower). po$b$ is evidently cognate with the second syllable of Isleta n$g$gar, ‘flower,’ etc.

The winged fruit of te$e$ti, ‘box-elder’ (see fig. 1), is also called po$b$. The relation of the wing to the seed is similar to that of the petals to the seed of a flower. The true flower of the box-elder is also called po$b$.

po$b$ is very commonly used meaning ‘flowering plant,’ as English flower.’ (Compare Tennyson’s “Flower in the crannied
POb, is not, however, applied to inflorescence, as of corn, yucca, etc., although the entire inflorescence is sometimes called in English the flower of the plant. See below under the heading Inflorescence.

Figurative uses of POb are pretty. Young men use the expression nAh POb, ‘my sweetheart,’ literally ‘my flower.’ POb is found in many compounded personal names of women, in which it appears as both a prepounded and a postpounded element. The other adjoined member of such names is frequently omitted in conversation, the woman or girl being called merely POb, ‘flower.’ A white cumulus cloud is called ‘ok’wà PObise’wi’, ‘white flower cloud’ (‘ok’wà, cloud; POb, flower; ise, white). Eagle down is called tsePOb, ‘eagle flower’ (tse, eagle; POb, flower).

Pobika, petal,’ literally ‘flower leaf’ (POb, flower; ka, leaf); cf. German Blumenblatt. Ka alone is also used, meaning ‘petal.’ Petals are called ‘flower leaves’ in many languages because of their leaf-like appearance. Many of the descriptive terms applied to leaves (see below) might also be applied to petals.

Pobitey, stamen,’ literally ‘flower tube’ (POb, flower; tey, tube, stalk bearing inflorescence). If the stamens resemble corn-silk they may be called se; see below. Pistil is usually also called Pobitey, not being distinguished from the stamens. If the difference between stamens and pistil is noticeable in that the latter lacks an anther, the pistil may be called Pobitem bewep’iy, ‘tube without a knob on the end’ (POb, flower; tey, tube; bewé, knob, small roundish thing; pi, negative); see Pobitembewe’e, below. The functional difference between stamen and pistil was not understood by the Tewa informants. The diminutive tey’e may well be substituted for tey.

Pobitembewe’e, anther,’ stigma,’ literally ‘flower-tube knob’ (POb, flower; tey, tube; bewé, small roundish thing; e, diminutive). The functional difference between anther and stigma was not known to the informants.

Se (Hano Tewa, seqé), ‘corn-silk’, ‘stamens and pistil resembling corn-silk’. The silk of corn consists of the styles which are attached to the grains (seeds) of corn (see fig. 6). Instead of se one also hears sesezë, literally ‘corn-silk flower’ (se, corn-silk; POb, flower), and se f yë (se, corn-silk; f yë, to fly?), both having exactly the same meaning and usage as se.

Kitu, ‘pollen’, literally ‘inflorescence kernel’ (këy, inflorescence; tu, kernel, distinguished by some speakers at least from tu, flesh, meat, by its tone). Kitu is applied to the pollen of any kind of flower or inflorescence, the etymology being merely dormant in the minds of the speakers. The fructifying action of pollen was not known to any of the informants. One may hear also kitu isej’iyë, ‘yellow pollen’ (kitu, pollen; ise, yellow).
Poðik'ęγγ, ‘pollen’, literally ‘flower meal’ (poði, flower; k’ęγγ, meal, flour). This term appears to be less used than kįtu. As in the case of kįtu one also hears poðik'ęγγ ĭsejįγγ,‘ yellow pollen, (poðik'ęγγ, pollen; ĭse, yellow).


Poðipu, ‘flower stem’ (poði, flower; pu, base, buttocks, root. stem).

Cf. kapu, leaf stem, ìepu, fruit stem, etc.; see below.

A flower bud is called 'op’u or poði'op’u. 'Op’u is used of any bud or young sprout, whether of flower, leaf, or stem. Of a flower bud which has not yet burst or opened the Tewa say: nápoði’ųmmy, ‘the flower is enveloped or covered’ (ná, it; poði, flower; ‘ųmmy, to envelop or cover; my, to be), or winápoði’ųmpį, ‘the flower has not yet burst’ (wi, negative; ná, it; poði, flower; pį, to burst; pi, negative), or nápoði’wamy, ‘the flower is an egg,’ ‘the flower is in the bud’ (ná, it; poði, flower; wa, egg; my, to be). See also wa, under Fruits, below: When the flower bud has opened, one may say: nápoði’ųny, ‘the flower has burst’ (ná, it; poði, flower; pųny, to burst). The Tewa informants volunteered the information that the pollen falls or is shed: nák@d&mq, ‘the pollen falls or is shed’ (ná, it; kâtu, pollen; $ųmmy, to fall or be shed), or nákštųjemu, ‘the pollen falls’ (ná, it; kâtu, pollen; jemu, to fall). When the petals start to wither, one may say: nápoði’inįde’e, ‘the flower is withering’ (ná, it; poði, flower; sįny, to wither; de’e, progressive). When the petals are withered and already dry, one may say: nápoði(ka)la, ‘the flower is dry or the flower petals are dry’ (ná, it; they; poði, flower; ka, leaf, petal; la, to be dry). Of dropping petals, one may say: nápoði’kat’ųnne, ‘the petals are falling or being shed’ (ná, it; they; poði, flower; ka, leaf, petal; t’ųnne, to fall, to be shed), or nápoði’kaįmeu, ‘the petals are falling’ (ná, it; they; poði, petal; ĭmeu, to fall). After the petals are shed, one might say of the flower: nápoði’tfu,’ the flower is dead’ (ná, it; poði, flower; t’fu, to be dead).

INFLORESCENCE

Kųŋ, ‘inflorescence,’ ‘tassel.’ Kųŋ refers to any group of flowers on a stem. Thus: k’ųŋkųŋ, ‘tassel of corn’ (k’ųŋ, corn; kųŋ, inflorescence) (see fig. 6); takųŋ, ‘inflorescence of grass’ (ta, grass; kųŋ, inflorescence) (see fig. 5); wąjokakųŋ, ‘inflorescence of common ragweed’ (wąjoka, common ragweed; kųŋ, inflorescence). In case the flowers are not scattered along the stalk but have their bases surrounded by a common involucre, one would hardly apply kųŋ, but would describe such a group as: ’iwągą’ nápoði’mmy, ‘the flowers are together’ (’iwągą, together in one place; ná, they; poði, flower; my, to be), or nápoði’qwa, ‘the flowers are tied together’ (ná, they; poði, flower; qwi, to tie; sa, to lie, to be, said of 3+).
tube,' 'stamen,' 'pistil,' 'stalk bearing inflorescence.'  

Thus:  

-  'stalk of corn tassel' (k' uy, corn plant; k', inflorescence; tey, tube, stalk bearing inflorescence);  
-  'stalk bearing inflorescence of 'Yucca baccata' (p'a, Yucca baccata; k', inflorescence; tey, tube, stalk bearing inflorescence).

Kal'a, 'cluster' (Hano). Thus:  

-  te kal'a, 'clustered catkins of the cotton-wood tree.'  
-  The same term would be applied to a cluster of grapes.

Tjaka, 'bunch' (Hano). Thus:  

-  tenjotjaka, bunch of white fir foliage.

SEEDS AND FRUITS: THEIR PARTS AND FUNCTIONS

Pe, 'seed,' 'fruit,' 'crop.' This is the adjective pe, 'ripe,' 'mature,' used as a noun; for adjectival use of pe see below.  

-  Pe is applied to any seed or fruit produced by any plant, also to crops in the sense of seeds or fruits collectively. Rarely it refers to 'crops,' meaning matured whole plants or any part or parts of matured plants.  
-  Thus:  
  -  t'ajt' pe, 'seed, fruit, or berry of wheat,' 'wheat crop,' not including or excluding stalks, leaves, or roots (t'ajt', wheat; pe, seed, fruit, crop).  
-  Pe may be used instead of t'aj, Io, k'e, k'a, pe, peg' e, k'oal, and the names of introduced nuts and fruits; see below. Pe tends especially to supplant k'a and peg'e.  
-  Thus:  
  -  h'upe, 'berry of one-seeded juniper,' instead of h'upe peg'e (h', one-seeded juniper; pe, seed, fruit, crop); kw'pe, 'acorn,' instead of kw'k'a (kw', oak tree; pe, seed, fruit, crop). In the case of fruits to which none of the other words applies very well, pe is regularly applied.  
-  Thus:  
  -  'adepe, 'fruit of the chokecherry' (c'ade, chokecherry; pe, seed, fruit, crop); sge'pe, 'prickly-pear or Opuntia' (sge, Opuntia; pe, seed, fruit, crop). Pe is used as a second member of compounds, such as pe'pe, k'a'pe, he'pe, etc.;  
-  see below. See also pe, 'immature kernel of corn either on the cob or cut off the cob,' listed below, which may be the same word.

