

UNIVERSITY OF CALIFORNIA PUBLICATIONS  
IN  
AMERICAN ARCHAEOLOGY AND ETHNOLOGY

Vol. 13, No. 1, pp. 1-34

July 12, 1917

THE POSITION OF YANA IN THE  
HOKAN STOCK

BY  
E. SAPIR

CONTENTS

	PAGE
Introduction .....	1
Radical elements .....	3
Secondary verb stems .....	17
Local suffixes .....	18
Other verb and noun suffixes .....	21
Pronouns .....	23
Additional Hokan cognates .....	26
Remarks on phonology .....	27
Bibliography .....	34

INTRODUCTION

Of the Hokan languages, Yana would seem to be one of the most, if not the most, specialized, particularly in grammatical respects. Thus, unlike other Hokan languages, it is completely lacking in prefixes. Moreover, it seems to possess a far more elaborate apparatus of derivative suffixes than any of the others. At present published information on the morphology of most of the Hokan languages is too scanty to make a comparative study of Yana morphology very profitable. On the other hand, there is already enough lexical material accessible to justify a comparative review of the lexical evidence for the inclusion of Yana in the Hokan stock. The Hokan languages, or groups of languages, recognized in this paper are Shasta-Achomawi, Chimariko, Karok, Yana, Pomo, Esselen, Yuman, Salinan, Chumash, Seri, and Chontal. Salinan and Chumash are at present of more doubtful inclusion than the others. I hope, however, to have helped

to dispel this doubt by data presented in the course of the following pages.

The following table shows the source of the material used in the present study.

TABULATION SHOWING THE PROVENIENCE OF THE MATERIAL USED IN THE FOLLOWING PAGES

The order of groups is geographical from north to south. Karok, Shasta, Achomawi, Atsugewi, Mohave, and Diegueño forms marked (K) are from manuscript material made accessible by Dr. Kroeber. Achomawi forms marked (S) are from a vocabulary obtained by the writer in 1907. Karok, Shasta, and Achomawi forms marked (G) are from manuscript loaned by Mr. E. W. Gifford. Salinan forms marked (M) are from Dr. J. A. Mason's manuscript notes.

Language groups	Dialects	Abbreviated as	Forms quoted from <sup>1</sup>
Karok	.....	.....	Kroeber, 1910, pp. 427-435; Dixon and Kroeber, 1913, pp. 649-655
Shasta-Achomawi	Shasta	Shas.	Dixon, 1905, pp. 213-217; Dixon, 1910, pp. 337-338
	Achomawi	Ach.	<i>Ibid.</i>
	Atsugewi	Ats.	<i>Ibid.</i>
Chimariko	.....	Chim.	Dixon, 1910, pp. 293-380
Yana	Northern	N. Yana	Sapir manuscript
	Central	C. Yana	<i>Ibid.</i>
	Southern <sup>2</sup>	S. Yana	<i>Ibid.</i>
Pomo	Northern	N. Pomo	Barrett, 1908, pp. 7-330
	Central	C. Pomo	<i>Ibid.</i>
	Southern	S. Pomo	<i>Ibid.</i>
	Southwestern	S. W. Pomo	<i>Ibid.</i>
	Southeastern	S. E. Pomo	<i>Ibid.</i>
	Eastern	E. Pomo	<i>Ibid.</i> ; Kroeber, 1911b, pp. 427-435
	Northeastern	N. E. Pomo	<i>Ibid.</i>
Esselen	.....	.....	Kroeber, 1904, pp. 49-68
Salinan	.....	.....	Kroeber, 1904, pp. 43-49
Chumash	San Luis Obispo	Chum. (S. L. O.)	Kroeber, 1910, pp. 265-271
	Santa Ynez	Chum. (S. Yn.)	Kroeber, 1904, pp. 31-43; Kroeber, 1910, pp. 265-271
	Santa Barbara	Chum. (S. Bar.)	Kroeber, 1910, pp. 265-271
	Santa Cruz	Chum. (S. Cruz)	<i>Ibid.</i>
	San Buenaventura	Chum. (S. Buen.)	<i>Ibid.</i>
Yuman	Mohave	Moh.	Kroeber, 1911, pp. 45-96; Gatschet, 1877, pp. 365-418
	Diegueño	Dieg.	Kroeber and Harrington, 1914, pp. 177, 178; Gatschet, 1877, pp. 177-178
	Tonto	.....	Hewitt, 1898, pp. 299-344; Gatschet, 1877, pp. 365-418
	Yuma	.....	<i>Ibid.</i>
	Cocopa	Coc.	<i>Ibid.</i>
	Maricopa	Mar.	<i>Ibid.</i>
	Walapai	Wal.	<i>Ibid.</i>
	Kiliwi	.....	<i>Ibid.</i>
	Cochimi	.....	<i>Ibid.</i>
Seri	.....	.....	Hewitt, 1898, pp. 299-344
Chontal	.....	Chon.	Kroeber, 1915, pp. 279-290

The phonetic orthographies of the various authorities cited have been left unchanged, and are explained in the original sources. Stress-

<sup>1</sup> See bibliography.

<sup>2</sup> The Yahi subdialect is meant. The material was obtained from Ishi.

accents, however, have been omitted. The system used for Yana in this paper is identical with that employed in my *Yana Texts*, except that the glottal catch is rendered by an apostrophe ('). In all but a few cases duly noted, the Yana forms quoted are in the Central dialect.

### RADICAL ELEMENTS

1. Yana 'a- "woman goes"  
Chim. -a- "to go"
2. Yana *adai-ri*, *adai-*, *-dai-*, *da* "that"  
Kar. *ta* adverbial participle preposed to verb forms, defined as indicating "probably indefinite or imperfect time" (e.g., *ta-ni-aho* "I have come," literally perhaps "at that [time]-I-come")  
C. Pomo *tē-ya* "those people" (-*ya* is personal plural; e.g., E. Pomo *hiba-ya* "persons," *cela-ya* "young men")  
Sal. *t*, *t'*- article agglutinated as prefix to many nouns (e.g., *t'-ulet* "teeth," cf. *t'm-ulet* "thy teeth"; *t'a-m-lamxat* "thy food," cf. *lamxat* "food")  
Chum. *t*- article agglutinated as prefix to certain nouns (e.g., S. L. O. *t-axa* "bow," cf. S. Yn., S. Bar., San Buen. *ax*; S. L. O. *t-awa* "moon," cf. S. Yn., S. Bar. *awai*); S. Bar. *i-te* "this," S. Cruz *tuyu* "this"  
Seri *i-tam* "he, that" (cf. Chum. *i-te* above)
3. Yana -'alā-, with diminutive consonantism -'ana- "child," occurring only in compounds: *wa-'alā-mari'mi* "girl" (literally "sit-child-woman"; cf. *wa-* "to sit" [sing. subj.], *mari'mi* "woman"); *wa-'ana-isi* "boy" (literally "sit-child-man"); *yai-'alā-p!diwi* "girls" (literally "sit-child-women"; cf. *yai-* "sit" [plur. subj.], *p!diwi* "women" syncopated to -*p!diwi*)  
N. E. Pomo *ūla* "child," occurring in compounds: *ūla-bike* "boy" (literally "child-man"; cf. *bike* "man"); *ūla-dake* "girl" (literally "child-woman"; cf. *dake* "woman")
- 3a. S. Yana 'a'djuwi "mother's mother, woman's daughter's child" (for -*wi* cf. 'amāwi, no. 4; 'awāwi "father's father, man's son's child")  
Shas. (G) *atci-dī* "mother's mother, woman's daughter's child" (perhaps related to *atcu* "older sister"; for -*dī* cf. *ani-dī* "stepmother" as compared with *ani* "mother"); Ach. (G) *atcu-n* "mother's mother, woman's daughter's child"
4. S. Yana 'amāw "father's mother, woman's son's child"  
Shas. (G) *amō* "father's mother, woman's son's child"; Ach. (G) *amu-n* "father's mother, woman's son's child"  
Chim. *himo-lla-(i)* "(my) grandson" (also "nephew, niece"; -*lla-* is diminutive)  
Pomo *ma* "paternal grandmother": N. Pomo *ami-ma*; C. Pomo *ma-tse*; E. Pomo *ma-tsa*; S. Pomo *a-ma-tsen*; S. W. Pomo *mama-n* (reduplicated); S. E. Pomo *im-ma*; N. E. Pomo *ma-tce-dai* "paternal grandfather," *ma-tei-dai* "paternal grandmother"  
Chum. (*ma-k-*)*ama* "(my) grandchild"; (*ma-k-*)*māma* "(my) paternal grandparent"  
Sal. (M) *ama* "paternal grandparent"; *t-emak* "grandchild"

5. Yana 'ambi- "who?"  
Chim. *awi-lla* "who"  
E. Pomo *am* "who? what?"
6. Yana 'ap'sa "sky"  
Ess. *imita* "sky"  
Sal. *l-ëm* "sky"<sup>2a</sup>  
Chum. *al-apa* "sky" (S. Yn., S. Bar.); *hal-acpai* (S. Buen.)  
Moh. *ammaya* "sky"; Dieg. *ammai*  
Chon. *emaa* "sky"  
Seri *ami-me* "sky"
7. Yana 'au-na "fire" (-na is absolute noun suffix)  
Shas. *āwa* "wood" (perhaps originally "fire-wood"; "fire" and "fire-wood" are often indicated in American languages by a single term or by closely related words, e.g., Takelma *p'i* "fire, firewood"); New River Shasta (*ga-*)'au "wood" (for prefixed *ga-* cf. *ga-'ats* "water" and *gè-'ic* "man"); Ats. *ahawi* "wood"  
Chim. *hau-na* "tinder" (literally probably "fire-wood"; -na is suffixed to nouns referring to plants)  
Ess. *a-nix* "fire" (for noun suffix -*nex*, -*nix* cf. *masia-nex* "heart," *katus-nex* "mouth")  
Sal. (M.) *ṭ-a'au'* "fire"  
Moh. *a'auwa* "fire"; Dieg. *a-ua*; Yuma *ow*; Kiliwi *a-au*
8. Yana *ba-* primary verb stem in certain verbs of "calling" (e.g., *ba-ts'i'di-'a* "to shout"; *ba-wau-* "to call on people to come"; *ba-bil-mits'i-* "to call people together from all over"; *ba-djiba-* "to call by messenger at every place")  
Chim. *-pa-*, *-patci-* "to say"  
E. Pomo *ba-* in verbs of "telling" (e.g., *ba-tsan* "to preach"; *ba-yi* "to teach"; *ba-t'a* "to tell"; *ba-qa* "to tell")
9. Yana *badjal-* "to be big"  
C., S. Pomo *bate* "large"; S. W. Pomo *ba'te*; E. Pomo *baten*; S. E. Pomo *batenek*
10. Yana *bādjai-'i* "manzanita bush" (-'i "tree," see no. 59); *bādjai-na* "manzanita berry"  
Ach. (S) *badjicu'la* "manzanita"; *ba'dja* "black manzanita"  
Sal. (M) *pat'ax*, *paṭ'ak* "manzanita"
11. Yana *bai-* "one"  
Ess. *pek* "one"  
Chumash (S. Yn., S. Bar.) *paka* "one"; (S. Buen.) *paket*
12. Yana *bāma* "sinew"  
Shas. *imme* (K) "sinew" (probably assimilated from \**ipme*); Ach. (K) *pim*; Ats. (K) *ippiu* (probably assimilated from \**ipmi-u*)
13. Yana *ba'nī-* "to be full"  
E. Pomo *madi* "to fill tight, jam"; *minam* "to be full, fill"  
Sal. (M, quoting Sitjar) *apeaoyu(e)* "to be full"
14. Yana *basi* "meat" (cf. *ba-* "deer"?)  
N., E., S. W. Pomo *bice* "meat"; C. Pomo *pice*; S. Pomo *bece*; S. E. Pomo *bexe*; N. E. Pomo *bese*. These Pomo forms also mean "deer"  
Sal. (M) *plac* "elk"

<sup>2a</sup> According to Dr. Mason, however, there is "no evidence whatsoever that *lem* 'above, sky' can be analyzed into *l-em*."

15. Yana *bat'-p'al-* "to be flat"  
N. Pomo *badō* "flat"
16. Yana *bawā'la* "tongue" (possibly from \**babā'la*, cf. *-wal-* as incorporated postvocalic form of *bal-* "mouth"); *bal-la* "mouth" (assimilated from \**bal-na*)  
Kar. (K) *apri* "tongue"  
Shas. *ehena* "tongue" (from \**epena*); Ach. (S) *ip'tli*  
Chim. *h-ipen* "tongue"  
N. Pomo *ba, haba* "tongue"; C. Pomo *haūba*; E., S. E. Pomo *bal*; S. Pomo *hībaa*; S. W. Pomo *haba*; N. E. Pomo *hūūba*  
Sal. (M) *ipaL, epaL* "tongue"  
Chum. (S. Yn., S. Bar., S. Buen.) *eleu* "tongue"  
Moh. *ipalya* "tongue"  
Seri *ipL* "tongue"  
Chon. *ipaL* "tongue"
17. Yana *ban-di-* "coal falls, round hard object bounds" (*-di-* probably identical with local verb suffix *-di-, -ri-* "down")  
Chim. *-man-* "to fall"  
E. Pomo *ban* "to throw a round object, put"
18. Yana *bê-* "it is so and so which, who"; probably demonstrative in origin ("that" of reference), as indicated by its non-employment of verbal *-si-* suffix in present time (contrast *déwat-si-ndja* "I see" with *bê-'nidja* "it is I who," with which such verbalized nouns as *k!uwi-ndja* "I am medicine-man" agree in form); *bê-'nidja*, e.g., must originally have meant "that-I (-am)"; there are only three or four verb stems (of "being") in Yana whose present tense lacks *-si-*; this peculiarity of form is probably to be explained as due to their being verbalized demonstrative pronouns (cf. *na-* and *u-*, nos. 94 and 132)  
Kar. *pa* demonstrative pronoun indicating reference; compounded in *pa-ipa* "this" and *pa-ik'u* "that"  
Chim. *pā-mut, pā-ut* "that"  
E. Pomo *ba* general demonstrative pronoun "that, the"; compounded in *u-ba, me-ba* "that"; its similarity in usage to Yana *bê-* is indicated by such constructions as *mèp ba hikiba* "he (is) the-one-who it-did"  
Sal. (San Antonio) *pe* "that"
19. Yana *bê'na-* "to eat (mush) with hands"  
E. Pomo *bili* "to suck, eat mush"
20. Yana *bui-* "to kick"; *bu-ri-* "man dances" (*-ri-* "down"; *bu-ri-* literally "to foot down"); Yana *bui-* is probably verbalized from old noun stem \**bu-* "foot" (cf. Yana *bai-* "to hunt deer" from *ba-* "deer"; Chim. *-pen-* "to lick" as denominative verb from *-ipen-* "tongue")  
Chim. *h-upo* "foot"
21. Yana *bū-na* "black bear"  
Ats. (K) *piriki* "grizzly"  
N. Pomo *bita* "bear"; S., S. W. Pomo *būta-ka*; C. Pomo *pta-ka*; E. Pomo *būra-kal*; S. E. Pomo *bete-kal*
22. Yana *dā-* "to jump; to fly"  
Chim. *-tu-* "to fly"; *-tudu-* "to jump"
23. Yana *dal-la* "hand" (assimilated from \**dal-na*), diminutive *dan-*  
Ach. (S) *il'li* "hand" (perhaps assimilated from \**illi*, syncopated from \**itali*; cf. *ip'tli* "tongue" from older \**ipali*, no. 16)