P'epe, 'seed,' 'fruit,' 'crop' (p'e, stick, plant; pe, seed, fruit, crop). This is an equivalent of the non-compounded pe.

T'ajy, 'seed.' This word is applied to any seed. It may be, but usually is not, applied instead of Io or k'a; see below. Introduced nuts may be called t'ajy, just as we would call them seeds, but the common name for them is Io.
'piñon nut,' 'nut.' As stated above, an examination of cognate words in other Tanoan languages leads us to believe that $\pi$ is etymologically related to $\pi$, 'piñon tree,' and that the original signification of $\pi$ is 'piñon nut.' The present application of $\pi$ to the seeds of the rock pine and to introduced nuts is probably a more recent extension of the use of the word. Thus: $\text{gaen}_\pi$, 'seed or nut of the rock pine' ($\text{gaw}_\pi$ rock pine; $\pi$, piñon nut, nut); for names of introduced nuts see under names of plants, below.

$\text{bev}_\pi$, 'small roundish object,' 'cone of coniferous tree.' $\text{bev}_\pi$ is said to be used of the cones of coniferous trees only in the compounds $\text{timbev}_\pi$, 'cone with seeds in it' ($\text{t}_\pi$y seed; $\text{bev}_\pi$, small roundish object, cone), and $\text{tobev}_\pi$, 'cone with nuts in it' ($\pi$, piñon nut, nut; $\text{bev}_\pi$, small roundish object, cone). Like $\text{buju}$ (see below) $\text{bev}_\pi$ refers of course to the shape. An empty cone may be distinguished by postjoining $\text{k'ow}_\pi$, 'skin,' 'husk,' or by using $\text{k'ow}_\pi$ alone; also by saying $\text{win}_\pi$, 'it has no seeds' ($\text{win}_\pi$ negative; $\text{n}_\pi$, it; $\text{t}_\pi$y, seed; $\text{mu}_\pi$, to have; $\pi$, negative).

$\text{buju}$, 'small roundish object,' 'cone of coniferous tree.' Cf. $\text{bev}_\pi$, above, the usage of which this word exactly parallels.

$\text{k'_e}$ (Hano Tewa $\text{k'ili}$), 'grain of corn,' 'small bud of cottonwood flower.' The commonest compounds are said to be: $\text{k'_uyk'_e}$, 'grain of corn' ($\text{k'_uy}$, corn plant; $\text{k'_e}$, grain, in this sense), and $\text{tek'_e}$, 'flower bud of valley cottonwood' ($\text{te}$, valley cottonwood; $\text{k'_e}$, grain, bud, in bud, in this sense).

$\text{k'_o}_\pi$, 'ear of corn husked or not husked.' The word has this one meaning only.

$\text{k'_a}$, 'acorn,' 'fruit of the skunk-bush.' This word appears to be used of these two fruits only. The commonest compounds are said to be $\text{kwo}_\pi \text{k'_a}$, 'acorn' ($\text{kwo}_\pi$, oak tree; $\text{k'_a}$, acorn, fruit of the skunk-bush), and $\text{kuy}_\pi$, 'fruit of the skunk-bush' ($\text{ku}_\pi$, skunk-bush; $\text{k'_a}$, acorn, fruit of the skunk-bush).

$\text{k'_a}_\pi$, 'fruit of the skunk-bush' ($\text{k'_a}$, acorn, fruit of the skunk-bush; $\pi$, seed, fruit, crop). The use of the word is similar to that of $\text{k'_a}$, above.

$\text{be}_\pi$, 'roundish fruit,' 'apple,' 'any kind of introduced fruit.' Thus: $\text{k'_a}_\pi \text{abe}_\pi$, 'fruit of the wild or introduced rose' ($\text{k'_a}_\pi$ rose: $\text{be}_\pi$, apple, introduced fruit) is heard as well as $\text{k'_a}_\pi \text{abe}_\pi$ ($\text{k'_a}_\pi$, rose; $\pi$, seed, fruit, crop). $\text{be}_\pi$ evidently refers to roundish shape and is connected with $\text{beq}_\pi$, 'small and roundish like a ball,' $\text{buq}_\pi$, 'large and roundish like a ball,' etc.
Wibe, wibwu, 'prickly, roundish seed-pod' (wib, thorn, pricker; wibe, wibwu, roundish thing). Of smaller pods wibe would be used, of larger ones wibwu. It happened that the informants applied these compounds only to the seeds of the Datura meteloides, using the compound sip emwebe, 'prickly, roundish seed pod of Datura meteloides' (wib, thorn, pricker; webe, small thing roundish like a ball). Be or bu could hardly be used alone with this meaning.

Bepe, 'apple,' 'any kind of introduced fruit' (be, apples, introduced fruit; pe, seed, fruit, crop). Use and meaning are quite identical with those of non-compounded be. Bepe is used meaning 'fruit crop,' but be is also used with this meaning.

Pegè, 'berry.' This word was applied by the informants to the fruit of the one-seeded juniper, hypegè (hy, one-seeded juniper; pegè, berry) being a common compound. The informants stated that they had heard pegè applied also to the fruit of the chokecherry and of the introduced currant. As nearly as the writers can understand, the meaning of pegè is 'tough, leathery berry.'

Pegèpe, 'berry' (pegè, berry; pe, seed, fruit, crop). Use and meaning are identical with those of pegè, above.

Wa, 'egg,' 'green pod of milkweed.' Compare also the expression: nopedawamy 'the flower is an egg,' meaning 'the flower is young or in the bud' (nà, it; podá, flower; wa, egg; my, to be), listed under Flower, above.

The Tewa names denoting all kinds of introduced fruits and nuts should also be classed here, since these names apply both to the plant and to the fruit. They will be found below. All these names admit of being postpounded with pe, 'seed,' 'fruit,' 'crop.'

Múñax, 'bunch or cluster of anything,' 'bunch or cluster of fruit.' Thus: 'ubumúñax, 'bunch of grapes' ('ubù, grapes; múñax, bunch, cluster).

Mùy, 'bag,' 'sack,' 'pod.' Mùy often refers both to pod and contents. Thus: tumùy, 'bean-pod or bean' (tu, bean plant, bean; mùy, pod). Apparently it may be applied also to the round fruit of the squash. Thus, in a war song used at Hano: 'va yóbi:bi pokyemele nan dampomy patti, 'your son's skull I have made into a squash-bag' ('va, demonstrative, 'he'; yó, you I.; bi, possessive; e, son, child; bi, possessive; pokyemele, 'head-ball'; nay, unprefixed pronoun 1st sing.; dàm, emphatic form of inseparable pronoun òdo, 'I—it'; pomy, 'squash-bag'; patti < pà, 'make,' 'do,' verbal form expressing antecedent circumstance).
Oh, 'down,' 'fluff.'

Poði, 'flower.' 'fruit of the box-elder,' 'fluff of cottonwood seeds.' Thus: teujuni, 'box-elder seed' of flower-like appearance (tejena, box-elder; poði, flower); teujynoði, 'cottonwood fluff' (tejyy, cottonwood seed-pod; poði, flower). The latter is called also teujyoku ('oku, down).

Pu, 'base,' 'buttocks,' 'root,' 'stem.' Pu is used of the stem of fruit. Thus: bhepu, 'stem of fruit' (be, apple, introduced fruit; pu, base, stem-); tämnu, 'stem of a seed' (tny, seed; pu, base, stem). But cf. k'apu below.

Ja, 'ear-wax,' 'the rough surface of tanned deerskin,' 'the bloom on the surface of fruits and plants.' Thus: 'ubàJa, 'the bloom or fine bluish dust on the surface of a grape' ('ubà, grape; Ja, ear-wax, bloom).

Telu, 'unripe or ripe seed-pod of the female cottonwood of any species.' When these burst, white fluff comes forth from them which is called teujpoði (poði, flower) or teujyoku ('oku, down).

Tu, 'kernel of a seed.' Commonly used compounds are täntu, 'kernel of a seed' (tny, seed; tu, kernel), and ṭotu, 'kernel of a nut' (to, piñon nut, nut; tu, kernel). Tu, 'kernel,' has a level tone; tu, 'flesh,' has a circumflex tone.

K'eyu, 'meal,' 'flour,' 'ground-up seeds.'

K'owà, 'skin,' ' tegument,' 'shell,' 'husk,' 'bark.' Thus: lok'owà, 'nut shell' (to, piñon nut, nut; k'owà, skin, shell); k'owàk'owà, 'husk of ear of corn' (k'owà, ear of corn; k'owà, skin, husk).

K'apu, 'handle' of anything, 'stem of an ear of corn.' With reference to plants the term appears to be used only of the stem of an ear of corn, being equivalent to k'owàk'apu, 'stem of an ear of corn' (k'owà, ear of corn; k'apu, handle, stem of corn ear). The second syllable of k'apu appears to be pu, base. Stem of ear of corn would hardly be called k'owàpu.

Tebi, 'core,' of apple, pear, etc; 'pith.' See page 24.

Kej, 'wing,' 'corncob.' For 'corncob' the frequent compound is k'owàkej, 'corncob' (k'owà, ear of corn; kej, wing of bird or other flying creature, cob). Kej occurs also as second member of p'ekej, 'bone' (p'e, stick, long hard thing; kej, wing, cob). Whether kej may be said of skeleton-like parts of other plants was not ascertained.

Of a flower going to seed the Tewa say: nápoði, 'the flower goes to seed' (ná, it; poði, flower; tyy, seed; puwà, to become; mëy, to go). The ordinary adjective denoting ripeness is pe. Thus: to pe'i, 'ripe piñon nut' (to, piñon nut; pe, ripe); to pepei, 'un-
ripe piñon nut’ (lo, piñon nut; pe, ripe; pi, negative). Of all fruits which are green when unripe tsìyìwà, 'green,' may be used. Thus: betsìyìwà'iy, green apple’ (be, apple; tsìyìwà, green). Of gourds, squashes, pumpkins, muskmelons, watermelons, and perhaps of some other fruits, ke, ‘hard,’ is used of ripeness, while ’owa, ‘soft’ is applied to unripe condition. Thus: sanjiù ke'iy, ‘hard, ripe watermelon’ (sanjiù, watermelon < Span. sandía; ke, hard); sanjiù'owa'iy, ‘soft, unripe watermelon’ (sanjiù, watermelon < Span. sandía; ’owa, soft). But of other fruits ke, ‘hard,’ is used of unripeness and ’owa, ‘soft,’ of ripeness or mellowness, just as in English. Thus: be ke'iy, ‘hard, unripe apple’ (be, apple; ke, hard); be’owa'iy, ‘soft, mellow apple’ (be, apple; ’owa, soft). The adjectives given above may of course also be used predicatively. Thus: nápemy, ‘it, is ripe’ (ná, it; pe, ripe; my, to be); winápemy'il, ‘it is not ripe’ (wi, negative; ná, it; pe, ripe; my, to be; pi, negative).

LEAVES, THEIR PARTS AND FUNCTIONS

LEAVES IN GENERAL

Ka (Hano Tewa, kala), ‘leaf.’ Thus: k'yìkka, ‘corn leaf’ (k'yì, corn; ka, leaf).

Kap'á, ‘leaf surface’ (ka, leaf; p'a, large, thin, flat,; and roundish).

Kak'iyqe, ‘leaf edge’ (ka, leaf; kiyqe, edge).

Katí, ‘leaf point’ (ka, leaf; tsì, point).

Ká'okoñ, ‘leaf vein’, ‘leaf fiber ’(ka, leaf;ío, vein, artery).

Ká'po, ‘leaf juice’, literally ‘leaf water’ (ka, leaf; po, water).

Kápu, ‘leaf stem’(ka, leaf; pu, base, stem).

Of leaves falling the Tewa say: nákath'únnx, ‘the leaves fall’(ná, it, they; ka, leaf; túnnx, to fall); or nákajemut, ‘the leaves fall’(ná, it, they; ka, leaf; jemut, to fall).

SIZE AND SHAPE OF LEAVES

Káhe'iy, ‘big leaf’ (ka, leaf; he, big). Kajo (ka, leaf; jo, augmentative) may not, be used meaning ‘big leaf.’

Káhiñe'iy, ‘little’ leaf’ (ka, leaf; hiñe, little).

Ká'e, ‘little leaf’ (ka, leaf; e diminutive).

Káhe'iy, ‘long leaf’ (ka, leaf; he, long).

Káhiñe'iy, ‘short leaf’ (ka, leaf; hiñe, short). Same as ‘little leaf,’ above.

Káp'ag'iy, ‘big flat leaf’ (ka, leaf; p'agì, large, thin, flat, and roundish).
Ka p'iğiyi, 'little flat leaf' (ka, leaf; p'iği, small, thin, flat, and roundish).

Ka p'agiğiyi, 'broad flat leaf' (ka, leaf; p'agiği, large, thin, flat, and roundish). Cf. 'big flat leaf,' above.

Ka seqiğyi, 'slender leaf' (ka, leaf; seqiğ, slender). This term is applied to the needles of coniferous trees and to other slender leaves.

Ka t'agiğiyi, 'big round leaf' (ka, leaf; t'agiği, large, thin, and round).

Ka t'iğiğiyi, 'little round leaf' (ka, leaf; t'igiği, small, thin, and round).

Piyka, 'heart-shaped leaf' (piy, heart; ka, leaf).

Ka ka'iğ, 'thick leaf' (ka, leaf; ka, thick).

Ka kapiiğ, 'thin leaf' (ka, leaf; ka, thick; pi, negative)

**COMPOUND LEAVES**

Ka wijekka'iğ, 'bifoliolate leaf' (ka, leaf; wijë, two; ka, leaf).

Ka pojeka'iğ, 'trifoliolate leaf' (ka, leaf; pojë, three; ka, leaf).

Ka jonúka'iğ, 'quadrifoliolate leaf' (ka, leaf; jonú, four; ka, leaf).

If a single leaf has a deeply serrated edge it is not considered to be a multifoliolate leaf, but is called ka seqiğiğ, 'zigzag-edged leaf' (ka, leaf; seqiğ, zigzagged).

**SURFACE OF LEAVES**

Ka 'qına'iğ, 'smooth leaf,' 'glabrous leaf' (ka, leaf; qına, smooth).

Ka 'otsaiğ, 'shiny, smooth leaf,' 'glaucous leaf' (ka, leaf; 'otsa, shiny).

Ka ko'iğ, 'rough leaf' (ka, leaf; ko, rough).

Ka þük'iği, 'ridged leaf' (ka, leaf; þük'i, backbone, vertebral column).

Ka heq'iğ, 'grooved leaf' (ka, leaf; heqë, arroyito, gulch, groove).

Ka 'öküz'iği, 'veined leaf' (ka, leaf; 'öküz, vein, artery).

Ka p'ö'iğ, 'hairy leaf,' 'pubescent leaf,' 'puberulent leaf,' 'woolly leaf' (ka, leaf; p'o, hairy).

Ka p'ökosp'ondiğiğ, 'coarse-haired leaf,' 'hispid leaf' (ka, leaf; p'ö, hair; kosp'ond, coarse).

Ka 'oku'iğ, 'downy leaf,' 'fluffy leaf' (ka, leaf; 'oku, downy, down, fluffy, fluff).

Ka jundfiğ, 'prickly leaf' (ka, leaf; jund, to pierce)

Ka wyniğ, 'thorny leaf' (ka, leaf; wyn, thorny).

Ka ısibèiğ, 'sticky leaf' (ka, leaf; ısibè, sticky).
These adjectives have also predicative forms of course. Thus: 

*nāp'omy*, ‘it is hairy’ (*nā*, it; *p'o*, hairy; *my*, to be); *nātisibeto,* ‘it is sticky’ (*nā*, it; *tsidē*, sticky; *to*, to make).

**MARGIN OF LEAVES**

*Ka kīngè*, ‘edge of a leaf’ (*ka*, leaf; *kīngè*, edge).

*Ka kīngèqel'ay*, ‘smooth-edged leaf’ (*ka*, leaf; *kīngè*, edge; *qel'ay*, smooth).

*Ka kīngèqel'awl'iy*, ‘zigzag-edged leaf’ (*ka*, leaf; *kīngè*, edge; *qel'awl*, zigzagged).

*Ka kīngèqel'awl'iy*, ‘tooth-edged leaf,’ ‘dentate leaf’ (*ka*, leaf; *kīngè*, edge; *qel'awl*, toothed).

*Ka kīngèqel'awl'iy*, ‘torn-edged leaf’ (*ka*, leaf; *kīngè*, edge; *qel'awl*, torn crosswise to the grain or fiber).

**TENDRIL**

*Aqwé*, ‘tendril.’ The etymology of this word is uncertain. The syllable *qwé* clearly means fiber; see below. *A* may be the verb meaning ‘to grow’ or may be the same as the first syllable of *ap'e*, ‘vine’ or, it is connected perhaps with Hano Tewa *'awo*, ‘tendril,’ ‘to spread’ (said of plant). A slender tendril is called *aqwé segí'iy*, ‘slender tendril’ (*aqwé*, tendril; *segí*, slender). A curled tendril is called *aqwé qe3e*, ‘tendril curl’ (*aqwé*, tendril; *qe3e*, small roundish thing). Tendrils are said to be *mqwagh3*, ‘like hands’ (*mq*, hand; *qwa*, like).