- Chim. *-teni* "hand" (e.g., *xuli-teni* "left hand"); *h-itcan-ka* "fingers"; *h-itan-pu* "arm" (for *-pu* cf. Chum. *pu* "arm, hand"); *traněhě* "five"; *h-itra, h-ita* "hand, finger"
- N., C., S. Pomo *tana* "hand"; S. E. Pomo *a'tan*  
Seri *inoL* "hand"  
(Yuman *\*isal*, e.g. Moh. *isalya* and Wal. *sal*, is probably not related; cf. Pomo *ical* "arm")
24. Yana *dat'* "to be much, many"  
Chim. *ěta, hitat* "many"; *-tan* "lot of" (noun suffix)
25. Yana *dě-* "to cut off hair, peel bark"  
Chim. *-tra-* "to tear"  
E. Pomo *dak* "to split"
26. Yana *dě-* primary verb stem in certain verbs of "seeing" and "knowing"  
(e.g., *dě-wai-* "to see"; *dě-djiba-* "to know")  
Chim. *-trahu-* "to know"
27. N. Yana *det-* (probably from *den-*) "to mash (choke-berries), shell (corn)"  
C. Pomo *itel* "to peel off"
28. Yana *dō-* primary verb stem in certain verbs of "removing" (e.g., *dō-l'i-sa-* "to take covering down from head"; *dō-gal'di-* "to peel off skin");  
passive form of stem, *da-* (e.g., *da-k!au-* "to be cut")  
E. Pomo *dop* "to cut off"
29. N. Yana *dōnit-* "to whip, beat"  
E. Pomo *duli, dut'* "to kill" (singular object); *doc* "to strike"
30. Yana *dja-* primary verb stem in certain verbs of "eating" (e.g., *dja-dut'* "to eat much"; *dja-nau-* "to eat plenty"; *dja-wit'dja-* "to eat fast";  
*dja-lili-p!a-* "food slips down in eating")  
Chim. *-tcatei-* "to chew"  
E. Pomo *tsa* "to chew"
31. Yana *dja-* primary verb stem in certain verbs of "proceeding, moving"  
(e.g., *dja-sā-* "string goes out"; *dja-'an-* "to arrive at"; *dja-k!uyū-* "to move in single file"; *dja-ri-* "woman dances"; *dja-djil-* "to dance in circle"; *dja-ru-* "to come down from sky")  
N. Pomo *tea* "to run"; C. Pomo *tcak*
32. Yana *djau-na* "grasshopper"  
Chim. *tsatu-r, tsatu-l* "grasshopper" (for Yana *au* from *aru, adu*, cf. Yana *mau-*, no. 80)
33. Yana *djawat-ts!i* "chin"  
Shas. *tsawak* "jaw"; Ach. *tsoiwas*  
Chim. *tsuna* "chin"
34. Yana *djiman-* "five"  
Chim. *-tcibum, -(t)cpom* "five" in higher numerals (e.g., *p'un-tcibum, p'un-tcpom* "six," literally "one plus five"; *qāqi-cpom* "seven," literally "two plus five")
35. Yana *dji-na* "louse"  
Shas. (K) *tcituk* "louse"; Ats. (K) *atci*  
Chim. *tsina* "wood-tick"  
N., C. Pomo *teī* "louse"; S. Pomo *atcī*; S. W. Pomo *a'tci*; E. Pomo *gi*  
Chum. *cīk* "louse"
36. Yana *dju-* primary verb stem in certain verbs of "sitting, dwelling" (e.g., *dju-k!un'ā-* "to sit, dwell"; S. Yana *dju-k!ola-ri-* "to sit")  
Chim. *-tcu-* "to lie on ground, sleep"

37. Yana *djū-* "to spear salmon"  
S. Pomo *aca-tsu* "fish-spear" (*aca* "fish"); N. Pomo *tcō-k* "to shoot";  
C. Pomo *djo-k*; S. Pomo *i'tcō-k*; S. W. Pomo *djo*
38. Yana *djū-ri-* "tree, stick stands" (*-ri-* "down")  
S. Pomo *djōtcōn* "to stand"
39. Yana *dju-ri-* "to snow" (*-ri-* "down"; *djū-* possibly from \**hyū-*)  
N., C. Pomo *yū* "snow"; S. E. Pomo *yū-l*; S. W. Pomo *ī'yū*; N. E. Pomo  
*hūyū*; E. Pomo *hū-l*; S. Pomo *vāhū*
40. Yana *djuk!ut-tsi* "heart"  
E. Pomo *tsūkūn* "heart"; S. W. Pomo *ts'ākūl*; S. E. Pomo *tsūkūt*; N. E.  
Pomo *tū'kan*
41. Yana *djul-* "to be long"  
Chim. *hitcun* "long"; *xu-itculan* "short" (literally "not-long")
42. Yana *djut'a-wi* "bird" (*-wi* is collective)  
N., S. Pomo *tsīta* "bird"; S. W. Pomo *tsī'ta*; S. E. Pomo *tsūta*; N. E. Pomo  
*tcīt-ka*; E. Pomo *tsīya*
43. Yana *djuwa* "jackrabbit" (from \**djuwa*; for postvocalic *w* from *x*, cf. Yana  
*-wulu* "in," no. 176, in comparison with Chim. *-xun* and Kar. *-furu-*)  
Ess. *tcici* "rabbit" (for *c*, *s* from Hokan *x*, cf. *asa-nax* "water," no. 55;  
for *i* from older *u*, cf. *hoci-s* "nose" from \**hoxu-*, in comparison with  
Chim. *h-oxu*, Dieg. *'exu*)
44. Yana *e'-* "to shell acorns"  
Chim. *ihī-tci* "shelled acorns"
45. Yana *'ē-* primary verb stem in certain verbs of "singing" and other forms  
of vocal utterance apart from normal speech (e.g., *'ē-lau-* "to sing";  
*'ē-ts!axaya-* "to whisper"; *'e-nai-* "to sing another song"); Yana *'ē-*  
perhaps from \**ehe-* from Hokan \**exe-* (cf. *dju-hau-* contracted to *djō-*)  
Ach. *es* (K) "to sing"; Ats. (K) *etca*; Shas. (K) *etc-ni*; Okwanuchu Shasta  
(K) *isi-duk* (for Shasta-Achomawi *s*, *c*, *tc*, *ts* from *x*, cf. nos. 53, 55, 56)  
N. Pomo *ke-ben* "to sing"; C. Pomo *ke-tcano*; E. Pomo *xai-nem*; S. E. Pomo  
*xe-kōlne*; S. Pomo *ih-min*. These forms point to Hokan \*(*e*)*xe-*  
Chum. (S. Yn., S. Bar.) *eX-petc* "to sing"; (S. Cruz) *xu-watc*
46. Yana *ga-* primary verb stem in certain verbs of "talking, speaking" (e.g.,  
*ga-yā-* "to talk"; *ga-ri-* "to talk N. Yana"; *ga-t'ā-* "to talk S. Yana";  
*ga-wītci'ui-* "to tell a lie"; *gā-ts!an-* "to make a speech")  
Chim. *-gō-*, *-kō-* "to talk"  
E. Pomo *ga-nuk* "to speak"
47. Yana *gādu* "leg"  
Shas. (K) *xatis* "leg"
48. Yana *gāgi* "crow"  
N., C., E., S., S. W. Pomo *kaai* "crow"  
Sal. (M) *ckāk!* "crow"  
Moh. *aqāqa* "raven"; Dieg. *axāq*
- 48a. S. Yana *gal-si* "father"; C. Yana *tc'i-gal-la* "father," vocative *gai-si-nā*  
Kar. (G) *ākā* "father"
49. Yana *galu* "arm"  
E. Pomo *gado-* local verb prefix "on the shoulder" (for E. Pomo *d* from  
original *l*, cf. *da* "sun" from *la*)
50. Yana *gamcu* "clover"  
Chim. *kātcu* "clover"  
N. Pomo *kabō* "clover"

51. Yana *gô-* "to hear"  
Chim. *-kê-* "to hear"
52. Yana *ha'dat-, xa'dai-* "to dream"  
E. Pomo *xadum* "to dream"
53. Yana *haga, xaga* "flint, arrowpoint"  
Kar. (K) *cak* "arrowpoint" (from Hokan *\*xaka*; Hokan *x* becomes Kar. *s, c*, cf. no. 55)  
Ach. *sat* "arrowpoint" (from *\*zak*; for *-k* developing to *-t*, cf. also nos. 76, 127)  
Chim. *qâku* "arrowpoint" (for Chim. *q* corresponding to Hokan *x*, cf. nos. 55, 133)  
E. Pomo *xaga* "knife," *xag'a-xabe* "flint-rock, obsidian," *masan-xag'a* "metal" (literally "terrible knife or flint")  
Sal. (M) (*i*)*câk*, (*i*)*cik* "knife"; *asak!a* "flint"<sup>2b</sup>
54. Yana *ha'lai-, xa'lai-* "to be early morning, dawn"; *xalai'a* "morning star"  
Moh. *haly'a* "moon"; Dieg. *xEL-ya*  
Sal. (M) *ecxai, icxai* "dawn, morning"
55. Yana *ha-na, xa-na* "water"  
Kar. *ac, ic* "water" (from Hokan *\*a'xa*); *ca-* in *ca-ruk* "towards river" (literally "water-toward"; from Hokan (*a*)*xa'*, cf. Pomo *ui* "eye" but compounded *yu-*, no. 128; parallel to *ca-ruk* is *ma-ruk* "away from river," originally "land-toward," cf. Chim. *ama* "earth")  
Shas. *atsa* "water"; New River Shasta *ga-'ats*; Ach. (S) *ac*; Ats. *atssi*  
Chim. *âqa* (for Chim. *q* as equivalent to Hokan *x*, cf. nos. 53, 133), *â'ka*; *h-uso-'xa* "tears" (literally "eye-water")  
N., E., S. E. Pomo *xa* "water"; C., N. E. Pomo *ka*; S., S. W. Pomo *aka*  
Ess. *asa-nax* "water"  
Sal. (M) *toa* "water" (analysis into *t-ca'*, according to Dr. Mason, is probable, but bare stem *-ca'* is not found)  
Moh. *aha* "water"  
Seri *ax* "water"  
Chon. *aha* "water"
56. Yana *hâts'it', xâts'it'* "to feel cold"  
Ach. (S) *actc!a-sivi* "it is cold" (from Hokan *\*axate!a-*; for *x* developing to *c, s*, cf. nos. 53, 55; for elision of second vowel of trisyllabic base see section VII)  
Chim. *xatsa* "cold"  
E. Pomo *katsil* "cold" (i.e., *k'ats'il* from *\*xats'il*; for Pomo *k'* from Hokan and older Pomo *x* cf. nos. 45, 55)  
Moh. *hatchu-urk* "cold" (i.e., *hatchuq*); Dieg. *h'tchorr* (i.e., *xteor*); Mar. *h'tchurk* (i.e., *xteuq*); Yuma *hutsile, atchûra*; Kiliwi *ahhtchak* (i.e., *axcak*)
57. Yana *i'dal-la* "bone" (assimilated from *\*i'dal-na*)  
Shas. *ak* (K) "bone" (perhaps from *\*hyak* or *\*ahy[a]k*)  
N., C., S. E. Pomo *ya* "bone"; E., N. E. Pomo *hîya*; S. W. Pomo *îya* "bone," *ihya* "awl"; S. Pomo *îha* "bone"  
Ess. *iya* "bone"

<sup>2b</sup> If Sal. *cak* (*t'-cak* "knife," *t'-cakè* "knives," *t'-me-cak* "thy knife") belongs here, it would indicate that Hokan *x* has become assimilated in Salinan as in Karok, Shasta-Achomawi, and Esselen; cf. also *t'â, tea* "water, ocean," perhaps compounded of article *t-* and *\*ca* from Hokan *\*xa* "water." This, however, is contradicted by Sal. *-xap* "stone": Pomo *xabe*.

- Sal. *ejac* (Sitjar) "bone" (i.e., *ezak*; from Hokan \**ihyaka*); (M) *p-axāk*,  
*axāk*  
Chum. (S. Yn., S. Bar.) *se* "bone" from \**hya*?)  
Moh. *isaka* "bone"; Dieg. (K) *hak* (from Hokan \**hyaka*); Wal. *tiaga*  
(i.e., *tyaga* from \**hyaka*)  
Seri *itak* "bone"
58. Yana *ima* "liver"  
Shas. *āpci* "liver"; Ats. *ōpsi*  
Moh. *ipasa* "liver"; Dieg. *tc-ipēsi*
59. Yana *'i-na* "wood, tree"; *'i-wi* "firewood" (*-wi* is collective)  
Ess. *ū* "wood"  
Moh. (K) *a'i* "wood"; Dieg. (K) *i-ly*
60. Yana *'isi* "man, male, husband"  
Shas. *ic* "man"; New River Shasta *gè-'ic*  
Chim. *itci*, *itri* "man"  
S. Pomo *atcai* "man"; N. Pomo *tea* "person"; C. Pomo *teate*; S. W. Pomo  
*atca*  
Chum. *-isūyix* "husband"  
Chon. *acans* "person"
61. Yana *'itc'in-na* "wildcat"  
Chim. *tagni-r*, *trcagni-l* "wildcat"  
Sal. (M) *ēts!* "pinacate"
62. Yana *'iya* "trail"<sup>s</sup>  
Ach. (S) *i'deu* "trail"  
Chim. *hissa* "trail" (for Chim. *s*: Yana *y*, cf. Yana *-ya* "female," no. 184;  
see also 139).  
C., S. W. Pomo *da* "trail"; N., C. Pomo *da* "door"; S. Pomo *hida* "door"  
Tonto *inya* "trail"
63. Yana *k'its!au-na* "teeth" (*k'i-* probably prefixed element; cf. verb suffix  
*-ts!au-* "to grasp as with teeth or claws")  
Ach. (S) *its!a* "teeth"; Shas. *ētsau*; New River Shasta *k-i'tsau*; Ats. *i'tsau*  
Chim. *h-utsu* "teeth"  
Chum. *sa* "tooth"
64. Yana *k'u-* "not"  
Chim. *x-* negative verbal prefix; *xu-* "not" (e.g., *xu-itculan* "not long")  
E. Pomo *kūyi* "no"  
Sal. (M) *ku-*, *ko-* negative prefix
65. Yana *k'ul-* primary verb stem in certain verbs denoting unpleasant states  
of mind (e.g., *k'ul-dja-* "to feel bad, lazy"; *k'ul-mits!i-* "to feel sorry,  
grieved")  
E. Pomo *kul* "to fear"
66. Yana *k'ai-* "to be bitter, strong in taste"  
Chim. *qoiyo-in* "sour" (*qoi-* probably to be read as *k'oi-*, cf. Dixon's Yana  
orthography *qaina* "rock" for *k'aina*)
67. Yana *k'ai-na* "stone, rock"  
Chim. *qā'a*, *kaa* "stone (if to be read *k!ā'a*; if pointing to Hokan \**xa-*, it  
cannot be connected with Yana *k'ai-* but belongs with Kar. *aca* "rock";  
Shas. *itsa*; Pomo *xabe*; Ess. *ciefe*; Chum. *xōp*; Sal. *c-xap*, *tc-xa*)

<sup>3</sup> This and following forms seem to point to some such Hokan prototype as \*(i)tya.