**STALK, TRUNK, STUMP, STEM, BRANCH, TWIG, JOINT**

*P'e*, ‘stick,’ ‘stalk,’ ‘pole,’ ‘trunk,’ ‘log,’ ‘wood,’ ‘plant.’ *P'e* refers to almost any long stiff object. It is the only Tewa word meaning ‘plant’ in general, but is rarely used with this meaning. The staff of authority of the Pueblo governors is called *p'e*, or sometimes *tujop'e*, ‘governor’s stick’ (*tujö*, governor; *p'e*, stick). For *p'e* meaning ‘wood’ see page 23.

*Uuto*, ‘walking stick.’ Walking sticks were made of various kinds of wood and were used mostly by old or crippled people. Perhaps this word hardly belongs here. Cf. *'umup'e*, below.

*Ump'e*, ‘prayer stick.’ Cf. *'umuto*, above.

*Pugè*, ‘lower part,’ ‘base or trunk of a tree’ (*pu*, base, buttocks; *gè*, locative). When the trunk of a tree is referred to, one usually names the kind of tree, postpounding *pugè*. Thus: *tepugè*, ‘lower part or trunk of a cottonwood tree’ (*te*, Populus wislizeni; *pugè*, lower part, trunk).
K"y'y, 'cornstalk.' This word refers only to the stalk of the corn plant. K"y'y in some irregular way may be connected etymologically with k'y, 'corn plant.'

Tey, 'tube,' 'hollow stalk.' Tey refers to such a stalk as that of the yucca. Thus: p'atey, 'inflorescence stalk of Yucca baccata' (p'a, Yucca baccata; tey, tube, hollow stalk). See under Inflorescence, page 15.

Pube, 'stump.' This word refers to the stump of any tree or plant. Its etymology is not understood by the Indians. The first syllable appears to be pu, 'base,' 'buttocks.'

Pu, 'base,' 'stem.' This is the word which means also 'buttocks' and 'root.' It is applied to the stem of a flower, leaf, or fruit as Germans might apply Stiel. Thus: podipu, 'flower stem' (podi, flower; pu, base, stem).

K'apu, 'stem of an ear of corn.' This word means also 'handle' (of anything). Applied to plants it seems to be used only of the stern of k'oal, 'ear of corn.' See page 18.

Waje, 'bough,' 'branch.' Waje is applied to boughs and branches of all plants, especially to those of trees. Thus: bewaje, 'branch of a fruit tree' (be, apple, fruit; waje, bough, branch).

Waj'ko, 'bough,' 'branch,' literally 'bough arm,' 'branch arm' (waj'e, bough, branch; k'o, arm). The meaning and usage seem to be identical with those of the uncompounded waje. Thus: tewaj'ko, 'branch of a valley cottonwood tree' (te, Populus wislizeni; waj'ko, bough, branch).

Waj'e or waj'ko'e, 'twig,' 'twiglet' (waj'e or waj'ko, bough, branch; e, diminutive).

Qwe, 'joint,' 'node,' 'internode.' Qwe is used as ambiguously as is English 'joint,' referring both to the nodes of a stem and to the sections of stem between the nodes. The word seems to refer more properly to the nodes, qwejwe, 'between the joints' (qwe, node, internode; jwe, between) being applicable to internodes. A joint of a stovepipe is, however, regularly called qwe.

'Op'u, 'bud.' 'Op'u refers to buds of stalks, stems, twigs, etc., as well as to those of flowers and leaves. Thus: waje op'u, 'bud of a branch' (waje, bough, branch; op'u, bud).

K'e (Hano Tewa, k'ili), 'grain,' 'kernel,' 'bud of grain-like shape.' This is applied particularly to the red buds of the cottonwood of any species which are seen on the trees early in the spring. These are eaten, especially by the children.
Root

Pu, 'base,' 'buttocks,' 'stem,' 'root.' Thus: k'ympu, 'corn root' (k'yu, corn plant; pu, root). Rootlet is called pu'e, 'little root' (pu, root; 'e, diminutive).

Leaf-sheath

K'y'uk'owà, 'leaf-sheath of corn' (k'y'u, cornstalk; k'owà, tegument, skin, bark).

Tap'ek'owà, 'leaf-sheath of a stalk of grass' (ta, grass; p'e, stalk; k'owà, tegument, skin, bark).

K'owà, 'tegument,' either alone or postpounded, would undoubtedly be the term applied to any leaf-sheath.

Wood, Pith

P'e, 'stick,' 'stalk,' 'stem,' 'pole,' 'trunk,' 'log,' 'lumber,' 'wood,' 'plant.' P'e is used of wood as palo and madera are used in Spanish, but Spanish leña in the sense of 'firewood' is translated sq. P'e is never used meaning 'firewood.' (Hodge gives as "Firewood or Timber" clan, San Juan and Santa Clara Pe-tidóa, San Ildefonso Pe-tidóa, Hano Pe-tówa (towù, people). The rendering of p'e in these clan names as "firewood" is incorrect according to the writers' Indian informants.)

P'e is common as the first element of compounds, where it must be rendered by 'wood' or 'wooden' in English. Thus: p'ekutsandà, 'wooden spoon' (p'e, stick, wood; kutsandà, spoon <Spanish cucharà).

Green wood is called p'e'otf w'iý (p'e, stick, wood; otf'u, fresh, green, wet); dry or seasoned wood is called p'e'otf'iy (p'e, stick, wood; otf, dry).

Sq, 'firewood.' This usually consists of dead, fallen, or drifted wood, picked up or torn off; but the same word is applied to trees felled for firewood. See p'e.

A Tewa of Santa Clara told the following story: Long ago people had no fire and were trying to find it—who knows how they cooked! Perhaps they ate berries. They made four holes in a row in a slab of ñwàyy and then they twirled a stick in the holes and out of one of the holes came fire.

A few billets of firewood, carried by means of a cord on a man's shoulder and thrown down beside a woman's door, is considered an

When a woman is about to be confined, her husband’s father often brings her firewood.

Pope, ‘driftwood.’ This is gathered and used as firewood. Considerable quantities of driftwood are to be found along the Rio Grande.

Texbí, ‘pith,’ ‘core’ of fruit. See page 18. This word is the adjective tebxí ‘soft,’ used as a noun. It refers to the soft, light, spongy tissue found in the stems of some plants. Thus: k’uy’utexbí, ‘pith of the cornstalk’ (k’uy, cornstalk; tebxí, pith).

Fiber

q wi, ‘fiber.’ Thus: p’aqwi, ‘yucca fiber’ (p’a, Yucca baccata; qwi, fiber). We possibly have this word also in ’aqwi, ‘Tendril,’ and qwebdé, ‘shreddy bark.’ See page 21.

Pwá, ‘string.’ This word usually applies to fiber already made into string, but might be said of any kind of fiber.

Juice

Po, ‘water,’ ‘juice.’ This word covers all the meanings of English ‘water,’ ‘juice.’ Thus: k’uy’ypo, ‘juice of a cornstalk’ (k’uy, cornstalk; po, water); tepo, ‘sap of a valley cottonwood tree’ (te, Populus wislizeni; po, water, juice).

’Ápo, ‘sweet juice,’ ‘syrup’ (‘a, sweetness; po, water).

Melasá, ‘sweet juice,’ ‘syrup’ (< Spanish melaza).

Gum

Kwe, ‘gum.’ The gum of various plants was chewed. Gum was also much used for sticking things together. Thus: nyawnykwe, ‘gum or pitch of the rock pine ’(nyawny, rock pine; kwe, gum). Chewing-gum is called merely kwe.

Bark

K’owá, ‘tegument,’ ‘skin,’ ‘bark.’ This is the commonest and most inclusive word meaning ‘bark.’ Thus: tek’owá, ‘valley cottonwood bark’ (te, Populus wislizeni; k’owá, tegument, bark). The general name for ‘moss’ is kúk’owá, ‘rock skin’ (kú, rock; k’owá, tegument, bark).

1 In the seventeenth century women went to fetch firewood; see Benavides, Memorial (pp. 32,76): “Nacion Taos . . . una vieja hechizera, la qual, á título de ir por leña al campo, sacó á otras quatro mugeres buenas Cristianas.” At Santa Clara, after peace had been made with the Apaches de Navajo in September, 1629, “Salian hasta las viejas por leña por aquella parte.” The acquisition of donkeys, and subsequently of horses and wagons, with iron tools, by the men, has removed wood-getting from the women’s sphere of labor. Occasionally an old widow, or a woman whose husband is an invalid, may be seen chopping wood or gathering fallen branches.
'Ok'owà, 'bark' ('o, unexplained; k'owà, tegument, bark). This word has been heard only at San Juan Pueblo, where k'owà is also in use. Thus: te'ok'owà, 'cottonwood bark' (te, Populus wislizeni; 'ok'owà, bark).