68. Yana *k!u-* "to be long" (not freely used as verb stem, but implied in *k!u-rul-la* "long-neck, crane" and *k!u-wil-la* "long-belly, lizard")  
N., C. Pomo *kōl* "long"; S. Pomo *a'kōn*; S. W. Pomo *a'kōl*; N. E. Pomo *kol*  
Sal. (M) *k!wāka* "long, high, tall"  
Tonto *ikule* "long"
69. Yana *k!u-na* "yellowjacket"  
Chim. *xōwu* "yellowjacket"
70. Yana *k!uni-, k!unu-* "and"  
Kar. *karu* "and," *kare-xac* "and then"
71. Yana *k!ūwi* "shaman"  
S. W. Pomo *kōo* "doctor"; S. E. Pomo *'xōwī*
72. Yana *lālagi* "goose"  
Chim. *lālo* "goose"  
S. W. Pomo *lala* "wild goose"  
Moh. *niago-e* "goose"
73. Yana *līlī-* "to void nasal mucus"; *līlī-mauna* "nose" (-*mauna* is participial)  
N., C., S. E. Pomo *la* "nose"; S. W. Pomo *īla*; S. Pomo *hīla-mā*; N. E. Pomo  
*līmō* (probably to be understood as *lī-mō* "nose-hole, nostril")
74. Yana *mak!i* "back" (body-part)  
Tonto *mago* "back"
75. Yana *māla* "acorn" (only in certain compounds, e.g., *bāsi-māla* acorn of  
*bāsi'i* "black oak"; *sauya-māla* "acorn of white oak")  
N., N. E. Pomo *maa* "acorn"  
Chim. *muni* "acorn of black oak"
76. N. Yana *mal'gu* "ear" (perhaps from \**smal'gu*); C. Yana *malgu*; S. Yana  
*man'gu*  
Kar. (K) *itiv* "ear" (probably from Hokan \**isim*, \**isam*, cf. Chim. *-isam*  
and Pomo *cima*; for Kar. *v*, *m*, cf. also no. 86)  
Shas. *isak* "ear" (read probably *issak*, assimilated from \**ismak*); Ach. (S)  
*īssat* (from \**ismak*); Ats. *asmak*  
Chim. *h-isam* "ear"  
N., C., E., S. W., N. E. Pomo *cima*, *cīma* "ear"; S. Pomo *cīma-mō* "ear-  
hole"; S. E. Pomo *xama-ntsa* (Pomo *c* becomes *x* in S. E. Pomo; cf. S. E.  
Pomo *xa* "fish" for general Pomo *ca*, *aca*)  
Moh. *'amalya* "ear"; Dieg. *'Emal*  
Seri *isLo* "ear"  
Chon. *icmats* "ear" (-*ts* suffixed as in *ama-ts* "earth," *imi-ts* "leg")
77. Yana *māri-p!a-* "fire is covered up with ashes" (*māri-* from *mādi-*); causa-  
tive *mōri-'a-* "to cover up fire with ashes"  
Chim. *matri-pxa* "ashes," *matre-pa* "dust"; *matci-txol* "dust"  
N. E. Pomo *mala* "ashes"
78. Yana *mari'mi* "woman" (from *madi'mi*)  
N., C. Pomo *mata* "woman"; S. W. Pomo *imata*
79. Yana *mat'-banui-* "to be summer"; *mat-dasi* "spring salmon" (quoted  
from J. Curtin, *Creation Myths of Primitive America*); *mārt'-dja-* "to get  
new acorns"  
Chim. *hōmat* "ripe"; *xo-manat* "unripe" (*xo-* "not")
80. Yana *mau-* "to tell"; *mau-mai-yauna* "myth"  
E. Pomo *maru* "to tell traditions"
81. Yana *mets!i* "coyote"  
Ats. *makita* "coyote"

- Chim. *maidjande-ra*, *maidjande-la* "coyote"  
 Ess. *matchka-s* "coyote"
82. Yana *mā-* "to cry, wail"  
 N. Pomo *mina* "to cry"; C. Pomo *mīn-wan*; S. Pomo *mī-mai*  
 Tonto *mi* "to cry, scream, sigh"; Moh. *hīmin* "to cry, lament"
83. Yana *minin-* "to look"; *mī-* (passive), *mê-* (active) primary verb stem in certain verbs of "appearing, looking" (e.g., *mī-rap-cui'di'a-* "face is all red"; *mī-wilk!ui'di'a-* "to be cross-eyed"; *mê-k!ul-* "to look slantwise at")  
 Ach. *-nima-* "to see"; Ats. *-ima-*  
 Chim. *-mam-* "to see"  
 E. Pomo *ma-bi*, *ma-yap* "to face, look"
84. Yana *midja-* "to be heavy"  
 Chim. *tcu-midan* "heavy (?)" (*tcu-* may be interpreted as prefix *tcu-* used to refer to round objects)
85. Yana *min-*, S. Yana *men-* "to twirl, drill (for fire), roll"  
 Chim. *men-drahe* "disk beads" (beads obtained by drilling bones?)
86. Yana *mô-*, passive *ma-* "to eat"  
 Kar. *av* "to eat" (from *am*)  
 Ach. *-am-* "to eat"; Ats. *-ammi-*  
 Chim. *-ma-*, *-ama-* "to eat"  
 N. Pomo *maamaa* "to eat"; N. E. Pomo *maa-riba*, *mam-ti*  
 Ess. *am* "to eat"  
 Chum. (S. Buen.) *umu* "to eat"  
 Sal. (M) *amo'* "to eat"; (Sitjar) *amma* "to eat (as gruel), to suck"  
 Moh. *nam* "to eat"; Tonto *ma*; Coc. *ahma*
87. Yana *mô-*, passive *mū-* "to reach out, hand to, hold"  
 Chim. *-imu-* "to hold"  
 E. Pomo *ma* "to hold" (singular subject)
88. Yana *mo'-*, passive *ma'-* "to take along, fetch"  
 Ach. *-mu-* "to carry" (perhaps belongs rather to no. 87)  
 Chim. *-mai-* "to carry"  
 Sal. (M) *māa*, *ma'a* "to bring, carry"
89. Yana *mū-ma-* "to work"; simpler stem *mū-* seen, e.g., in *mū-yasi-p!a* "to feel ill from working"  
 Chim. *-mu-* "to fix"  
 E. Pomo *mumu* "to try"
90. Yana *mugalā-'i* "log" (for *-'i* see no. 59)  
 S. Pomo *mokōc* "stump"
91. Yana *muk!ulā* "round hole, pit" (*-k!ulā-* may be related to S. Yana *-k!ola-* of *đju-k!ola-ri-* "to sit")  
 Pomo *mō*, *mo* "hole"  
 Ess. *imu-sa* "hole"
92. Yana *murul-* (from *mudul-*) "to lie, be in a lying position"  
 N. Pomo *mītī* "to lie"; C. Pomo *mī*; S. Pomo *mītū*; S. W. Pomo *mītīci*;  
 S. E. Pomo *mat-mītī*; N. E. Pomo *tca-mta*; E. Pomo *xana-mēra-gī* (Kroeber gives *mer*)
93. Yana *mu'di*, S. Yana *musdi* "paternal aunt"  
 Kar. (G) *mūd-j-īts* "father's sister" (*-īts* is probably diminutive), *mitca-vāci* "father's sister after death of father"  
 Ach. (G) *hamut* "father's sister"

- Chim. *mūta-la-(i)* " (my) maternal aunt" (*-la-* is diminutive)  
 S. W. Pomo *mū-tsen* "paternal aunt"; S. Pomo *a-mū-tsen*; C. Pomo *mamū-tsak*; N. Pomo *mamū-ak*  
 Chum. *-mus* "father-in-law, mother-in-law" (this term may originally have meant "father's brother or sister," cf. Yana and Pomo; if so, cross-cousin marriage is probably implied)
94. Yana *na-* "that it is, inasmuch as it is" (e.g., *na malla-p'a* " [I wonder what is going to happen], for [my sleep] is bad");<sup>4</sup> *na-gu-* "therefore one does, is so and so" (*-gu-* "just, merely, a little"); *na-k'u-* "therefore not" (*k'u-* independent verb stem "to be not"). Like *bê-* (see no. 18), these verbs are used without *-si-* suffix in their present tense (e.g., *nagu-ndja* "therefore I do, am so and so"); this makes it probable that *na* is originally demonstrative in force (*na-gu-ndja* originally perhaps "this-just-I"), which is confirmed by its composition with independent stem *k'u-* "to be not"  
 Sal. *na* "this"  
 Chum. *-na* in *kiè-na* "this" (animate); "this" indefinitely is *kiè*
95. Yana *ni-* "to go" (one male subject)  
 E. Pomo *negi, nek* "to go to"  
 Ess. *neni* "to go, walk"  
 Sal. (M) *nax* "to come" (Sitjar), *enoxo* "to come," *ko-nox* "to arrive"; these forms belong perhaps rather with C. Yana *ne'*-, S. Yana *nex-* "to step"
96. Yana *nīna* "mother"; simpler stem *-n-* (from *\*-ni-* or *\*-na-*) is implied in S. Yana *ga-n-na* "mother" (vocative *ga-n-nā* found also in northern dialects; *-na* is absolute noun suffix)  
 Shas. (G) *ani* "mother"; Ach. (G) *m-ani* "thy mother"  
 E. Pomo *nīxa* "mother"
97. Yana *ôt'a-* "to dig for (annis) roots" (*ô* is active vocalism of *a* or *ā*)  
 Chim. *ātcī* "root"
98. Yana *p'adja* "snow"; *p'ā-* "snow lies on ground"  
 Chim. *pa-nna* "snowshoes"<sup>5</sup>  
 Moh. *'upaka* "snow"; Tonto *paka*
99. Yana *p'al-* "black" (e.g., *da-p'al-sa-* "to be black"; *p'al-wīt'a* "black salt, mud salt")  
 Seri *ko-polt, ko-polcht, ko-pox'l, ji-ko-pohl* "black" (i.e., *-pol*; *ko-* is prefixed to several adjectives of color)
100. Yana *p'ats'i* "excrement"; *p'ats!djuwa* "intestines"  
 Shas. *ipxai* "intestines" (*px* from *p'*)  
 Chim. *h-ipxa* "intestines" (*px* from *p'*)  
 N., C., E. Pomo *pa* "excrement"; S. Pomo *apa* "excrement," *ī'pa* "intestines"; S. W. Pomo *apa* "excrement"; S. E. Pomo *fa* "excrement, intestines"; N. E. Pomo *fa* "intestines"; Pomo *f*, like Shas. and Chim. *px*, point to strongly aspirated Hokan *p'* (cf. Yana form just quoted)  
 Sal. (M) *p'xat* "excrement, intestines"
101. Yana *p'ê-* "to lie, be in a lying position"  
 E. Pomo *pid* "to lie" (plur.)

<sup>4</sup> Sapir, 1910, p. 116, l. 3.

<sup>5</sup> If analyzed as *pa-* "snow" plus *-nna* "footwear" (?). *pa-* may, however, be related to *pa, ipa* "moccasin." "Snow" is ordinarily *hipūi, hipue* in Chimariko, doubtless cognate with Chum. (S. buen.) *poi* "snow."

102. Yana *p'ĩ* "several move, go" (corresponding singular is *ĩ*)  
 E. Pomo *pĩ* "to walk" (plur.), *pili* "to go" (plur.). That *pĩ* is to be understood as *p'ĩl* (cf. Yana form above) is indicated by Kroeber's remark<sup>6</sup> that *còp-pĩl-èle* "east (they) went" was heard in text as *còp-hĩl-èle*
103. Yana *p'ĩl'òlu* "woman's (round) basket-cap"  
 S. W. Pomo *pololo* "round"
104. Yana *p'it'-bal* "to boil" (intr.; *-bal* "up")  
 Chim. *-potpot-* "to boil"
105. Yana *p'it-t'al-* "(wound) bursts," *p'it-gan-* "(bow) snaps"  
 E. Pomo *pid'ak*, *pad'ak* "to break"  
 Sal. (M) *paleko* "to break"
106. Yana *p'it'* "to discharge wind"; *p'è-t'ai-na* "skunk" (from *p'èt'-'ai-na* "one who discharges wind on people")  
 Chim. *paxi-ra*, *picui* "skunk" (*pæ* from *p'*, cf. no. 100)
107. Yana *p'ò* "to blow"; *p'u-sā* "to smoke" (*-sā* "off, away")  
 Chim. *-xu-*, *-xuc-* "to blow"; *-xu-* "to whistle" (from *\*-p'u-* probably via *\*-pxu-*; for Chim. *xu* from Hokan *p'u*, cf. also nos. 109, 110, 111)  
 E. Pomo *pu-* verb stem in verbs of "blowing" and "breathing" (e.g., *pu-cen*, *pu-t'am* "to take breath"; *pu-cul* "to blow"; *pu-G'a* "to whistle")
108. Yana *p'òwat-'a* "to wear beads around neck," passive *p'awat-'a*;  
*p'òwat-dja-'a* "to put beads around neck"  
 N. Pomo *pō* "magnesite beads"; C. Pomo *po*; E. Pomo *pōl*; S. E. Pomo *fol*;  
 N. E. Pomo *fo*, *fol* (Pomo *f* points to Hokan *p'*; cf. no. 96)
109. Yana *p'ũ* "to swim"  
 Chim. *-xũ-* "to swim" (from Hokan *\*p'ũ-*)
110. Yana *p'wi'* "to be fat"  
 Ach. *āphau* "fat" (adj.)  
 Chim. *-xu-* "fat" (adj.; from Hokan *\*p'u-*)  
 N. Pomo *pūi* "greasy"  
 Sal. (M) *upi-nit* "fat"
111. Yana *p'un-* "to paint," *p'an-na* "paint"; *p'ò* "to put (paint, pitch) on";  
*p'ul-lai-* "to smear (pitch) on"  
 Chim. *-xol-* (from Hokan *\*p'ul-*) reduplicated in *-po-xolxol* "to paint"
112. Yana *p!asi* "buckeye"  
 Ats. (K) *p!asup* "buckeye"  
 S. Pomo *baca* "buckeye"; S. W. Pomo *bace*  
 Sal. (M) *pæca* "buckeye"
113. N. Yana *p!ut-'di-wi*, C. Yana *p!udi-wi* "women" (*-wi* is collective, *-t'* plural infix); *-p!di* (syncopated from *-p!udi*) "woman" in compounds;  
*tc'ap'dju-p!un'na* (from *-p!ut'-na*) "mother-in-law" (cf. *tc'ap'dju'i* "father-in-law")  
 Chim. *puntsa-r* "woman"
114. Yana *p!ulsu* "tail"  
 Kar. (K) *apuvi* "tail"  
 Shas. (K) *ihwa* "tail" (from *\*ipiwa*, cf. no. 16); Okwanuchu Shas. (K) *ip'ūwa*; Ach. (K) *ipi*; Ats. (K) *t'-ipwi-ri*  
 Chim. *aqūye* "tail" (read probably *ak!ūye*; *k!u* from *p!u* as *xu* from *p'u*, see no. 107)  
 Tonto *bihe* "tail"

<sup>6</sup> 1911a, p. 344, note 49.

115. Yana *samsi* "to sleep"; simpler stem *sam-* implied in plur. *sādim-* (-*di-* is plural infix); in S. Yana this stem appears as *te'amsi-*  
Shas. (K) *itsmas* "to sleep"; Okwanuchu Shas. (K) *itsiwi*; Ats. (K) *itsmi*  
N. Pomo *sīma-mīti* "to sleep"; E. Pomo *sīma-nek*; S. Pomo *sīma-mītiū*; S.  
W. Pomo *sīma-ka*; N. E. Pomo *cīma-ka*; C. Pomo *sūma-mītiū*  
Ess. *atsini-si* "to sleep"  
Moh. *ismā* "to sleep"; Dieg. *ɛx'mā*  
Seri *sim* "to sleep"  
Chon. *cmāi* "to sleep"
116. Yana *sawa* "arrow"  
Chim. *sa'a* "arrow"
117. Yana *sī-* "to drink"  
Kar. (K) *is* "to drink"  
Ach. (S) *ḍīs'a* "drink!," *ḍīs'it-gusiwat* "I drink"  
Sal. (M) *icem, ecim, acim* "to drink"  
Moh. *iθi* "to drink"; Dieg. *ɛsi*  
Seri *ka-si* "to drink"  
Chon. *cwa* "to drink"
118. Yana *sigāga* "quail"  
N., C., S. W. Pomo *cakaka* "valley quail"; E. Pomo *cagtax*; S. Pomo *cakaga*;  
S. E. Pomo *xak*; N. E. Pomo *sakaka-ka*
119. Yana *sīwin-'i* "yellow pine" (for -'i see no. 59)  
Kar. *civir-ip* "yellow pine" (from \**ciwin-*; -*ip* suffix for nouns denoting trees)
120. Yana *sun-na* (var. of edible root)  
Chim. *san-na* "wild potato"
121. Yana *sūsu* "dog"  
Chim. *citce-lla, sitce-la* "dog"; *cīci-wi, sitci-wi* "wolf"
122. Yana *t'alam-mauna* "white" (-*mauna* is participial)  
Shas. (K) *it'ayu* "white"  
N. E. Pomo *taiya* "white"
123. Yana *t'inī-* "to be little"; *t'inī-si-* "child"  
Ach. (G) *atun* "younger brother"  
Kar. *tunuè-itc* "small"  
Chum. (*ma-k-)**itc-tu'n* "(my) son"
124. Yana *te'au-na* "sugar pine"  
Kar. (K) *uc-ip* "sugar pine" (-*ip* "tree")  
Shas. (K) *atsahu* "sugar pine"; Okwanuchu Shas. (K) *atsañihu*; Ach. (K) *asauyo*; Ats. (K) *atcawo-p*
125. Yana *te'ék!au-na* "smoke"  
N., N. E. Pomo *saha* "smoke"; E. Pomo *saxa*; S. E. Pomo *tsaxa*  
Ess. *tcaxa* "smoke"
126. Yana *te'igal-la* "father" (-*la* assimilated from -*na*; *te'igal-* may be compounded of *te'i-* and *gal-*, cf. S. Yana *galsi* "father")  
Chim. *iteila-(i)* "(my) father" (-*la* probably diminutive)
127. Yana *te'ik!i* "female breast"  
Shas. *itsik* "milk"; Ach. (S) *ī'tcit* "milk, female breast" (from \**it'cik*);  
Ats. *atciska* "milk"  
Sal. (M) *t-icu* "breast, bosom, chest," plur. *t-iletco* "breasts"  
Dieg. *itchikh* (i.e., *itcix*) "breast, heart"  
Probably distinct from these are:  
Chim. *cīra, cī'ila* "woman's breast, milk"

- C. Pomo *sido* "female breast"; E. Pomo *sīdo*; S. W. Pomo *cīdo*; S. Pomo *cī'do* "female breast, milk"
128. Yana *tc'u-na* "eye, face"  
 Kar. (K) *yup* "eye"  
 Shas. *oi* "eye" (probably from \**o'yo*); Konomihu, New River Shasta *ki-'oi*;  
 Ats. *oiyi*; Ach. (S) *a'sa*  
 Chim. *h-usot*, *h-ucot* "eye"; *h-uso-'xa* "tears" (literally "eye-water");  
*h-isu-ma* "face" (Chim. *-uso-* probably assimilated from *-iso-*, as shown  
 by stereotyped *h-isu-ma*; in Shasta-Achomawi and Pomo original \**iyu*,  
 cf. Yuman and Seri, has likewise become assimilated to *uyu*)  
 N., C., E., S. E., N. E. Pomo *ūi* "eye"; S., S. W. Pomo *hūūi*; as Kroeber  
 points out, E. Pomo *ui* becomes *yu* in compounds: *yu-xa* "tear" (literally  
 eye-water," cf. Chimariko above); in other words, original \**u'yu* becomes  
*ui*, (*u*)*yu'-xa* becomes *yu-xa*  
 Sal. (M) *ṭ-uwu* "face" (perhaps assimilated from \**-uyu* from \**-iyu*), *ṭ-ū*, *ṭ-ō*  
 Moh. *ṭ-dō* "eye" (from *-iyō*); Dieg. *iyū*  
 Seri *ito* "eye." Sibilant *-s-* of Achomawi, *tc'-* of Yana, and *-s-* of Chimariko;  
*-y-* of Shasta, Atsugewi, Karok, Pomo, and Yuman; and *-t-* of Seri would  
 seem to point to some such Hokan original as \**isyu* (cf. Yana *dj*: Pomo  
*(h)y*, no. 39; and developments of Hokan *-hy-*, no. 57)
129. Yana *ts!awil-la* "bluejay" (*-la* assimilated from *-na*)  
 S. W. Pomo *tsawala* "valley bluejay"
130. Yana *ts!up'* "to be good"  
 S. E. Pomo *tsama* "good"  
 Sal. (M) *ts!ep* "good"  
 Chum. (S. Yn., S. Bar.) *cuma* "good"
131. Yana *ts!urādu* "red-headed woodpecker"  
 Chim. *tcuredhu*, *tculeti* "woodpecker"  
 Sal. (M) *ts!e'l* "woodpecker"
132. Yana *u-* "to be"; like *bê-* and *na-* (see nos. 18 and 94) this verb stem is  
 used without *-si-* suffix in its present tense; hence demonstrative origin  
 seems probable, though not as clearly so as with *bê-* and *na-* (*u-'nidja*  
 "I am" perhaps originally "that-I [-am]")  
 E. Pomo *u*, *u-ba* "that" (for *ba* see no. 18); *u-mip* "he (distant)"  
 Chum. (S. Bar.) *ho* "that"  
 Sal. *hō* "that"
133. Yana *u'*, S. Yana *ux-* "to be two"  
 Kar. *axak* "two"  
 Shas. *xokwa* "two"; Ach. (S) *hak!*; Ats. *hoki*  
 Chim. *xok'u*, *qāqu* (probably to be read *xāk!u*) "two"  
 N. Pomo *kō* "two"; C., S. W. Pomo *ko*; S. Pomo *akō*; E. Pomo *xōtc*; S. E.  
 Pomo *xōs*  
 Ess. *xulax* "two"  
 Sal. (M) *hakic* "two" (San Miguel); *kakec*, *kakcu* (San Antonio)  
 Moh. *havik* "two" (from \**xawik*); Coc. *howōk*; Kiliwi *hhuak* (i.e., *xuak*);  
 Dieg. *xawok*  
 Seri *ka-xkum* "two"  
 Chon. *oke* "two"
134. Yana *'ul-* "to hit"; *'uldja-* "to put," *'uldja-sa-* "to throw away"; in S.  
 Yana *'ul-* appears as *'ol-* which internal Yana evidence shows to be more  
 archaic than *'ul-*  
 E. Pomo *ol* "to throw at"

135. Yana *wa* "to sit"  
 Ats. *we*- instrumental verb prefix "by sitting on"  
 Chim. *wo*- "to sit"; *wa*- "by sitting on"  
 Tonto *o-a* "to sit"; Wal. (*nu*)-*ua*; Kiliwi *ouau*
136. Yana *wak!i* "to defecate"  
 Ats. *wehki* "excrement" (for Ats. *e* from *a*, cf. also no. 135)  
 Chim. *h-iwax-ni* "excrement"
137. Yana *wat'du-wi* "blood" (*-wi* is collective, *-t'* probably infixed plural element); *da-wat'-sa* "to be red" (i.e., "blood-colored"; *da-* and *-sa-* are characteristic of most color verbs, cf. *da-p'al-sa* "black," no. 99); *wat'wa-'i* "redbud" (probably reduplicated form; for *-'i* cf. no. 59).  
 Yana *wat-* from Hokan *\*(a)xwat-*  
 Kar. (K) *ax* "blood" (syncopated from *\*axwa*; cf. *ic* "water" from *ica* from Hokan *\*axa*)  
 Shas. *axta* "blood"; Okwanuchu Shas. *axta*; Ach. *axdi*; these forms are syncopated from Hokan *\*axwata-*, *\*axwati*  
 (Chim. *sötri* "blood," *södrè-* "to bleed"; if these forms really belong here, we would have to assume that Hokan *xw* has developed to Chim. *s*, though Hokan *x* always remains)  
 S. Pomo *hata* "red" (perhaps from *\*xwata*)  
 Cham. (S. Yn., S. Bar.) *aXulis* "blood" (probably from *\*axwa-*)  
 Sal. (M) (*p*)*akata*, *ekata* "blood"  
 Moh. *ahwata* "blood" (from *axwata*); Dieg. *axwat* "blood"; Yuma *hhwat* (i.e., *xwat*) "red"  
 Seri *awat* "blood"  
 Chon. *awas* "blood"
138. Yana *wawi* "house" (*-wi* is probably collective suffix); simpler stem *-wa* probably in *mät!adju-wa* "sweat-house" (literally "winter-house")  
 Chim. *āwa* "house"  
 Ess. *īwa-no* "house"  
 Moh. *ava* "house" (from *\*awa*); Dieg. *awa*
139. Yana *wēyu* "horn"  
 Kar. *wēcu-ra* "horn" (from *\*wēcu-*)  
 Chim. *h-owec* "antlers, horn" (for Yana *-y-*: Chim. *s*, *c*, see also nos. 62, 184)
140. Yana *wil-la* "belly" (*-la* assimilated from *-na*); from Hokan *\*(u)xwi-l-* (cf. no. 137); for *-l-* of Yana *wil-*, cf. *i'dal-* "bone": Hokan *\*ihya-* (no. 57)  
 N. Pomo *kōi* "belly"; N. E. Pomo *koi*; S., S. W. Pomo *ūka*; S. E. Pomo *xō*; E. Pomo *xo*; C. Pomo *wōxa*; these forms point to original *\*(o)xoi*, *\*(o)xwi*
- 140a. S. Yana *ya'gaihi* "wife's brother"  
 Shas. (G) *iyaki* "wife's brother, man's sister's husband"
141. Yana *yu-na* "acorn"  
 Ats. *yummi* "acorn"  
 Chim. *yutri* "acorn"

## SECONDARY VERB STEMS

Among the numerous suffixed elements that go to build up Yana verb structure is a large class that come immediately after primary stems and convey verbal or adjectival ideas of considerable concreteness. They may, accordingly, be appropriately termed "secondary verb stems." It is highly probable that they were originally primary stems which, being often compounded with other preceding primary stems, gradually came to lose their independence and to assume the aspect of verbal suffixes. Indicative of this is the fact that in at least a few cases elements may be used in both initial and secondary positions. Thus *-wat'* "red" and *-p'al-* "black" are secondary elements in verb structure, but occur in initial position in nouns (e.g., *wat'wa-'i* "red-bud"; *p'al-witc'u* "black salt"); further, *samsi-* "to sleep" occurs in secondary position in *gi-samsi-p!a-* "to feel sleepy" (*gi-* primary verb stem indicating states of mind). Composition of primary verb stems is, however, so rare in Yana as to be practically absent. The loss of independence of secondary verb stems has evidently been consummated as a general process in the very remote past. Comparison with other Hokan languages strongly supports the view that the suffixation in Yana of these stems is the result of a loss of independence, for some of them are clearly cognate to independent stems in these languages.

142. Yana *-balla-* "to knock, hit, poke"  
 Chim. *-pat-* "to poke"  
 E. Pomo *bati* "to shoot"
143. Yana *-dada-* "to shake, flutter" (e.g., *yaidja-dada-'a-* "[one's flesh, eyelashes, cheeks] shake from fear"; *'ep!i-dada-dibil-* "[humming-bird] goes buzzing around"; *'al-t'da-*, syncopated from *'al-dada-*, "to shake [intr.]")  
 S. Pomo *itataū* "to shake"; N. E. Pomo *tcererem* (probably to be understood as *tce-rerem* from *\*dedem*) "to shake," *tcarara-rem* "earthquake" (from *\*tca-dada-dem*)
144. N. Yana *-gat-* "to roll" (intr.)  
 Chim. *-k-* "to roll"
145. Yana *-gal-* "(to bite) out piece of"; *-gal-t'di-* "to peel off (skin, bark)"  
 Chim. *-kxol-* "to dent"
146. Yana *-gan-* "to break"; S. Yana *-sgan-*  
 Chim. *-kat-* "to break, separate"
147. Yana *-gulai-* perhaps "to be bent" (in *ba-gulai-mak!i-* "to be humpbacked"; *mak!i* "back")  
 Chim. *-koru-* "to bend" (*r* and *l* constantly interchange in Chimariko)

148. Yana *-k!al-*: *hui-k!al-di-* "to wash" (*hui-* is probably causative form of *hai-*, incorporated form of *ha-* "water"); *bô-k!al-<sup>t</sup>di-* "to clean out (grain) by beating"; *dô-k!al-<sup>t</sup>di-* "to brush"  
C. Pomo *k!al* "to rub"
149. Yana *-k!au-* " (to cut, snap, break) piece out, off"  
S. Pomo *ikaû* "broken or burst asunder"
150. Yana *-k!un'â-*, *-k!un'a-* "to stay, dwell, sit"; S. Yana *-k!ola-*; occurs also as primary stem in *k!un'â-mari'mi* "old woman" (literally "sit-woman"), plural *k!û'nâ-p!diwi*; for verbs of sitting as first members of compounds referring to persons, cf. no. 3  
Kar. *kini*, *kiri* "to live, sit, be"
151. Yana *-hîli-*, *-hîlî-* "smooth" (probably reduplicated element; cf. *-dada-*, no. 143)  
Chim. *lûywin* "smooth"
152. Yana *-<sup>t</sup>la-* " (to act upon) soft, sticky object"  
Chim. *lo'oren* "soft"
153. Yana *-ts!an-* in *gâ-ts!an-* "to make a speech" (for *gâ-* see no. 46)  
E. Pomo *-tsan-* in *ba-tsan* "to preach" (for *ba-* see no. 8)
154. Yana *-ts!au-* (see no. 63)
155. Yana *-ts!u-* "to tear, scratch, wear out"  
E. Pomo *bi-teu* "to gnaw off"
156. Yana *-wa-*, *-wâ-* secondary stem in certain verbs of weeping (e.g., *dja-wâ-* "to mourn, lament off in woods"; *dîl-wa-* "to dance with grief")  
Ach. *-wo-* "to cry"  
Chim. *-wo-* "to cry"
157. Yana *-yi-* in *mô-yi*, passive *mû-yi-* "to teach, give advice" (for *mô-*, *mû-* cf. perhaps *mô-*, *mû-* "to reach, hand to, hold," no. 87)  
E. Pomo *-yi* in *ba-yi* "to teach"; *mi-yi* "to count"; *du-yi* "to show, teach, count"

### LOCAL SUFFIXES

Yana is characterized by a large number of local verb suffixes, resembling in this respect Karok, Shasta-Achomawi, and Chimariko. On the other hand, it does not possess the local postpositions suffixed to nouns which are found in these languages, also in Pomo and Esselen. To express prepositional relations Yana employs the same method as Salinan and Chumash, that is, the noun is preceded by an independent local noun of prepositional significance; thus with such constructions as Salinan *tòke tecaan* "in the basket" and Chumash *māma o* "in water" compare Yana *'iyêmairik!u dāha* "in middle of river," *ihautc<sup>u</sup> dāha* "west of river." Such local nouns are in every case built up of a local verb suffix preceded by the element *i-* or *î-* and sometimes followed by the absolute noun suffix *-na* or by an element *-k!u* (thus the verb suffixes corresponding to the above local nouns are *-yêmairi-* and *-haudju-*). As a matter of fact, the most common

method of expressing prepositional relations in Yana is to suffix the local element to the verb stem and to connect the verb with the noun by means of the objective particle *gi*. The close connection between local verb suffixes and local nouns in Yana is at least theoretical ground for suggesting that these suffixes, where they occur in Hohan, are nothing but incorporated local nouns that originally possessed complete independence, as still indicated by Chumash and Salinan. Comparative evidence bearing on certain specific suffixes would seem to confirm this hypothesis (see nos. 169, 172, 174, 176; cf. perhaps further Karok *-tako* "on" as verb suffix with Salinan *tòke* "in" as local noun).