Qwibi (Hano Tewa, qwí), 'shreddy bark' (qwí, fiber; ñè?). So far as could be learned, qwibi is said of the bark of the one-seeded juniper only. This is very shreddy and is a favorite substance for kindling fires. Thus: huqwibi (Hano Tewa, huqwí), 'bark of the one-seeded juniper' (hu, one-seeded juniper; qwí, shreddy bark). Hu'k'owà, 'bark of the one-seeded juniper' (hu, one-seeded juniper; k'owà, tegument, bark) may also be used.1

Hair, Spine, Thorn

P'o, 'hair.' This word is said of any kind of hair on animals or plants. The down of birds is called thus. The diminutive form is p'o,e, 'little hair' (p'o, hair; e, diminutive).

Ke, 'sharp-pointed thing.' This is the adjective ke, 'sharp-pointed', used as a noun. Thus: p'ake, 'sharp point at the end of a yucca leaf' (p'a, Yucca baccata; ke, sharp-pointed thing).

Nywe, 'spine', 'thorn.' This word is applied to cactus spines and all kinds of thorns. Thus: jovywe, 'spine of the long cactus' (jo, long cactus; nywe, spine); k'a'a'nywe, 'rose thorn' (k'a'a, rose; nywe, spine).

'Agusà, 'needle' (< Span. aguja). This word may be used of cactus spines: joo'agusà, 'spine of the long cactus' (jo, long cactus; 'agusà, needle).

One might mention here also verbs, as n'ke, 'it is sharp' (n, it; ke, to be sharp); d'gyg, 'it pricks me' (d, it me; gyg, to pierce, to prick).

1 Is Gatschet's "Keres utiku, Rinde" (in Zwölf Sprachen aus dem Südwesten Nordamerikas, p. 61, Weimar, 1876), a misprint for Rind or Rinder? The Cochiti call cattle wàk; the Tewa of Hano, wàk (< Span. vaca, cow).
GROWTH OF PLANTS

'A, 'to grow.' Thus: nā'ā, 'it grows' (nā, it; 'ā, to grow); nā'ā-āŋgā, 'it grows slowly' (nā, it; 'ā, to grow; āŋgā, slow); s&x-@&, 'it grows fast' (nā, it; 'ā, to grow; āŋgā, fast). Hano Tewa, 'āvō, 'spread wide,' applied to tendrils of vines, squashes, etc., and apparently to trees of spreading foliage. Thus: 'āvō tsquw, 'spread-wide greenness,' a female personal name given by the White Fir clan at Hano.

Pi, 'to come up;' 'to grow up.' Thus: nā'pi, 'it comes up' (nā, it; pī, to come up). This is said of a plant sprouting and growing up out of the ground.

Pa, 'to burst,' 'to crack.' This is said of a plant unfolding or opening. Thus: sanā'papo'o, 'the tobacco bursts open or unfolds' (sa, tobacco; nā, it; pā, to burst; po'o, to become).

Of leaves (or flowers) opening and spreading wide the Tewa say di:kawalsí, di:bípodíwalsí 'the 3+ leaves open themselves,' 'the 3+ flowers open themselves' (dí:di, prefixed reflexive pronoun third person 3+ plural; ka, leaf; po:di, flower; wali, to spread open). Thus, in a war-song sung at Hano: 'iwemz' ali:jowá íemé peggé dí:kálawalsí, thence the sunflowers, bursting open on every side, spread wide their leaves ('iwemz, Hano dialectic emphatic form of 'iwem, thence; ali:jowá, Hano name for 'sunflower'? species; íemé, in all directions; peggé, bursting; dí:di, prefixed reflexive pronoun third person 3+ plural; ka, Hano dialectic form of ka, leaf; wali, to spread open). The same expression is used figuratively of clouds, thus: 'ok'úwawíemé di:bípodí wali, 'the clouds in all directions open their flowers' ('ok'úwawa, clouds; íemé, in every direction; dí:di, prefixed reflexive pronoun third person 3+ plural; po:di, flower; wali, to spread open).

HABITS OF GROWTH

Nyin, 'to stand.' Thus: nānyin, 'it stands' (nā, it; nyin, to stand).

'Ayin, 'to grow in a standing position' ('ā, to grow; nyin, to stand). Thus: nā'āyin, 'it grows in a standing position' (nā, it; 'ā, to grow; nyin, to stand).

Ko, 'to lie.' Thus: nāko, 'it lies' (nā, it; ko, to lie).

'Lko, 'to grow in a lying position' ('ā, to grow; ko, to lie). Thus: nā'lko, 'it grows in a lying position' (nā, it; 'ā, to grow; ko, to lie).
Məp, 'to go.' Thus: náməp, 'it sends out growth' (nə, it; məp, to go).

'Aməp, 'to grow sending out growth' (ˈə, to grow; məp, to go).

Thus: nə'aməp, 'it grows sending out growth' (nə, it; ˈə, to grow; məp, to go).

Jiʔi, 'to go about.' Thus: nəjiʔi, 'it grows all about' (nə, it; jiʔi, to go about).

'Ajjiʔ, 'to grow spreading about' (ˈə, to grow; jiʔi, to go about).

P'iːr, 'interlaced.' Thus: nəp'iːrmy, 'it is interlaced' (nə, it; p'iːr, interlaced; my, to be). This is said of vines which grow through other plants.

**DENSE GROWTH, FOREST, GROVE**

Kə, 'thick', 'dense', 'dense growth', 'forest'. This word is used as an adjective and as a noun. Thus: ˈlokaʔə, 'a sagebrush plant of dense growth' (ˈlo, sagebrush plant; kə, thick, dense); ˈloka 'sagebrush thicket,' 'place where the sagebrush is thick' (ˈlo, sagebrush; kə, dense growth, forest). Kə is used alone meaning forest, just as the Mexicans use monte and bosque. With names of geographical features postjoined, kə may be translated 'wooded' or 'where there is much vegetal growth.' Thus: ˈlokaʔakonu, 'a plain or valley where the sagebrush grows thick' (ˈlo, sagebrush; kə, thick, thick growth, forest; ˈakonu, plain, valley); ˈkabugə, 'a low place where there is much vegetal growth' (kə, thick, thick growth; ˈbugə, low roundish place).

Boi, 'thing roundish like a ball, 'pile,' 'clung.' Boi is said of large, ˈviː of small size. Thus: teboi, 'grove of cottonwood trees' (te, *Populus wislizeni*; boi, grove). Often kə, 'thick' is prejoined to boi. Thus: ˈkaboi, 'a clump or grove of thick vegetal growth' (kə, thick, thick growth; boi, clump, grove).
CONDITION OF PLANTS

Wuwâ, 'to be alive.' Thus: nûwuwâ, 'it is alive' (nû, it; uwâ, to be alive).

Tsâ, 'to be dead.' Thus: nû-tsâ, 'it is dead' (nû, it; tsâ, dead).

Ke (Hano Tewa, kale), 'to be strong,' 'to thrive.' Thus: nû-ke, 'it is strong,' 'it thrives' (nû, it; ke, to be strong, to thrive). The expression opposite in meaning would be winâhepi, 'it is weak' (wi, negative; nû, it; ke, to be strong; pi, negative).

He, 'to be sick.' Thus: nû-he, 'it is sick' (nû, it; he, to be sick). The expression opposite in meaning would be winâhepi, 'it is well' (wi, negative; nû, it; he, to be sick; pi, negative).

WORMS, GALL-BALLS

Pu-ê, 'worm.' This applies to all kinds of worms. Thus: k'ym-pu-ê, 'corn worm' (k'ym, corn; pu-ê, worm).

Pu-ê-ñê, 'cobweb-like nest of worms as seen in apple trees' (pu-ê, worm; ñê, nest). These are carefully destroyed.

Pu-ê-be, 'gall-ball,' literally 'worm-ball' (pu-ê, worm; ë, small thing roundish like a ball). ë is used alone in the same sense. Thus in Hano Tewa: p'û-mêle, 'rabbit-brush ball' (p'û, rabbit-brush; mêle, Hano dialectic form of ë, ball).

'Ohôô, 'red swelling on willow leaf.' This word cannot be analyzed. It is also the Tewa name of Dorotea Pino of San Ildefonso.

Of a worm-eaten plant one may say: nû-pu-ê-komû, 'it is worm-eaten' (nû, it; pu-ê, worm; ko, eaten; mu, to be).

CHEMICALLY CHANGED VEGETAL MATTER

P'a-û, 'charcoal.' At Santa Clara charcoal is taken in hot water as a remedy for cough and sore throat; the hot water is poured on and the mixture stirred and allowed to settle. The water is then drunk.