158. Yana *-ʼan-* "arriving at"  
 Kar. *-ra* verb suffix "toward" (Karok *r* frequently goes back to *n*)  
 (E. Pomo *-n* nominal postposition "to")
159. Yana *-bil-* "about, moving about"  
 E. Pomo *-mal-*, *-mli* verb suffix "around"
160. Yana *-dam-* (*-ram-*), *-dāmi-* (*-rāmi*) "out, out of the house"  
 Kar. *-arup-*, *-ripa* verb suffix "out"  
 Ach. (K) *-da* verb suffix "out of house"; Ats. *-ta* verb suffix "out of"  
 Chim. *-tap* verb suffix "out"; *-tpi* verb suffix "out of"
161. Yana *-di-* (*-ri-*), *-dī-* (*-rī-*) "down" (occurs also compounded, as in *-ma-ri-* "down into hole, receptacle"; *-wal-di-* "down on ground"; *-ʼuldi-* "down from height"); *-du-* (*-ru-*), *-dū-* (*-rū-*) "down from point above"; these two suffixes are probably related, both being perhaps based on older Hohan *\*-da-* "down" plus elements that have now lost their individuality  
 Ach. (K) *-danu-* verb suffix "down"  
 Chim. *-dam* verb suffix "down"
162. Yana *-dja-* "off," used in certain verbs of "putting," "throwing," and other activities  
 E. Pomo *tsa-* verb prefix "away"; as Kroeber remarks of this class of Pomo elements, "Adverbial prefixes are the most loosely connected with the verb, and sometimes are heard as separate words"; it is therefore not altogether surprising that certain of them correspond to local suffixes of other Hohan languages; with the exception of *-mli*, *-mal* "around" (see no. 159), Kroeber lists no Pomo local suffixes for verbs; see further no. 173 and compare E. Pomo *ca-* verb prefix "through" with Chim. *-usam* verb suffix "through"
163. Yana *-dja-* "up" in certain verbs (e.g., *djū-dja-* "water rises"; *bul-dja-sa-* "three fires blaze up"); ordinarily appears compounded in *-tʼ-dja-* "up (in air)"; containing this *-dja-* are probably also local suffixes *-dja-ri-* "house, going up" (e.g., *uʼ-djari-si* "there are two houses," literally "there are two going up"); *-s-dja-* "house going up" (e.g., *mallaḡ!a-sdja-s-kʼi* "he has bad house going up," cf. *mallaḡ!a-* "to be bad" and *-s-kʼi* "his is"); *-djai-ri* "on top of"  
 Chim. *-tso-* verb suffix "up"

164. Yana *-'ê-* "with, by means of"  
(E. Pomo *-i, -yai* nominal postposition "with, by means of")
165. Yana *-gun-* stereotyped secondary element possibly indicating "interior, inside": *î-gun-na* "sweat-house" (*î-* possibly identical with prefixed *i, î-* of local nouns; *-na* absolute noun suffix), originally perhaps "inside place"; N. Yana *wai'-guru-wa* "sweat-house" (syllabically final *n* becomes *t* in N. Yana, which develops to *ru* before *w*, cf. N. Yana *'aru-wul-* "several go into house" with C. Yana *'an-wul-*; *-wa* "house," cf. no. 133), originally perhaps "sit-inside house"  
Kar. *-kuri* verb suffix "into"
166. Yana *-k'i-* "hither"  
Chim. *-k-* in *-wa-k-, -wa-to-k-* "to come" (cf. *-wa-, -wam-* "to go"; cognate with Kar. *-var, -varam* "to go" from *-wan* or *-wal* and E. Pomo *wa, wal* "to walk, go, pass")  
Yuma *kirik* "to come"; Dieg. *kiyu*
167. Yana *-k lam* "toward oneself"  
Kar. *-ka* verb suffix "to"  
Chim. *-s-ku* verb suffix "towards" (for *-s-* cf. *-s-mu* "across")  
Sal. (M) *sk lam* "close, beside, hither"
168. Yana *-lau-* "out of enclosed space into open," sometimes specifically "out of mouth" (e.g., *ya-lau-* "mouth bleeds"; *'ul-lau-wal-* "breath smells," *-wal-* incorporated form of *bal-* "mouth")  
Chim. *-lo* verb suffix "apart (?)" (e.g., *n-itcxa-lo* "pull out tooth!" *itcxa-* "to pull")
169. Yana *-'lu-* "in head" (e.g., *ne-'lu-* "to kick one's head," from *ne'* "to step" plus *'lu-*; *lau-'lu-* "to be strong in head"); N. and C. Yana pre-consonantal *-'* goes back to either original *-s-* or *-x-*, as shown by comparison with S. Yana (e.g., *-'bu-* "to be first": S. Yana *-xbu-*; *-'gan-* "to break": S. Yana *-sgan-*); Pomo *cina* (see below) suggests that Yana *-'lu-*, if indeed related, goes back to original *\*-isl-*  
Shasta *innux* "hair" (perhaps assimilated from *\*isnux*); Konomihu *k-ina* "head" (perhaps from *\*isna*, cf. Pomo *cina*; for *k-* prefix cf. New River Shasta *k-i'tsau*, no. 63); New River Shasta *k-innux* "head"; Okwanuchu Shas. *innux* "head"; Ach. *lax* "head"; Ats. *naxa* "head" (perhaps from *\*snaxa*)  
N., S. Pomo *cina* "head"; S. W. Pomo *cina*; C. Pomo *cna*; S. E. Pomo *xîya* (Pomo *c* becomes *x* in this dialect)  
Chum. (S. Bar., S. Yn.) *nokc* "head, hair" (perhaps from *\*cno-kc*; cf. Ach. *lax* and Ats. *naxa* above); is this hypothetical *c-* preserved in Chum. (S. L. O.) *co* "head, hair" (perhaps from *\*cno?*). Hokan *\*is(i)nu-*, *\*is(i)na-* seems to lie back of all these forms
170. Yana *-ma-* "together with"; *-ba-nau-ma* "everyone" (as subject; *-ba-* "all"; for *-nau-* cf. *dja-nau-* "to eat much"); perhaps also compounded as *-m-, -mi-* in *-mts'i-, -mits'i-* "together, with one another"  
Chim. *-m-* in *-m-di-, -m-du* instrumental postposition (cf. Ess. *-ma-nu* below)  
E. Pomo *-ma* verb suffix "plural subject"; *-ma* reciprocal verb suffix "each other, one another"; these elements are probably further related to nominal postposition *-(i)mak* "in company with"; *-mak* verb suffix "to have, be provided with"  
Ess. *-ma-nu* nominal postposition "together with" (comitative idea probably conveyed by *-ma-*, as *-nu* alone is "with" in its instrumental sense)

171. Yana *-ma-* verb suffix "there, at that place"; *-madu* "place of" suffixed to nouns (this element is generally used after nouns preceded by objective *gi* and is practically equivalent to nominal postposition "at," e.g., *gi 'igun-madu* "at sweat-house place")  
 Chim. *-ma-*, *-mu* suffix for place names (e.g., *tcitcan-ma* "Taylor's Flat," literally "manzanita-place," cf. *tcitca-na* "manzanita")  
 S. W. Pomo *malī* "there, place"  
 Sal. (M) *ma-* locative prefix "at, to, there"
172. Yana *-ma-* in *-ma-ri-* "down into (pit, receptacle)" (as *-ri-* means "down," see no. 161, *-ma-* must be interpreted to have originally meant "in, into," though it does not occur alone in that sense)  
 Kar. *-am-ni-* verb suffix "in, into"  
 Chim. *-ema-* verb suffix "into"  
 Sal. *mum-*, *mem-* in local noun *mum-tōke*, *mem-tōke* "in" (cf. *tōke* "in")  
 Chum. *māma* local noun "in"
173. Yana *-mi-* "to one side," occurs only compounded, e.g., *-wil-mi* "on one side, half," cf. *-wil-* "across"; *-wal-mi-* "apart, in hiding"; *-ma-mi-* "plus five," e.g., *bul-mami-* "eight," literally "three with (cf. no. 170) five to one side"  
 E. Pomo *ma-* verb prefix "across, opposite"
174. Yana *-mminak!i-* "behind"; corresponding local noun *i-mminak!i* "behind"  
 Chim. *h-imina* "back"; *h-imina-tce* "behind, outside"; this example is particularly valuable as directly suggesting that at least certain Yana local verb suffixes are in origin incorporated nouns
175. Yana *-'uldi-* "down (from fixed point)" (compounded with *-di* "down," see no. 161)  
 Kar. *-uni* verb suffix "down"
176. Yana *-wul-* "into," as local noun *i-wūlu* "in, into"; Yana *-wulu* probably goes back to Hokan *\*xulu* (cf. Yana *w* from Hokan *xw*, no. 137)  
 Kar. *-furu-k* verb suffix "into house" (from Hokan *\*xunu* or *\*xulu-*; for Kar. *f* from original *x* before original *u*, cf. further Kar. *yufi* "nose: Chim. *h-oxu*, Moh. *'-exu* "nose")  
 Ach. (K) *-lu* verb suffix "into house" (probably from *\*xlu-*, cf. *lax* "head" from older *\*slax*, see no. 169; *-xlu-* syncopated from *\*xulu-*, as so often in Shasta-Achomawi)  
 Chim. *-xun* verb suffix "into"; as independent local noun *xunoi* "into" (observe that suffixed *-xun* is related to independent *xuno-i* with its second vowel as Yana suffixed *-wul-* is to independent *-wūlu*). This example further illustrates originally independent character of local verb suffixes  
 Chum. *lūlūkūn* local noun "in" (perhaps assimilated from Hokan *\*xulu-*

#### OTHER VERB AND NOUN SUFFIXES

177. Yana *-gu-* verb suffix "a little, just"  
 Chim. *-gu-*, *-ku-* indefinite suffix with diminutivizing force: *xanī-gu* "by and by"; *curai-gu* "some time ago" (cf. *sul* "long ago"); *patce-am-ku* "something" (cf. *patci* "what"); *-gu-lan* "merely, only" (*-la-* is probably diminutive suffix)
178. Yana *-ma-* usitative verb suffix "to be wont to"  
 E. Pomo *-kima* verb suffix indicating usitative past

179. Yana *-na* absolute noun suffix added to stems ending in long vowel, diphthong, or consonant and to all monosyllabic stems; preceding *l* assimilates it to *-la*
- Kar. *-an*, *-ar* noun suffix denoting agent or instrument
- Chim. *-r*, *-l* noun suffix of rather colorless significance (e.g., *tcima-r* "man"; *kosa-r* "crane"; *tsaboko-r* "mole"; *himetasu-r* "morning"; *piso-r*, *piso-l* "quail"); some nouns have *-ra*, *-la* (e.g., *pxici-ra* "skunk," *ta'i-ra* "ground squirrel"); diminutive *-lla* perhaps contracted from diminutive *-la*, *-l* and absolute *-la*, *-ra*)
- Pomo *-l* absolute noun suffix (e.g., N. E. Pomo *fo-l* "beads," S. E. Pomo *fō-l*, E. Pomo *pō-l*: N. E. Pomo *fo*, C. Pomo *po*, N. Pomo *pō*; S. E. Pomo *cala-l* "liver": N., C. Pomo *cala*)
- Ess. *-nax*, *-nex*, *-nix* noun suffix (e.g., *masia-nex* "heart"; *asa-nax* "water")
- Dieg. *-ly* absolute noun suffix (e.g., *Esi-ly* "salt": Moh. *aθ'i*; *'emi-ly* "leg, foot": Moh. *'ime*)<sup>7</sup>
180. Yana *-p'a* modal verb suffix of dubitative significance (e.g., *a-p'a* "if he would be"; *a-* "if"); *-s-p'a* (compounded of present *-si-* and modal *-p'a*) modal verb suffix of contrary-to-fact significance (e.g., *a-sp'a* "if he were, had been")
- E. Pomo *-pi*, *-pi-la* verb suffix "if, until"
181. Yana *-t'*; *-t'*, *-r-* plural noun suffixes; *-di-*; *-dja-*; *-'* plural verb infixes, e.g., *sit'in'i-wi* "yellow pines" from *sīwin'i* "yellow pine"; *mut'djau-t'i-wi* "chiefs" from *mudjau-p!ā*; *mut'galā'i-wi* "logs" from *mugalā'i*; *k!urūwi* "medicine-men" from *k!ūwi*; *'ādiba-* plur. of *'āba* "to be old"; *sādīm-* plur. of *samsi-* "to sleep"; *k!ādjawai-* plur. of *k!a'wī-* "to be tired"; *dja'wā-* plur. of *djawā-* "to mourn")
- Sal. *-t-*, *-ts-*, *-l-* plural noun and adjective infix; *-l* also used as plural suffix (e.g., *sem'ta* plur. of *sepza* "child"; *hōste* plur. of *hūtcāi* "dog"; *lentse-n* plur. of *lene* "woman"; *cetlip* plur. of *cetep* "dead"; *smatel* plur. of *smat* "beautiful")
182. Yana *-ts!i* collective noun suffix generally referring to small objects (e.g., *haga-ts!i* "flint fragments" from *haga* "flint"; *djuwā-ts!i* "small game" from *djūwa* "jack-rabbit"); more often occurs as compounded *-ts!-gi*, *-ts!ē-gi* diminutive noun plural (e.g., *'amai-ts!gi* "children"; *'i-ts!lēgi* "little sticks" plur. of *'i-p!a* "little stick")
- Kar. *-itc* diminutive noun suffix
- Pomo *-ts*, *-tce*, *-tsen* in certain terms of relationship, evidently expressing affection; C. Pomo *-ts* (e.g., *cū-ts* "mother's sister," cf. N. Pomo *-sū*); E. Pomo *-ts* (e.g., *tse-ts-a* "mother's brother," cf. N. Pomo *-tsū*); S. Pomo *-tsen* (e.g., *a-ba-tsen* "father's father," cf. N. Pomo *-ba*); S. W. Pom. *-tsen*; S. E. Pomo *-ts* (e.g., *im-ba-ts* "father's father"); N. E. Pomo *-tce*, *-tci* (e.g., *ka-tci-dai* "mother's mother," cf. N. Pomo *-ka*)
- Chum. *-itc*, *-its-* in *ma-k-itc-tu'n* "my son," *ma-k-its-its* "my younger brother"
183. Yana *-ūwi* dual noun suffix (e.g., *dāl-ūwi* "two hands"; *lal-ūwi* "two feet"; *mal'gūwi* "two ears" from *mal'gu* "ear"); *-wi* is plural or collective noun suffix (see no. 183a and examples in no. 181), leaving *-ū-* as distinctive of duality
- Chim. *-owa* in *nōut-owa* "we two (excl.);" (cf. *nōut* "I"); *mamut-owa* "we two (incl.);" (cf. *mamut* "thou")
- Chum. *-u* in *ckūm-u* (literally "two twos") from *ickōm* "two"

<sup>7</sup> It is impossible to be certain at present that Yana *-na* and Ess. *-nax* are comparable to Chim. *-l*, *-r*, Pomo *-l*, and Dieg. *-ly*.