For laryngitis piñon charcoal ëp'a-û (ë, piñon nut; p'a-û, charcoal) is wrapped in a wet cloth, which is then tied about the throat as a compress.

Charcoal in water is taken for biliousness.

Kup'a-û, 'coal,' literally 'stone charcoal' (ku, stone; p'a-û, charcoal).

Kup'a-û-kweê, 'bitumen,' literally 'stone charcoal gum' (ku, stone; p'a-û, charcoal; kweê, gum). A Santa Clara informant, when he happened to see some coal tar at Santa Fe, gave the name as pokény, but this name is usually applied to mica.
'ashes.'

Ashes are stirred into the dough for making *buwa* (waferbread, Spanish *guallabe*) and *buwakawa* (corn tortillas), in order to turn it blue. At Hano the ashes of a wild plant, *'la'jëy* (*Atriplex canescens*) are preferred, but at the end of the winter, when the supply runs short, the ashes of sheep's dung are substituted.

Ashes of corncobs are boiled with white corn in order to make it swell. Fray Juan de Escalona in his private report from San Gabriel (Chamita), 1st October, 1601, refers probably to a similar practice; he says that the Indians, having been robbed of their corn, are eating wild seeds mixed with charcoal.¹

At Santa Clara warm ashes are rubbed on to relieve pain in the shins, attributed to cold. *Nyu po*, ‘ash water’ (*ny*, ashes; *po*, water) is given to children as a medicine.

At Santa Clara and at San Ildefonso, when children have measles ashes are dusted over the eruption with a cloth to soothe the irritation. Hence the malady is called *nykewe* (*ny*, ashes; *kewe*, ——).

At the time of the Spanish advent ashes were mixed with adobe for building material.

Torquemada's informant mentions the use of ashes in signaling: “They [the Pueblo Indians] know of their enemies' approach from far off, and in order that the neighboring pueblos may come to their aid, the women go up to the top of their houses and throw ashes into the air, and behind this make a smothered fire so that by giving a thicker smoke it may be better seen by the other pueblos whose help they desire, and the women, striking their hands on their open mouths, raise a great cry which sounds loud and far off . . .”

Castaño de Sosa, in 1590, described the throwing of ashes, perhaps in token of defiance: "The lieutenant went back to the pueblo to parley with them again, and they would not; on the contrary an Indian woman came out on a balcony of the said houses, which are as much as four or five stories high, and threw a small amount of ashes at him, and at this they set up a great clamor, and he withdrew.”²

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¹ Torquemada, *Monarchia Indiana*, lib. v, p. 672.
² Doc. de Indias, xv, p. 229.
COLOR OF PLANTS

LIGHT, DARKNESS, COLOR, PAINTING, LINES, SPOTS

Ki, ‘to be light.’ Thus: nąkiną, ‘it is light’ (ną, it; ki, to be light; ną, present). This verb seems to refer only to daylight.

T’e (Hano Tewa, t’èle), ‘to shine.’ Thus: nąt’èna, ‘it shines’ (ną, it; t’e, to shine; ną, present). This verb is used of the sun: nąt’ante, ‘the sun shines’ (ną, he; t’ay, sun; t’e, to shine).

Ko, ‘a light.’ This noun is used of the light of a candle, lamp, lantern, fire, firefly, glowworm, etc. Of the light shining one may say: nąkọt’ e, ‘the light shines’ (ną, it; ko, a light; t’e, to shine); or nąkọke, ‘the light is bright’ (ną, it; ko, a light; ke, to be strong).

P’aah or pa’aqá, ‘sunny place,’ ‘sunny side of a pueblo’ (pa’a, ? akin to Jemez pe, ‘sun’; aq, gá, locative).

K’ųŋ, ‘to be dark.’ Thus: nąk’ųyną, ‘it is dark’ (ną, it; k’ųŋ, to be dark; ną, present). K’ųŋ is used as an adjective in the form k’ųyną (k’ų, to be dark). Thus: p’ok’ųynų’it, ‘dark hole’ (p’o, hole; k’ųyn, dark).

O’k’ąŋ, ‘shade,’ ‘shadow.’

K’ęnnugá or këninya, ‘shady place,’ ‘shady side of a pueblo’ (kenny, cf. o’k’áŋ, above; nuggá, įŋgá, at the side).

O’lsà, ‘glittering.’ Thus: ku’olsa’it, ‘glittering stone’ (ku, stone; o’lsà, glittering).

O’lsapi, ‘dull,’ ‘glossy’ (o’lsà, glittering; pi, negative). The usage of this term with the meaning ‘glossy’ is curious. Thus: a o’lsapi’it, ‘glossy cloth’ (a, cloth; o’lsà, glossy).

There is no word meaning ‘color.’ One asks: haow’áŋ’übi kañañu’ ymmu, ‘how is your horse?’, meaning ‘what color is your horse?’ (haow’áŋ, how; ’übi, of you 1; kañañu, horse; ’yñu, it with reference to you 1; ymmu, to be). If this is not definite enough one might follow the question with ha p’i’it ha tèsë’it, ‘is it red or is it white?’ (ha, or; p’i, red; ha, or; tèsë, white).

T’ëŋ (Hano Tewa, t’a), ‘painted,’ ‘painting.’ Thus: nąt’e’ymmu, ‘it is painted’ (ną, it; t’ëŋ, painted; ymmu, to be); ñoða t’ëŋyįti, t’ëŋ, ‘painted cliff’ (ñoða, cliff; t’ëŋyįti, painted).

T’ų, ‘spotted.’ The attributive form is t’yuři (t’ų, spotted). Thus: nąt’ymmu, ‘it is spotted’ (ną, it; t’ų, spotted; ymmu, to be); tse t’yuři, ‘spotted dog’ (tse, dog; t’yuři, spotted).
Piñú (Hano Tewa, pînti), ‘spotted’ (< New Mexican Span. pinto). Meaning and use are the same as those of t’yu. Thus: tse piñúvi, ‘spotted dog’ (tse, dog; piñú, spotted).

Quairi, quidi (Hano Tewa, kwairæ), ‘line,’ quairi referring to a broad line and quidi to a narrow line.

COLOR ADJECTIVES

Tseq, ‘white,’ ‘whiteness.’ Thus: nütsæmy, ‘it is white’ (nä, it; tseq, white; my, to be); podi tseqiy, ‘white flower’ (podi, flower; tseq, white).

P’ey, ‘black, ‘blackness.’ Thus: nüp’emmy, ‘it is black’ (nä, it; p’ey, black; my, to be); podi p’eniy, ‘black flower’ (podi, flower; p’ey, black).

Pi (Hano Tewa, p’ilii), ‘red,’ ‘redness.’ Thus: nüp’imy, ‘it is red’ (nä, it; pi, red; my, to be); podi pi’iy, ‘red flower’ (podi, flower; pi, red).

Tsee, ‘yellow,’ ‘yellowness.’ The attributive forms are tseqi, tseqiy. Thus: nütsæmy, ‘it is yellow’ (nä, it; tsee, yellow; my, to be); podi tseeiy, ‘yellow flower’ (podi, flower; tsee, yellow).

Tsÿwæ, ‘blue,’ ‘blueness,’ ‘green,’ ‘greenness.’ In tsÿwæ, ‘hot,’ the second syllable is lower than the first. Tsÿwæ is applied to the sky, vegetation, unripe fruit, blue or green stones, turquoise, etc. Thus: nütsywæmi, ‘it is blue or green’ (nä, it; tsywæ, blue or green; my, to be); podi tsywæiy, ‘blue or green flower’ (podi, flower; tsywæ, blue or green).

Posiwî, ‘watery green,’ ‘watery greenness’ (po, water; si, ? to stink; wi, unexplained. Cf. Posî, Ojo Caliente). Posiwî is applied to water of greenish appearance, as that of the mineral spring at Ojo Caliente, Taos county, New Mexico; also to cloth and paint of similar color. Thus: nüposiwimy, ‘it is watery green’ (nä, it; posiwî, watery green; my, to be); podi posiwî’iy, ‘greenish water’ (podi, flower; posiwî, watery green).

'kwi, ‘brown,’ ‘brownness.’ The attributive form is 'kwî. Thus: nüqimy, ‘it is brown’ (nä, it; 'kwi, brown; my, to be); podi 'kwîiy, ‘brown flower’ (podi, flower; 'kwî, brown).

Ho, ‘gray,’ ‘grayness.’ The attributive form is howî. Thus: nühomy, ‘it is gray’ (nä, it; ho, gray; my, to be); podi howîiy, ‘gray flower’ (podi, flower; howî, gray).

Hano Tewa ‘okju, ‘glimmering,’ ‘grayish,’ ‘okjuse, ‘grayish yellowness,’ was used, for instance, in referring to the fir tree.