- 183a. Yana *-wi* collective noun suffix (e.g., *'i-wi* "firewood, wood," cf. *'i-na* "tree, stick"; for other examples see nos. 181 and 183)  
 Shas. *-ya-wER* plural pronominal suffix; Ats. *-wir*  
 Sal. *hi-wet, hi-wat* plural of demonstrative *he* "that"  
 Chum. *-wun* plural demonstrative suffix (e.g., *kaiu-wun* "these" from *kai* "this one"; *qôlô-wun* "those" from *qôlô* "that one")
184. Yana *-ya* "female" (e.g., *k!ûwi-ya* "medicine-woman" from *k!ûwi* "medicine-man")  
 Chim. *-sa* "female" (e.g., *lasa* "widow"; *tcu-mako-sa* "my mother-in-law," cf. *tcu-maku* "my father-in-law"); for Yana *y*: Chim. *s*, cf. no. 62
185. Yana *-yau-* forms verbal nouns (e.g., *mô-yau-na* "food" from *mô-* "to eat")  
 Chim. *-eu, -êu* forms verbal nouns (e.g., *hâm-eu* "food" from *-ama-* "to eat")  
 Sal. (M) *-ia, -i'a* suffixed to verbs to form nouns

### PRONOUNS

Pronominal ideas are expressed in Yana by means of suffixed elements (*-ndja, -nidja*, S. Yana *-ndjî, -nidjî* "I, my"; *-numa* "thou, thy"; *-nigi* "we, our"; *-nuga*, S. Yana *-numgi-* "ye, your"). These elements when suffixed to third personal stem *ai* "he, it" form the series of independent pronouns (*ai'nidja* "I," S. Yana *ai'nidji*; *ai'numa* "thou"; *ai'nigi* "we"; *ai'nuga* "ye," S. Yana *ai'numgi*). As the present independent series is thus evidently of quite secondary origin, it is highly probable that the suffixed pronominal elements of Yana are themselves the old series of independent personal pronouns which, because of their habitual position after the verb, have become reduced to the status of suffixed elements (e.g., *dêwaisi'numa* "thou seest" from older *\*dêwaisi numa* "see-in-present-time thou"). This analysis is confirmed by the fact that the elements *-nidja* (*-ni-djî*), *-numa*, *-nigi*, and *-nuga* (*-numgi*) are regularly separated from preceding vowels by a light glottal stop of purely phonetic (disjunctive) force (e.g., *bê'nidja* "it is I"; *môsi'nigi* "we shall eat"). It is also in striking agreement with the testimony of other Hohan languages, which make use partly of simple independent pronouns, partly of prefixed elements, but only to a relatively slight extent (Chimariko and Shasta-Achomawi) of suffixed elements.

Further analysis of the Yana pronominal elements readily discloses the fact that they are not simple, but compounded. The analysis is evident from the following:

Sing. 1. *-ni-dja*  
 (*-ni-djî*)  
 2. *-nu-ma*

Plur. 1. *-ni-gi*  
 2. *-nu-ga*  
 (*-nu-mgi*)

The pronominal elements consist of *-ni-* (for the first person) or *-nu-* (for the second person) plus characteristic elements (*-dja*, S. Yana *-dji*; *-ma*; *-gi*; *-ga*, S. Yana *-mgi*) that undoubtedly constitute the old pronominal series proper. The *-ni-*, *-nu-* may be an old demonstrative element (*-ni-* perhaps originally "this, it near me"; *-nu-* "that, it near you"), as seems to be indicated by the fact that it occurs only in intransitive forms and in transitive forms involving a third personal subject or object (e.g., *nīsāsī-n-dja* "I go away"; *dēwāisi-n-dja* "I see; I see him, it"; *dīwāisi-wa-n-dja* "he sees me, I am seen by him"), but disappears in transitive forms involving combinations of first personal subject and second personal object or second personal subject and first personal object (*-dja*, S. Yana *-dji* "thou-me"; *-gi* "thou-us"; *-ma* "I-thee"; *-m'ga*, S. Yana *-mgi* "I-you").

While the pronominal subject and object are solely expressed by means of suffixed elements, nouns with suffixed possessive pronouns are at the same time preceded by article-like proclitics. These are, in Northern and Central Yana, *dji* for the first person and *dju* for the second (e.g., *dji wawī-ndja* "my house," *dji wawī'nigi* "our house," *dju wawī'numa* "thy house," *dju wawī'nuga* "your house"); the *i-u* alternation is probably comparable to the corresponding use of *-ni-* and *-nu-* above, while *dj-* is a demonstrative or article-like element found also in other connections (e.g., *ai-dje*, *ai-dje'e* "that one"; *ai-dj*, *ai-tc'*, S. Yana *tc'* "the; he, it"; *ai-dja* "there").<sup>8</sup> In Southern Yana, however, the possessives are expressed by proclitic elements alone, except for the second person plural, which is also expressed by a suffixed *-numgi*, probably to distinguish it from the corresponding singular form; the possessive elements in Southern Yana are:

<i>dji</i> "my"	<i>dju-m</i> "thy"
<i>dji-n</i> "our"	<i>dju-m . . . -numgi</i> "your"

The *-n* of *djin* and the *-m* of *djum* are peculiar to this dialect and are probably abbreviated forms of an old first person plural *n-* element which has otherwise disappeared in Yana (see no. 189 below) and of older *ma* "thou" or *mi* "thy" (see no. 190). It is not impossible that the *-i* of *dji* "my" is only secondarily contrastive to the *u* characteristic of the second person and is really an old first person singular

<sup>8</sup> *ai* "he, it" of these forms has been already referred to; it is disconnected from demonstrative *-dj-*, *-tc'* by objective *gi*, e.g., *ai-gi-dje'e* "to that one." For *-e*, *-e'e* of *ai-dje('e)* see no. 192 below; *-dja* of *ai-dja* may contain a survival of an old postpositional *-a* "in, at" that has otherwise disappeared (*ai-dj-a* originally "it therein"; with this hypothetical *-a* cf. E. Pomo *-a* "at," e.g., *me-a* "here, at this").

possessive element that has lingered on only in proclitic position (thus S. Yana *dj-i wowi* originally "the-my house"; with this *-i* cf. perhaps Chimariko *-n* in, e.g., *masomas-i* "my red-salmon" and *i-* in, e.g., *i-patni* "I poke thee, him").<sup>9</sup> The pronominal elements *-i*, *-n*, and *-m* are the more significant for comparative purposes in that their position corresponds to that of possessive pronouns in other Hokan languages (thus with such a form as S. Yana *dju-m wowi* "thy house," cf. Kar. *mi-kiriviram* "thy house"; Ach. (S) *mi'mu-diyum'dji* "thy house"; Chim. *m-īsam* "thy ear";<sup>10</sup> E. Pomo *mi-mex* "thy older brother"; Ess. *nemis-hikpa* "thy eyes"; Sal. *t'-m-ulet* "thy teeth";<sup>11</sup> Chum. *ma-p-go* "thy dog";<sup>11</sup> Moh. *'-ihù* "his nose").

The comparative data bearing on Yana pronominal elements follow.

186. Yana *-n-dja*, *-ni-dja* (S. Yana *-n-dji*, *-nidji*) "I, me; my"; *-wā-dja* (S. Yana *-wā-dji* "thou-me" (*-wā-* is really passive, hence literally "I-by-[thee]"))  
Shas. *-s* verbal suffix "I"; Ach. *-s*; Ats. *-s*  
Chim. *tcu-* "my" (inherent possession); *tcu-*, *tca-* "he, they-me"; *tca-*, *-tce* "I" (with static verbs)
187. Yana *-i* in *dji* "my"; *mau-s-i* "I am about to" (see introductory remarks to this section)  
Ach. (S) *i'-* in *i'-t'u* "my" (for *-t'u* cf. *mi-s-t'u* "thy"; *i't'u diyum'dji* "my house," e.g., probably means literally "my-property house")  
Chim. *-i* "my" (accidental possession); *i-* "I-thee, I-him"
188. Yana *-ni-gi* "we, us; our"; *-wā-gi* "thou-us" (literally "we-by-[thee]")  
Kar. *ki-n-* "us" (but cf. also *kik-* "you," subj.; *kik-* . . . *-ap* "you," obj.)  
Sal. (San Miguel) *ka* "we"; (San Antonio) *kak*  
Chum. *ki-cku* "we two" *ki-ku* "we"; *ki-* "we, our"
189. S. Yana *-n* in *dji-n* "our" (for *dji* see introductory remarks to this section)  
Kar. *nu* "we"; *nu-* "we" as subjective prefix; *nanu-* "our"; *ki-n-* "us" as objective prefix
190. Yana *-nu-ma* "thou, thee; thy"; *-wā'-ma* "I-thee" (literally "thou-by-[me]"); S. Yana *-m* in *dju-m* "thy" (for *dju* see introductory remarks to this section)  
Kar. *īm* "thou"; *mi-* "thy"  
Shas. *mai* "thou"; Ach. *mi-* "thou" as subjective prefix, Ach. (S) *mist'u-*, *mi'mu-* "thy"; Ats. *mi-* "thou" as subjective prefix  
Chim. *ma-mut* "thou"; *mi-* "thou, thou-me, thou-us; thou-him, them; he, they-thee"; *-mi* "thy" (denotes accidental relation), *m-* "thy" (denotes inherent relation)  
E. Pomo *ma* "thou"; *mi* "thee"; *mi-* "thy" (with terms of relationship)  
Ess. *nemi*, *name*, *nanme* "thou"; *nemic-*, *mic-* "thy"

<sup>9</sup> Here may well belong also the quite isolated form *mau-s-i* "I am about to" (*mau-s* "he is about to"; such forms as *mau-si moyayuna* "I am about to eat" are perhaps to be understood as originally meaning "is-about-to-be (*mau-s*) my (-i) eating (verbal noun in *-yayuna*, see no. 185)."

<sup>10</sup> In Chimariko possessive pronouns indicating accidental relations are suffixed, those indicating natural or inalienable relations are prefixed.

<sup>11</sup> Sal. *t'-* and Chum. *ma-* correspond structurally to Yana *dj(u)-*.

- Sal. *mo* "thou"; *-m-*, *-um-* "thy" (e.g., *t'-m-ulet* "thy teeth," *t'-um-kai* "thy elder brother"; *t'-um-* is in striking morphological agreement with S. Yana *dju-m* "thy")
- Moh. *mānya* "thou"; Dieg. *ma*
- Seri *me* "thou"
191. Yana *-nu-ga* "ye, you (pl. obj.); your (pl.)"; *-wā-m'ga* "I-you (pl.)" (literally "you pl. -by-[me]"; *-m'ga* probably compounded of second person singular *-ma*, *-m* and second person plural element *-ga*); S. Yana has *-nu-mgi* instead of *-nu-ga* (*-m-* probably second person singular element)
- Kar. *-k-* in *ki-k-* "ye" as subjective prefix (for *ki-* cf. *ki-n-* "us"); *ki-k- . . . -ap* "you" (pl. obj.; *-ap* is "thee," hence Kar. *-k- . . . -ap* is morphologically equivalent to Yana *-m'-ga*)
- Chim. *q-*, *qe-* "ye" as subjective prefix; *qo-*, *qa-* "he-you (pl.)"; *qo-* "they-you (pl.); ye-me, us; ye-him"
- Sal. (M) *t-k-*, *te-k-* "your" (*t-*, *te-* is prefixed article)
192. Yana *-(y)e-*, *-(y)e'e* in *ai-ye*, *ai-ye'e* "that one," *ai-dj-e*, *ai-dj-e'e* "this one, that one" (*ai* is third personal pronoun; *dj-* article-like or demonstrative element); Yana *ai-ye* probably from \**ai-he* (*-y-* is glide between *ai* and *e-*; for disappearance of intervocalic *-h-* cf. *djō-na* from *djuhau-na* "dwelling east, Hat Creek Indians")
- E. Pomo *he*, *hee* "the, this" (*hee* perhaps to be understood as *he'e* as in Yana *-e'e*)
- Sal. *he* "that"
- Chum. (S. Bar.) *he* "this"<sup>12</sup>

### ADDITIONAL HOKAN COGNATES

When it is remembered that Yana is clearly non-typical of general Hokan morphology, it will have to be conceded that the present comparative list of stems and non-radical elements (which is quite large, considering that data are scanty for nearly all the languages involved) goes a long way towards encouraging us to proceed with confidence on the basis of the Hokan hypothesis. Aside from Yana, I have observed many striking Hokan cognates. While this is not the place to discuss them in detail, a few significant references may be welcome.

Chim. <i>-maxa</i> of <i>h-itxani-maxa</i> "knee" (from <i>h-itxan</i> "leg")	S. W. Pomo <i>mōko</i> "knee"
Chim. <i>-lot-</i> "to mash"	Dieg. <i>meze-tunn</i> "knee"
Chim. <i>-owa-</i> , <i>-wam-</i> "to go"	E. Pomo <i>lat</i> "to mash"
	Kar. <i>var</i> (from <i>*wan-</i> or <i>*wal-</i> ) "to go"
	E. Pomo <i>wa</i> , <i>wal</i> "to go"

<sup>12</sup> Other Hokan demonstratives have become verbal in force in Yana; see Yana *bē* (no. 18), *na* (no. 94), and *u* (no. 132); see also no. 2.

Chim. <i>tu-</i> "with the hand"	E. Pomo <i>du-</i> "with the hand"
Chim. <i>h-</i> "his," <i>ha-mut</i> "he"	E. Pomo <i>ha-</i> "his, their" (with terms of relationship)
	Moh. <i>-</i> "his"
Chim. <i>-ana-</i> "on" (as verb suffix) <sup>13</sup>	E. Pomo <i>-na-</i> , <i>-wi-na</i> "on" (as post-position)

It is only when we have something like an adequate knowledge of all the Hokan languages or dialectic groups that it will be possible to compile a relatively complete comparative Hokan dictionary and to study in detail the linguistic groupings and sub-groupings of these tribes. So far there seems to be no strong lexical evidence to connect Yana with one rather than with another of the other Hokan languages. Geographically it is closest to Shasta-Achomawi, but it seems to be at least as far removed from these languages as from the geographically more remote Pomo. Indeed, the only grouping of Hokan languages among themselves that it seems at all possible to make at present is that of Chimariko with Shasta-Achomawi, as already pointed out by Dixon in his study of Chimariko. To Shasta-Achomawi and Chimariko I should be inclined to add Karok as the third member of a geographically continuous northern group of Hokan.

#### REMARKS ON PHONOLOGY

The material gathered together in the preceding sections enables one to determine (or at least suggest) a number of phonetic laws characteristic of one or other of the Hokan languages. Nevertheless it would be premature to attempt a systematic presentation of Hokan phonology. The evidence is far too scattered and scanty for this purpose. I shall therefore content myself with a reference to only two or three points, especially as certain phonetic laws have been already suggested in connection with the specific entries.

In regard to vowels, one of the most striking features is a somewhat frequent correspondence of Chimariko *o*, less often *u*, to *a* in other Hokan languages. It is to be noted, however, that more often general Hokan *a* seems to be represented by *a* in Chimariko also. Examples of Chim. *o*, *u*, Hokan *a*, are:

<sup>13</sup> Not explicitly recognized by Dixon, but found in certain instrumental nouns; e.g., *hāma-ana-ksia* "whereon one eats, table"; *hiwo-ana-da-tsa* "whereon one sits, chair."