Tsæto, ‘buff,’ ‘buffness.’ The attributive form is the same. Thus: nütsæto my, ‘it is buff’ (nä, it; tsæto, buff; my, to be); podi tsætoiy, ‘buff flower’ (podi, flower; tsæto, buff).
Ki 'buff-brown,' ‘buff-brown color.’ The attributive form is the same. Thus: māk'ūmy, ‘it is buff-brown’ (nā, it; kā, buff-brown; mā, to be); poði kā'iy ‘buff-brown flower’ (poði, flower; kā, buff-brown).

Tsēge, ‘many-colored,’ ‘all-colored,’ ‘variegated,’ ‘state of having many all, or variegated colors,’ ‘iridescent,’ ‘iridescence.’ The colors may be distributed in separate patches, or blent. “When we look at a crow feather and its color seems to be changing all the time, black, green, and red, we say: nātsēgemy, ‘it is iridescent’ ” (nā, it; tsēge, many-colored, iridescent; mā, to be). Thus: poði tsēge'iý, ‘many-colored flower’ (poði, flower; tsēge, many-colored). The Tewa name of Gregorita Vigil of San Ildefonso is Tsēgopō, ‘flowers of many-coloredness’ (tsēge, many-coloredness; poði, flower). There is a clan at San Ildefonso called K'vn tsege'iý tōnā, ‘Many-colored Corn clan’ (k'vn, corn; tsēge, many-colored; tōnā, person, people).

Tæmagi, ‘of many kinds,’ ‘state of being of many kinds,’ ‘many-colored,’ ‘many-coloredness.’ Meaning and usage are the same as those of tsēge, except that tæmagi never refers to iridescence and often does not refer to color. Thus: nātæmagym, ‘it is of many kinds’ (nā, it; tæmagi, of many kinds; mā, to be); poði tæmagi'iý, ‘flower of many kinds of color’ (poði, flower; tæmagi, of many kinds).

**Color-adjective Compounds**

Almost any two color adjectives may be compounded to denote an intermediate color. Thus: tsámyweho, ‘bluish gray’ (tsámywe, blue, green; ho, gray); ñetstámywe, ‘yellowish blue’ (ñete, yellow; támywe, blue), said of the color of the middle of a tufted-eared squirrel’s back. ‘Light’ is usually rendered by postpounding ñe, ‘white’; ‘dark’ by postpounding p'ey, ‘black.’ Thus: ñeñe, ‘light yellow’ (ñete, yellow; ñe, white); p'íp'ey, ‘dark red’ (pí, red; p'ey, black). But certain color adjectives are never compounded with certain others. Thus: púñe (pí, red; ñe, white) is never used, a compound of irregular meaning signifying ‘light red.’ This compound is pí'ý, ‘light red,’ ‘pink,’ literally ‘red brown’ (pí, red; 'ý, brown). Pí'ý is applied to pink corn and even to objects of a buff-yellow color. ñeñe (ñe, white; 'ý, brown) is said of whitish corn. It may be that 'ý in pí'ý and ñeñe has merely a weakening force like ish in Eng. ‘reddish,’ ‘whitish.’ 'A seems not to be postpounded to other color adjectives.

Hano Tewa, t'yulgi, t'yul, ‘many-colored’ Thus, in the war song: k'ulym poði pojo poði Sek'æ poði kwály poði p'íli'á t'yulgi.

1 Corn flower, squash flower, cotton flower, kwály, flower, red-gray (and) many-colored. The fur of a rabbit is described as t'yul'ý.
COLOR-ADJECTIVE MODIFIERS

Jo, augmentative postponmade, ‘very,’ ‘intensely.’ Thus: πijo, very red (πi, red; jo, augmentative); nápijomy, ‘it is very red’ (ná, it; πi, red; jo, augmentative; my, to be); podi πijo’iy, ‘intensely red flower’ (podi, flower; pi, red; jo augmentative). Jo can not be postjoined to any color adjective the attributive form of which ends in wá. Thus it can not be added to k’u, t’u, á, ho. T’ujo is the name of the “Black Mesa” north of San Ildefonso pueblo, but has no other meaning.

Kolidi, ‘very.’ This precedes the color adjective as a separate word. Thus: kolid nápimy, ‘it is very red’ (kolid, very; ná, it; πi, red; my, to be); podi kolidi πi’iy, ‘very red flower’ (podi, flower; kolid, very; πi, red).

Hawagi, ‘very.’ This precedes the color adjective as a separate word. Thus: hawagi nápimy, ‘it is very red’ (hawagi, very; ná, it; πi, red; my, to be); podi hawagi πi’iy, ‘very red flower’ (podi, flower; hawagi, very; πi, red).

Pivoi, ‘very,’ ‘too.’ This precedes the color adjective as a separate word. Thus: pivoi nápimy, ‘it is very red’ (pivoi, very; ná, it; πi, red; my, to be); podi pivoi πi’iy, ‘very red flower’ (podi, flower; pivoi, very; πi, red).

Hano Tewa, ‘imo, ‘very.’ Thus: ’imo nátsáyogamuy, ‘it is very blue or green’ (’imo, augmentative; ná, it; tsáyog, blue, green; my, to be); ’imo nát’amy, ‘it is highly decorated,’ ‘it is variegated’ (’imo, augmentative; ná, it; t’a, variegated; my, to be).

He, ‘somewhat,’ ‘slightly,’ ‘a little.’ This precedes the color adjective as a separate word. Thus: he nápimy, ‘it is somewhat red’ (he, somewhat; ná, it; πi, red; my, to be); podi he πi’iy, ‘somewhat red flower’ (podi, flower; he, somewhat; πi, red).
OTHER QUALITIES OF PLANTS

Size

Sojo, 'large.' Thus: náso'jomy, 'it is large' (ná, it; so'jo, large; my, to be). The attributive forms are irregular: so'jo, an., min. sing.; so'gny, so'gniny, veg. sing., an., veg., min. dual, an. 3+ plu.; so'ndi'i, veg., min. 3+ plu.

Heháñun, 'large.' Thus: néheháñumuy, 'it is large' (në, it; heháñu, large; my, to be). The attributive forms are irregular: heháñú'ví'i, an., min. sing.; he'eháñiny, veg. sing., an., veg., min. dual, an. 3+ plu.; heháñdí'i, veg., min. 3+ plu.

He, 'large.' Thus: néhemuy, 'it is large' (në, it; he, large; my, to be). The attributive forms are irregular: he'iví'i, an., min. sing.; he'ëniy, veg. sing., an., veg., min. dual, an. 3+ plu.; he'ëdí'i, veg., min. 3+ plu.

Jo, augmentative postpound. This is used very irregularly only with certain adjectives and nouns. It seems to be the last syllable of an., min. sing. so'jo, 'large.'

Tfë, 'small.' Thus: nätfëmy, 'it is small' (në, it; tfë, small; my, to be). This word is used only in the singular: tfë'ví'i, an., min., sing.; tfëiny, veg. sing. The dual and 3+ plu. forms are supplied by hiñë, tajëi, etc.; see below.

Hiñë, 'small.' Thus: nähíñëmy, 'it is small' (në, it; hiñë, small; my, to be). The attributive forms are irregular. Thus: hiñë'ví'i, an., min. sing.; hi'niy, veg. sing., an., veg., min. dual, an. 3+ plu.; hi'ndi'i, veg., min. 3+ plu.

Tajëi, 'small' Thus: nátajëimuy, 'it is small' (në, it; tajëi, small; my, to be). The attributive forms are irregular: tajëiví'i, an., min. sing.; tajëndíiy, veg. sing., an., veg., min. dual, an. 3+ plu.; tajëndi'imíi, veg., min. 3+ plu.

'E, diminutive postpound. This may be added to any noun. Thus: 'agojo'e, 'little star' (agojo, star; 'e, diminutive). It does not alter the gender of the noun. The accent of 'e in the sing. is falling; in the dual and 3+ plu., circumflex.
Taste

Tʃá, ‘to taste,’ intransitive. Thus: ḥaun nátʃá, ‘how does it taste?’ (haun, how; ná, it; tʃá, to taste); hívon nátʃá, ‘it tastes good’ (hivon, good; ná, it; tʃá, to taste); ḥaunwábo’o winátʃápí, ‘it has no taste’ (haunwábo’o, nothing; wi, negative; ná, it; tʃá, to taste; pi, negative).

’Á, ‘to be sweet’, ‘sweet’, ‘sweetness.’ Thus: ná’q, ‘it is sweet’ (ná, it; ’q, to be sweet); ká ’qíy, ‘sweet leaf’ (ká, ‘leaf; ’q, sweet); ’qikíkinátʃá, ‘it tastes insipid’ (’q, sweet; kíki, like; ná, it; tʃá, to taste).

Tsíy, ‘to be sticky.’ This is also said of taste, Thus: nátsíy, ‘it is sticky’ (ná, it; tsíy, to be sticky).

’Ojohe, ‘to be sour,’ ‘sour,’ ‘sourness.’ Thus: ná’ojohe, ‘it is sour’ (ná, it; ’ojohe, to be sour); be’ojohe’iy, ‘sour apple’ (be, apple; ’ojohe, sour).

’Oje, ‘to be sour,’ ‘sour,’ ‘sourness.’ Thus: ná’oje, ‘it is sour’ (ná, it; ’oje, to be sour); be’oje’iy, ‘sour apple’ (be, apple; ’oje, sour).

P’ahán, ‘to be burnt.’ This is also said of taste. Thus: náp’ahán, ‘it is burnt,’ ‘it has a burnt taste’ (ná, it; p’ahán, to be burnt; Ger. angebannt sein).

’Ixe, ‘to be bitter,’ ‘bitter,’ ‘bitterness.’ Thus: ná’ix, ‘it is bitter’ (ná, it; ’ix, to be bitter); ká ’ixíy, ‘bitter leaf’ (ká, leaf; ’ix, bitter).

Sé, ‘to be hot or burning to the taste, like chile pepper,’ ‘hot or burning to the taste,’ ‘substance which has a hot or burning taste.’ Thus: náse, ‘it tastes burning, like chile, (ná, it; sé, to be hot or burning to the taste); ká sé’iy, ‘leaf with hot or burning taste’ (ká, leaf; sé, hot or burning to the taste).

Suwa, ‘to be warm,’ ‘warm,’ warmth.’ Thus: násuwa, ‘it is warm,’ ‘it has a warm taste’ (ná, it; suwa, to be warm); ká suwa’iy, ‘warm leaf’ (ká, leaf; suwa, warm).

Tsíywe, ‘to be hot,’ ‘hot,’ ‘heat.’ Thus: nátsíywe, ‘it is hot,’ ‘it has a hot taste’ (ná, it; tsíywe, hot); ká tsíywe’iy, ‘hot leaf’ (ká, leaf; tsíywe, hot).

’Okári, ‘to be cool,’ ‘cool,’ ‘coolness,’ ‘to be cold,’ ‘cold,’ ‘coldness.’ Thus: ná’okári, ‘it is cool or cold,’ ‘it tastes cool or cold’ (ná, it; ’okári, to be cool or cold); ká ’okári’iy, ‘cool or cold leaf’ (ká, leaf; ’okári, cool or cold). This word is never applied to the weather.
'Also appears as the first syllable of 'salt' (it, alkali; see, to taste hot, like chile). 'Also appears as the first syllable of 'alkali; see, to taste hot, like chile). It tastes salty or alkaline' (it, it; 'salt'; see, to taste hot, like chile). Thus: nū'ase, 'it tastes salty or alkaline' (it, it; 'alkali; see, to taste hot, like chile). A prickling or puckering taste seems to be expressed by 'sojohe,' 'ojė or see. Of a nauseating taste one says merely, dihewo'o, 'it makes me sick' (it, it; he, to be sick; wo'o, causative).

**ODOR**

Sy, 'to smell,' intransitive. Thus: hūn nūsu, 'how does it smell?' (hūn, how; nū, it; sy, to smell); háyngḅo'o wina supi, 'it has no odor' (háyngḅo'o, nothing; wi, negative; nū, it; sy, to smell; pi, negative). This verb appears in all terms denoting kinds of odor. Thus: nūsyhe, 'it smells strong' (nū, it; sy, to smell; he, to be strong); hēdá'y nūsy, 'it smells faintly' (hedá'y, slight; nū, it; sy, to smell); nū'ūsy, 'it smells sweet' (nū, it; 'ū, sweet; sy, to smell); nūsīsy, 'it stinks' (nū, it; sī, giving the meaning to stink; sy, to smell).

Nouns with the postfix wag%, 'like,' are very common with sy, 'to smell.' Thus: sawag'nūsy, 'it smells like tobacco' (sa, tobacco; wag%, like; nū, it; sy, to smell).

**FEELING**

A'n̄x̄, 'to be smooth,' 'smooth,' 'smoothness.' Thus: nū'ūn̄x̄, 'it is smooth' (nū, it; 'ūn̄x̄, to be smooth); kā 'ūn̄x̄'i, 'smooth leaf' (kā, leaf; 'ūn̄x̄, smooth).

K̄o, 'to be rough,' 'rough,' 'roughness.' Thus: nū'kō, 'it is rough' (nū, it; kō, to be rough); o'kō'i, 'rough metate' (o, metate; kō, rough).

P̄a, 'cracked,' 'cracked surface.' Thus: nūp̄amy, 'it is cracked or chapped' (nū, it; p̄a, cracked; my, to be); kā p̄ai, 'cracked leaf' (kā, leaf; p̄ai, cracked).

T̄i, 'to be sticky.' Thus: nūt̄i, 'it is sticky' (nū, it; t̄i, to be sticky).

T̄i'd̄e, 'sticky,' 'stickiness.' Thus: nūtsi'd̄e, 'it is sticky' (nū, it; t̄i'd̄e, sticky; d̄e, causative); kā tsi'd̄e, 'sticky leaf' (kā, leaf; tsi'd̄e, sticky).

P'o, 'hairy,' 'hair.' Thus: nūp'omy, 'it is hairy' (nū, it; p'o, hairy; my, to be).

N̄w̄e, 'thorny,' 'thorn.' Thus: nūw̄emy, 'it is thorny' (nū, it; n̄w̄e, thorny; my, to be).

J̄ȳ, 'to pierce.' Thus: nūj̄ȳ, 'it pierces' (nū, it; j̄ȳ, to pierce); nūj̄ȳn̄lo, 'it is prickly' (nū, it; j̄ȳ, to pierce; n̄lo, causative).
Suyhe, ‘to hurt’ (suy, giving the meaning to hurt, to pain, intransitive; he, to be sick). Thus: nã suyhe, ‘it hurts’ (nã, it; suyhe, to hurt).

Suwã, ‘to be warm,’ ‘warm,’ ‘warmth.’ Thus: nã suwã, ‘it is warm’ (nã, it; suwã, to be warm).

Tsuywe, ‘to be hot,’ ‘hot,’ ‘heat.’ Thus: nã tsuywe, ‘it is hot’ (nã, it; tsuywe, to be hot); ka tsuywe’iy, ‘hot leaf’ (ka, leaf; tsuywe, hot).

‘Okaw (Hano Tewa, ‘okaw) ‘to be cold,’ ‘cold,’ ‘coldness.’ Thus: nã’okaw, ‘it is cold’ (nã, it; ‘okaw, to be cold); ka ‘okaw’iy, ‘cold leaf’ (ka, leaf; ‘okaw, cold). Tsuywe and suwã may be used of things hot to the touch; the same expressions, also nãti, ‘it is cold,’ are applied to the weather; ‘okaw cannot properly be used with reference to the weather.

Ke (Hano Tewa, kele), ‘hard,’ ‘hardness.’ Thus: nãkemy, ‘it is hard’ (nã, it; ke, hard; my, to be).

Tëwb, ‘to be soft,’ ‘soft,’ ‘softness.’ Thus: nãtëwb, ‘it is soft’ (nã, it; tëwb, to be soft); ka tëwb’iy, ‘soft leaf’ (ka, leaf; tëwb, soft).

K’a (Hano Tewa, k’ala), ‘to be heavy,’ ‘heavy,’ ‘weight.’ Thus: nãk’a, ‘it is heavy’ (nã, it; k’a, to be heavy); ka k’a’iy, ‘heavy leaf’ (ka, leaf; k’a, heavy). Light, opposite of heavy, is expressed by the negative winâk’api, ‘it is light’ (wi, negative; nã, it; k’a, to be heavy; pi, negative); ka k’api’iy, ‘light leaf’ (ka, leaf; k’a, heavy; pi, negative).

Wetness AND Dryness

Pö, ‘water.’ Thus: nãponö, ‘it is wet’ (nã, it; pö, water; nã, to be present, to have); nãpömyö, ‘it is wet’ (nã, it; pö, water; my, to be).

’Omyö, ‘moisture.’ Thus: nã’omynö, ‘it is moist’ (nã, it; ’omyö, moisture; nã, to be present, to have).

Pose (Hano Tewa, posele), ‘dew’ (pö, water; se, unexplained). Thus: nãposéntenö, ‘it is dewy,’ said either of an object or of the weather (nã, it; pose, dew; nã, to be present, to have).

Tö, ‘to be dry,’ ‘dry,’ ‘dryness.’ Thus: nãtö, ‘it is dry’ (nã, it; tö, to be dry); nãtanö, ‘it is dry’ (nã, it; tö, dryness; nã, to be present, to have).