No.	Chimariko	Hokan
4.	<i>h-imo-</i> "grandson"	Yana <i>'amāwi-</i> , Chum. <i>-ama</i>
34.	<i>-(t)cpom, -tcibum</i> "five"	Yana <i>djiman-</i>
46.	<i>-kō-, -gō-</i> "to speak"	Yana <i>ga-</i> , Pomo <i>ga-</i>
50.	<i>kāteu</i> "clover"	Yana <i>gamcu</i>
66.	<i>qoiyō-in</i> "sour"	Yana <i>k'ai-</i>
72.	<i>lālo</i> "goose"	Yana <i>lālagi</i> , S. W. Pomo <i>lala</i>
133.	<i>xok'u, qāqu</i> "two" <sup>14</sup>	Kar. <i>axak</i> , Ach. <i>hak!</i> , Dieg. <i>xawok</i>
135.	<i>-wo-</i> "to sit"	Yana <i>wa-</i>
152.	<i>lo'oren</i> "soft"	Yana <i>-'la-</i>
156.	<i>-wo-</i> "to cry"	Yana <i>-wa-</i>
163.	<i>-tso-</i> "up"	Yana <i>-dja-</i>
22.	<i>-tu-</i> "to fly"	Yana <i>dā-</i>
75.	<i>muni</i> "acorn of black oak"	Yana <i>-māla</i>
167.	<i>-s-ku</i> "towards"	Kar. <i>-ka</i> , Yana <i>-k'am-</i>
186.	<i>tcu-</i> "my"	Yana <i>-n-dja</i>

An important feature of the Hokan group is the occurrence in certain languages of initial vowels which are absent in other languages or in other forms of the same language. The vowel in question is often identical with the stem vowel following the consonant (e.g., Hokan *\*axa* "water," *\*axwati* "blood"), but by no means always. Frequently the identity of the two vowels is due to a dialectic assimilation of the first vowel to the second (e.g., Karok *axak* "two," cf. S. Yana *ux-*; Chim. *h-uso-* "eye," cf. Chim. *h-isu-ma* "face," Dieg. *iyū* "eye"). Sometimes the vowel differs in different languages (e.g., S. W. Pomo *a'kōl* "long," but Tonto *ikule*). Assimilation of the second vowel to the first also occurs (e.g., Yana *līli-mauna* "nose" from *\*īlīli-* from *\*īlala-*, cf. S. W. Pomo *īla*; Ess. *xulax* "two," N. Pomo *kō*, S. E. Pomo *xōs* from *\*uxu-* from *\*uxa-*, cf. S. Yana *ux-*, Chontal *oke*, Dieg. *xawok*). In nearly all available examples Yana has lost the initial vowel, which is best preserved in Shasta-Achomawi, Chimariko, and dialectically in Yuman; as for Pomo, it seems to be regularly lost, but is retained in S. and S. W. Pomo (cf. *aka* "water" of these dialects with *xa* and *ka* of all others). For examples of variation on this point within the same dialect see nos. 55 (Chimariko and Karok) and 128 (Pomo). Examples illustrating the loss in Yana (and other languages) of an initial Hokan vowel are:

(a) WITH *a*-VOWEL

No.	Lost vowel	Retained vowel
7.	Yana <i>'au-na</i> "fire," Shas. <i>āwa</i> , "wood"	Moh. <i>a'auwa</i> "fire," Ats. <i>ahawi</i> "wood"
35.	Yana <i>dji-na</i> "louse," N. Pomo <i>tcī</i>	S. Pomo <i>atcī</i> , Ats. <i>atcī</i>

<sup>14</sup> But cf. Shasta, Atsugewi, Pomo, and Esselen forms with *o*, *u*.

No. Lost vowel	Retained vowel
48. Yana <i>gāgi</i> "crow"	Moh. <i>aqāqa</i> "raven"
55. Yana <i>ha-na</i> "water," E. Pomo <i>xa</i> , Kar. <i>ca-ruk</i> "towards river"	Kar. <i>ac</i> , Ach. <i>ac</i> , S. Pomo <i>aka</i> , Ess. <i>asa-nax</i> , Moh. <i>aha</i> , Seri <i>ax</i> , Chontal <i>aha</i>
56. Yana <i>hāts'it'</i> "cold," Chim. <i>xatsa</i> , E. Pomo <i>katsil</i> , Moh. <i>hatchu-urk</i>	Ach. <i>actc!a-</i> , Kiliwi <i>ahhtchak</i>
59. Yana <i>'i-na</i> "stick, wood"	Moh. <i>a'i</i> ; Ess. <i>ii</i> (assimilated)
86. Yana <i>mō-</i> , <i>ma-</i> "to eat," Pomo <i>maa-</i> , Tonto <i>ma</i>	Kar. <i>av</i> , Ach. <i>-am-</i> , Chim. <i>-ama-</i> , Ess. <i>am</i> , Cocopa <i>ahma</i> ; Chum. <i>umu</i>
93. S. Yana <i>musdi</i> "father's sister," Kar. <i>mūdĵ-ĵts</i> , Pomo <i>mū</i> , Chim. <i>mūta</i> "mother's sister"	Ach. <i>hamut</i>
96. Yana <i>nāna</i> "mother," E. Pomo <i>nāxa</i>	Shas. <i>ani</i> , Ach. <i>-ani</i>
114. Yana <i>p!ulsu</i> "tail," Tonto <i>bihe</i>	Kar. <i>apuvi</i> , Chim. <i>aqūye</i> ; Shas. <i>ihīwa</i> (probably assimilated from * <i>apiwa</i> )
124. Yana <i>te'au-na</i> "sugar pine"	Ats. <i>atcawo-p</i> ; Kar. <i>uc</i>
137. Yana <i>wat'du-wi</i> "blood," <i>-wat'</i> - "red," Yuma <i>hhwat</i> "red"	Kar. <i>ax</i> "blood," Shas. <i>axta</i> , Chum. <i>aXulis</i> , Dieg. <i>axwat</i> , Seri <i>awat</i> , Chon- tal <i>awas</i>
138. Yana <i>wawi</i> "house"	Chim. <i>āwa</i> , Moh. <i>ava</i> ; Ess. <i>iwa-no</i>

(b) WITH *i*-VOWEL

No. Lost vowel	Retained vowel
12. Yana <i>bāma</i> "sinew," Ach. <i>pim</i>	Ats. <i>ippiu</i>
16. Yana <i>bawā'la</i> "tongue," E. Pomo <i>bal</i>	Ach. <i>ip'li</i> , Chim. <i>h-ipen</i> , S. Pomo <i>hībaa</i> , Chum. <i>eleu</i> , Sal. <i>-ipal</i> , Moh. <i>ipalya</i> , Seri <i>ipl</i> , Chontal <i>ipal</i> ; Hokan * <i>ipali</i> ; assimilated to * <i>apali</i> in Kar. <i>apri</i> , S. W. Pomo <i>haba</i>
23. Yana <i>dal-la</i> "hand," Chim. <i>tranēhē</i> "five," N. Pomo <i>tana</i> "hand"	Ach. <i>il'i</i> , Chim. <i>h-itra</i> , Seri <i>inol</i> ; S. E. Pomo <i>atan</i> (assimilated)
24. Yana <i>dat'</i> "much," Chim. <i>-tan</i> "lot of"	Chim. <i>h-itat</i> "many"
37. Yana <i>djū-</i> "to spear," N. Pomo <i>tcō-k</i> "to shoot"	S. Pomo <i>ī'tcō-k</i> "to shoot"
39. Yana <i>djū-ri-</i> "to snow," N. Pomo <i>yū</i> "snow"	S. W. Pomo <i>ī'yū</i> "snow"
41. Yana <i>djul-</i> "long"	Chim. <i>hitcun</i>
54. Yana <i>xa'lai-</i> "to be dawn"	Sal. <i>icxai</i> "dawn"
63. Yana <i>-ts'au-</i> "tooth," Chum. <i>sa'</i>	Ach. <i>ĵts!a</i> ; Chim. <i>h-utsu</i> (assimilated)
73. Yana <i>līli-mauna</i> "nose," N. Pomo <i>la</i>	S. W. Pomo <i>īla</i>
76. Yana <i>mal'gu</i> "ear," Pomo <i>cima</i> (progressively assimilated from * <i>icama</i> )	Ach. <i>īssat</i> , Kar. <i>itiv</i> , Chim. <i>h-isam</i> , Seri <i>isLo</i> , Chontal <i>icmats</i> ; assimilated to * <i>as(i)ma-</i> in Ats. <i>asmak</i> , Moh. <i>amalya</i>

No.	Lost vowel	Retained vowel
78.	Yana <i>mari'mi</i> "woman," N. Pomo <i>mata</i>	S. W. Pomo <i>imata</i>
82.	Yana <i>mi-</i> "to weep," N. Pomo <i>mina</i> , Tonto <i>mi</i>	Moh. <i>himim</i>
83.	Yana <i>mī-, mē</i> "to look," Chim. <i>-mam-</i> , Pomo <i>ma-</i>	Ats. <i>-ima-</i>
87.	Yana <i>mō-, mū-</i> "to hand, hold," Pomo <i>ma</i>	Chim. <i>-imu-</i>
91.	Yana <i>mu-k!ulā-</i> "hole," Pomo <i>mo</i>	Ess. <i>imu-sa</i>
100.	Yana <i>p'ats'i</i> "excrement," N. Pomo <i>pa</i> , Sal. <i>p'xat</i>	Shas. <i>ipxai</i> "intestines," Chim. <i>h-ipxa</i> , S. Pomo <i>i'pa</i> ; S. W. Pomo <i>apa</i> "excrement" (assimilated) <sup>15</sup>
110.	Yana <i>p'ui'</i> "to be fat," Chim. <i>-xu-</i> , N. Pomo <i>pū</i>	Ach. <i>āphau</i> ; assimilated to * <i>up'ui-</i> in Sal. <i>upinit</i>
115.	Yana <i>samsi-</i> "to sleep," Pomo <i>sīma-</i> , Seri <i>sim</i> , Chontal <i>cmai</i>	Shas. <i>itsmas</i> , Moh. <i>ismā</i> ; Ess. <i>atsinisi</i> <sup>16</sup>
117.	Yana <i>sī-</i> "to drink"	Kar. <i>is</i> , Moh. <i>iθi</i> , Sal. <i>icem</i> (but also <i>acim</i> )
122.	Yana <i>t!alam-</i> "white," N. E. Pomo <i>taiya</i>	Shas. <i>it'ayu</i>
126.	Yana <i>to'igal-la</i> "father"	Chim. <i>itci-la-</i>
127.	Yana <i>to'ik!i</i> "female breast"	Shas. <i>itsik</i> "milk," Dieg. <i>itchikh</i> "breast; heart"; Ats. <i>atciska</i> "milk" <sup>17</sup>
128.	Yana <i>to'u-na</i> "eye, face," Kar. <i>yup</i> "eye," Pomo <i>yu-xa</i> "tear"	Chim. <i>h-isu-ma</i> "face," Dieg. <i>iyū</i> , Seri <i>ito</i> ; assimilated to * <i>u(s)yu-</i> in Shas. <i>oi</i> , Chim. <i>h-usot</i> , Pomo <i>ū</i>
136.	Yana <i>wak!i</i> "to defecate," Ats. <i>wehki</i> "excrement"	Chim. <i>hiwax-ni</i> "excrement"
140a.	S. Yana <i>ya'gaihi</i> "wife's brother"	Shas. <i>iyaki</i> "wife's brother"
149.	Yana <i>-k!au-</i> "to break off"	S. Pomo <i>ikaū</i> "broken asunder"
169.	Yana <i>-lu-</i> "head," Ach. <i>lax</i> , N. Pomo <i>cina</i>	Shas. <i>innux</i> "hair"
174.	Yana <i>-mmina-k!i</i> "behind"	Chim. <i>himina</i> "back"

<sup>15</sup> It is worth noting that while Shas *ipxai*, Chim. *h-ipxa*, and S. Pomo *i'pa*, all with *i*-vowel, mean "intestines," S. and S. W. Pomo *apa*, with *a*-vowel, means "excrement." This suggests a morphological, rather than a purely phonetic, basis for the significance of difference of vowels. However, S. E. Pomo, which does not preserve initial vowels, has *fa* in the sense of both "intestines" and "excrement."

<sup>16</sup> Esselen *a-* is difficult to explain, unless both Shasta-Achomawi and Yuman *i- arə* due to assimilation to following Hokan *i* (\**isima* from older \**asima*); in that event Yana *samsi-* would be progressively assimilated, via \**asam-*, from \**asim-*.

<sup>17</sup> Perhaps another example of *i-* interchanging with *a-* that is of morphological significance (see note 26); or is Shas., Ach., and Dieg. *i-* due to assimilation of older *a-* with following *i*?

(c) WITH *u*-VOWEL

No.	Lost vowel	Retained vowel
20.	Yana <i>bu-</i> , <i>bui</i> "to dance, kick"	Chim. <i>h-upo</i> "foot"
79.	Yana <i>mat'-banui-</i> "to be summer"	Chim. <i>hōmat</i> "ripe"
98.	Yana <i>p'adja</i> "snow," Tonto <i>paka</i>	Moh. 'upaka
139.	Yana <i>wéyu</i> "horn," Kar. <i>vècu-ra</i>	Chim. <i>h-owec</i>
140.	Yana <i>wil-la</i> "belly," N. E. Pomo <i>koi</i>	S. Pomo <i>ūka</i> , C. Pomo <i>wōxa</i>

(d) WITH *i-* OR *a-*VOWEL

Lost vowel	No.	Retained vowel
68. Yana <i>k'u-</i> "to be long," N. Pomo <i>kōl</i>	S. W. Pomo	<i>a'kōl</i> , Tonto <i>ikule</i>

Far less frequently Yana has preserved an initial vowel lost in other languages. Examples are:

Retained vowel	Lost vowel
3. Yana <i>-'alā-</i> "child" (assimilated); N. E. Pomo <i>ūla</i>	
4. Yana <i>'amāwi-</i> "woman's son's child," Chum. <i>-ama</i> "grand-child" (assimilated); Chim. <i>h-imo-lla-</i> "grandson"	Chum. <i>-māma</i> (reduplicated) "paternal grandparent"
6. Yana <i>'ap'-sa</i> "sky," Chum. <i>al-apa</i> , Moh. <i>ammaya</i> , Seri <i>ami-me</i> ; <i>a-</i> unlauded to <i>e-</i> or assimilated to <i>i-</i> in Sal. <i>l-əm</i> , Chontal <i>emaa</i> , Ess. <i>imi-ta</i>	
45. Yana <i>'ē-</i> "to sing," Ach. <i>es</i> , S. Pomo <i>ih-min</i> , Chum. <i>eX-petc</i>	S. E. Pomo <i>xe-</i>
57. Yana <i>i'dal-la</i> "bone," S. W. Pomo <i>īya</i> , Ess. <i>iya</i> , Sal. <i>ezak</i> , Moh. <i>isaka</i> , Seri <i>itak</i>	N. Pomo <i>ya</i> , Chum, <i>se'</i> , Dieg. <i>hak</i>
58. Yana <i>ima-</i> "liver," Shas. <i>āpci</i> , Moh. <i>'ipasa</i>	
60. Yana <i>'isi</i> "man," Shas. <i>ic</i> , Chim. <i>itci</i> , Chum. <i>-isūyix</i> "husband"; assimilated to <i>a-</i> in S. Pomo <i>atcai</i> , Chontal <i>acans</i> "person"	N. Pomo <i>tea</i> "person"
61. Yana <i>'itc'in-na</i> "wildcat," Sal. <i>ēts!</i>	Chim. <i>tagni-r</i>
62. Yana <i>'iya</i> "trail," Ach. <i>i'deu</i> , Chim. <i>hissa</i> , Tonto <i>inya</i>	C. Pomo <i>da</i>
133. S. Yana <i>ux-</i> "two," Chontal <i>oke</i> ; assimilated to <i>a-</i> in Kar. <i>azak</i> , S. Pomo <i>akō</i> <sup>18</sup>	Ach. <i>hak!</i> , Chim. <i>xok'u</i> , E. Pomo <i>xōtc</i> , Ess. <i>xulax</i> , Sal. <i>hakiç</i> , Dieg. <i>xawok</i>

<sup>18</sup> S. Pomo *akō* seems to suggest Hokan *\*axu-* rather than *\*uxa-*, but may be explained as derivable from assimilated *\*axwa-* (from older *\*uxwa-*, which owes its *-w-* to preceding *u-*; this labializing of older *a* to *wa*, whence Pomo *o*, *ō* is paralleled within Shasta-Achomawi by Shas. *xokwa*, Ats. *hoki*, cf. Ach. *hak!*).

The distribution in Hokan of forms with and without initial vowel is such as to strongly suggest that the alternation was characteristic of the primitive Hokan language from which the languages accessible to us have diverged. Whether this alternation was primarily a phonetic or morphological feature can hardly be demonstrated at present. A more intensive study of the typical Hokan languages (particularly Shasta-Achomawi, Pomo, and Yuman) is sure to yield a solution of the problem.

The only other point of a phonological nature that I wish to refer to is the syncope, presumably under requisite accentual conditions, of the second vowel of a stem. Examples of this type of syncope are found in several Hokan languages, but the process seems to be particularly characteristic of Shasta-Achomawi, though not all the languages of this group always illustrate syncope in the same stem. The loss of the vowel regularly causes the word to end in a consonant or brings two consonants together; these are then not infrequently assimilated to each other. Examples of vocalic syncope are:

## (a) SYNCOPE OF FINAL VOWEL

<i>No.</i> <i>With syncopated vowel</i>	<i>With retained vowel</i>
45. Ach. <i>es</i> "to sing," S. Pomo <i>ih-</i> , Chum. <i>eX-</i>	Okwanuchu Shas. <i>isi-</i> , S. E. Pomo <i>xe-</i>
53. Kar. <i>cak</i> "arrowpoint," Ach. <i>sat</i>	Yana <i>haga</i> , E. Pomo <i>xaga</i>
55. Kar. <i>ac</i> "water," Ach. <i>ac</i> , Seri <i>ax</i>	Yana <i>ha-</i> , Shas. <i>atsa</i> , Moh. <i>aha</i>
60. Shas. <i>ic</i> "man"	Yana <i>'isi</i>
117. Kar. <i>is</i> "to drink"	Yana <i>si-</i> , Moh. <i>iθi</i>
128. Shas. <i>oi</i> "eye," Pomo <i>ūi</i>	Kar. <i>yup</i> , Dieg. <i>iyū</i>

## (b) SYNCOPE OF MEDIAL VOWEL

<i>No.</i> <i>With syncopated vowel</i>	<i>With retained vowel</i>
12. Ats. <i>ippiu</i> "sinew" (from <i>*ipmi-u</i> ), Shas. <i>imme</i> (from <i>*ipme</i> )	Ach. <i>pim</i> , Yana <i>bāma</i>
16. Kar. <i>apri</i> "tongue," Ach. <i>ip'li</i> , Seri <i>ipL</i>	Shas. <i>ehena</i> , Chim. <i>h-ipen</i> , Chontal <i>ipal</i>
23. Ach. <i>il'i</i> "hand" (i.e., <i>ill'i</i> from <i>*illi</i> )	Yana <i>dal-la</i> , Chim. <i>h-itan-</i>
56. Ach. <i>actc'a-siwi</i> "it is cold," Kiliwi <i>ahhtchak</i>	Chim. <i>xatsa</i> , Moh. <i>hatchu-urk</i>
57. Shas. <i>ak</i> "bone" (perhaps from <i>*ahy[a]k</i> )	Moh. <i>isaka</i> , Seri <i>itak</i>
58. Shas. <i>üpci</i> "liver"	Moh. <i>'ipasa</i>
76. Shas. <i>isak</i> "ear" (i.e., <i>issak</i> from <i>*ismak</i> ), Ach. <i>īssat</i> , Ats. <i>asmak</i> , Chontal <i>icmats</i>	Chim. <i>h-isam</i>

<i>No. With syncopated vowel</i>	<i>With retained vowel</i>
114. Okwanuchu Shas. <i>ip'ñwa</i> "tail"	Shas. <i>ihwa</i> , Kar. <i>apuvi</i>
115. Ats. <i>itsmi</i> "to sleep," Moh. <i>ismā</i>	Okwanuchu Shas. <i>itsiwi</i> , Seri <i>sim</i>
137. Shas. <i>axta</i> "blood," Ach. <i>axdi</i>	Dieg. <i>axwat</i> , Chum. <i>aXuli-s</i>
169. Shas. <i>innux</i> "hair" (from * <i>isnux</i> ), Ats. <i>naxa</i> (from * <i>snaxa</i> ), Yana -'lu- "head"	N. Pomo <i>cina</i> "head"
176. Ach. -lu "into house" (from * <i>xlu</i> )	Yana - <i>wul(u)</i> , Kar. - <i>furu-k</i>

The original Hokan forms for the stems with syncopated medial vowel can be reconstructed with a considerable degree of confidence as \**ipami* "sinew"; \**ipali* "tongue"; \**itali* "hand"; \**axatc!a* "cold"; \**ihyaka* "bone"; \**ipasi* "liver"; \**isama-* "ear"; \**ap!iwa* "tail"; \**isima* "to sleep"; \**axwati* "blood"; \**isilu-* (\**isila-*) or \**isini-* (\**isina-*) "head"; \**xulu* "into."

Transmitted August 23, 1916.

## BIBLIOGRAPHY

## BARRETT, S. A.

1908. Ethnogeography of the Pomo and neighboring Indians. Univ. Calif. Publ. Am. Arch. and Ethn., 6, 1-332.

## DIXON, R. B.

1905. Shasta-Achomawi: A new linguistic stock, with four new dialects. Am. Anthropol., n. s., 8, 213-217.  
1910. Chimariko Indians and language. Univ. Calif. Publ. Am. Arch. and Ethn., 5, 293-380.

## DIXON and KROEBER

1913. New linguistic families in California. Am. Anthropol., n. s., 15, 649-655.

## GATSCHET, A. S.

1877. Yuma-sprachstamm nach den neuesten handschriftlichen Quellen dargestellt. Zeitsch. Ethn., 9, 365-418.

## HEWITT, J. N. B.

1898. Comparative lexicology (*in* McGee, The Seri Indians, 17th Ann. Rep. Bur. Am. Ethn., Pt. I, pp. 299-344.

## KROEBER, A. L.

1904. Languages of the coast of California south of San Francisco Bay. Univ. Calif. Publ. Am. Arch. Ethn., 2, 29-80.  
1910. Chumash and Costanoan languages. Univ. Calif. Publ. Am. Arch. and Ethn., 9, 237-271.  
1911a. Languages of the Coast of California north of San Francisco Bay. Univ. Calif. Publ. Am. Arch. Ethn., 9, 273-435.  
1911b. Phonetic elements of the Mohave language. Univ. Calif. Publ. Am. Arch. Ethn., 10, 45-96.  
1915. Serian, Tequistlatecan, and Hokan. Univ. Calif. Publ. Am. Arch. Ethn., 11, 279-290.

## KROEBER and HARRINGTON

1914. Phonetic elements of the Diegueño language. Univ. Calif. Publ. Am. Arch. Ethn., 11, 177-188.

## SAPIR, EDWARD

1910. Yana texts, together with Yana myths collected by Roland B. Dixon. Univ. Calif. Publ. Am. Arch. Ethn., 9, 1-235.

UNIVERSITY OF CALIFORNIA PUBLICATIONS—(CONTINUED)

Vol. 7.	1. The Emeryville Shellmound, by Max Uhle. Pp. 1-106, plates 1-12, with 38 text figures. June, 1907	1.25
	2. Recent Investigations bearing upon the Question of the Occurrence of Neocene Man in the Auriferous Gravels of California, by William J. Sinclair. Pp. 107-130, plates 13-14. February, 1908	.35
	3. Pomo Indian Basketry, by S. A. Barrett. Pp. 133-306, plates 15-50, 231 text figures. December, 1908	1.75
	4. Shellmounds of the San Francisco Bay Region, by N. O. Nelson. Pp. 309-356, plates 32-34. December, 1909	.50
	5. The Ellis Landing Shellmound, by N. O. Nelson. Pp. 357-426, plates 36-50. April, 1910	.75
	Index, pp. 427-443.	
Vol. 8.	1. A Mission Record of the California Indians, from a Manuscript in the Bancroft Library, by A. L. Kroeber. Pp. 1-27. May, 1908	.25
	2. The Ethnography of the Cahulla Indians, by A. L. Kroeber. Pp. 29-68, plates 1-15. July, 1908	.75
	3. The Religion of the Luiseño and Diegueño Indians of Southern California, by Constance Goddard Dubois. Pp. 69-186, plates 16-19. June, 1908	1.25
	4. The Culture of the Luiseño Indians, by Philip Stedman Sparkman. Pp. 187-234, plate 20. August, 1908	.50
	5. Notes on Shoshonean Dialects of Southern California, by A. L. Kroeber. Pp. 235-269. September, 1909	.35
	6. The Religious Practices of the Diegueño Indians, by T. T. Waterman. Pp. 271-353, plates 21-28. March, 1910	.80
	Index, pp. 359-369.	
Vol. 9.	1. Yana Texts, by Edward Sapir, together with Yana Myths collected by Roland B. Dixon. Pp. 1-235. February, 1910	2.50
	2. The Chumash and Costanoan Languages, by A. L. Kroeber. Pp. 237-271. November, 1910	.35
	3. The Languages of the Coast of California North of San Francisco, by A. L. Kroeber. Pp. 273-435, and map. April, 1911	1.50
	Index, pp. 437-439.	
Vol. 10.	1. Phonetic Constituents of the Native Languages of California, by A. L. Kroeber. Pp. 1-12. May, 1911	.10
	2. The Phonetic Elements of the Northern Paiute Language, by T. T. Waterman. Pp. 13-44, plates 1-5. November, 1911	.45
	3. Phonetic Elements of the Mohave Language, by A. L. Kroeber. Pp. 45-95, plates 6-20. November, 1911	.65
	4. The Ethnology of the Salinan Indians, by J. Alden Mason. Pp. 97-240, plates 21-37. December, 1912	1.75
	5. Papago Verb Stems, by Juan Dolores. Pp. 241-263. August, 1913	.25
	6. Notes on the Ohlula Indians of Northwestern California, by Pliny Earle Goddard. Pp. 265-288, plates 33-41. April, 1914	.30
	7. Ohlula Texts, by Pliny Earle Goddard. Pp. 289-373. November, 1914	1.00
	Index, pp. 381-385.	
Vol. 11.	1. Elements of the Kato Language, by Pliny Earle Goddard. Pp. 1-176, plates 1-45. October, 1913	2.00
	2. Phonetic Elements of the Diegueño Language, by A. L. Kroeber and J. P. Harrington. Pp. 177-188. April, 1914	.10
	3. Sarsi Texts, by Pliny Earle Goddard. Pp. 189-277. February, 1915	1.00
	4. Serian, Tequistlatecan, and Hókan, by A. L. Kroeber. Pp. 279-290. February, 1915	.10
	5. Dichotomous Social Organization in South Central California, by Edward Winslow Gifford. Pp. 291-296. February, 1916	.05
	6. The Delineation of the Day-Signs in the Aztec Manuscripts, by T. T. Waterman. Pp. 297-398. March, 1916	1.00
	7. The Mutsun Dialect of Costanoan—Based on the Vocabulary of De la Cuesta, by J. Alden Mason. Pp. 399-472. March, 1916	.70
	Index, pp. 473-479.	
Vol. 12.	1. Composition of California Shellmounds, by Edward Winslow Gifford. Pp. 1-29. February, 1916	.30
	2. California Place Names of Indian Origin, by A. L. Kroeber. Pp. 31-69. June, 1916	.40
	3. Arapaho Dialects, by A. L. Kroeber. Pp. 71-138. June, 1916	.70
	4. Miwok Moieties, by Edward Winslow Gifford. Pp. 139-194. June, 1916	.55
	5. On Plotting the Inflections of the Voice, by Cornelius B. Bradley. Pp. 195-218, plates 1-5. October, 1916	.25

UNIVERSITY OF CALIFORNIA PUBLICATIONS—(CONTINUED)

6. Tübatulabal and Kawaiisu Kinship Terms, by Edward Winslow Gifford. Pp. 219-248. February, 1917	.30
7. Bandler's Contribution to the Study of Ancient Mexican Social Organization, by T. T. Waterman. Pp. 249-282. February, 1917	.35
8. Miwok Myths, by Edward Winslow Gifford. Pp. 283-338, plates 6. May, 1917	.55
9. California Kinship Systems, A. L. Kroeber. Pp. 339-396. May, 1917.	.60
10. Ceremonies of the Pomo Indians, by S. A. Barrett. Pp. 397-441, 8 text-figures. July, 1917	.45
11. Pomo Bear Doctors, by S. A. Barrett. Pp. 443-465, plate 7. July, 1917	.25
Vol. 13. 1. The Position of Yana in the Hokan Stock, by E. Sapir. Pp. 1-34. July, 1917	.35
<b>Volumes now completed:</b>	
Volume 1. 1903-1904. 378 pages and 30 plates	\$4.25
Volume 2. 1904-1907. 393 pages and 21 plates	3.50
Volume 3. 1905. The Morphology of the Hupa Language. 344 pages	3.50
Volume 4. 1906-1907. 374 pages, with 5 tables, 10 plates, and map	3.50
Volume 5. 1907-1910. 384 pages, with 25 plates	3.50
Volume 6. 1908. 400 pages, with 3 maps	3.50
Volume 7. 1907-1910. 443 pages and 50 plates	3.50
Volume 8. 1908-1910. 369 pages and 28 plates	3.50
Volume 9. 1910-1911. 439 pages	3.50
Volume 10. 1911-1914. 385 pages and 41 plates	3.50
Volume 11. 1911-1916. 479 pages and 45 plates	3.50

Note.—The University of California Publications are offered in exchange for the publications of learned societies and institutions, universities and libraries. Complete lists of all the publications of the University will be sent upon request. For sample copies, lists of publications or other information, address the Manager of the University Press, Berkeley, California, U. S. A. All matter sent in exchange should be addressed to The Exchange Department, University Library, Berkeley, California, U. S. A.

**AGRICULTURAL SCIENCES.**—E. B. Babcock, J. W. Gilmore, and C. B. Lipman, Editors. Price per volume \$3.50. Volumes I and II in progress.

**ASTRONOMY.**—W. W. Campbell, Editor. (Lick Observatory, Mt. Hamilton, Cal.) Publications of the Lick Observatory.—Volumes I-XII completed.

**BOTANY.**—W. A. Setchell, Editor. Price per volume \$3.50. Volumes I (pp. 418), II (pp. 360, III (pp. 400), and IV (pp. 397) completed. Volumes V, VI and VII in progress.

**CLASSICAL PHILOLOGY.**—Edward B. Clapp, William A. Merrill, Herbert C. Nutting, Editors. Price per volume \$2.00. Volumes I (pp. 270), and II (pp. 312), completed. Volume III in progress.

**EDUCATION.**—Edited by the Department of Education. Price per volume \$2.50.

**ENGINEERING.**—Edited under the direction of the Engineering Departments. This series will contain contributions from the Colleges of Mechanics, Mining, and Civil Engineering. Volume I in progress.

**GEOGRAPHY.**—Ruliff S. Holway, Editor. Volume I in progress.

**GEOLOGY.**—Bulletin of the Department of Geology. Andrew C. Lawson and John O. Merriam, Editors. Price per volume for volumes I-VII, \$3.50; for volumes VIII and following, \$5. Volumes I (pp. 435), II (pp. 457), III (pp. 482), IV (pp. 462), V (pp. 458), VI (pp. 454), VII (pp. 504), VIII (pp. 583), and IX (pp. 545), completed. Volume X in progress.

**MODERN PHILOLOGY.**—Volumes I (pp. 400), II (pp. 373), III (pp. 510), and IV (pp. 498) completed.

**PATHOLOGY.**—Frederick P. Gay, Editor. Price per volume \$2.50. Volume I (pp. 347) completed. Volume II in progress.

**PHILOSOPHY.**—C. H. Bieber, Editor. Volume I (pp. 262) completed. Volume II in progress. Price per volume \$2.00.

**PHYSIOLOGY.**—S. S. Maxwell, Editor. Price per volume \$2.00. Volumes I (pp. 217), II (pp. 215), III (pp. 197), and IV (pp. 228) completed. Volume V in progress.

**PSYCHOLOGY.**—George M. Stratton, Editor. Volumes I and II in progress.

**ZOOLOGY.**—W. E. Ritter and C. A. Kofoid, Editors. Price per volume for volumes I-X, \$3.50; for volume XI and following, \$5.00. Volumes I (pp. 317), II (pp. 382), III (pp. 383), IV (pp. 400), V (pp. 440), VI (pp. 478), VII (pp. 446), VIII (pp. 357), IX (pp. 365), X (pp. 417), XI (pp. 538), and XII (pp. 558) completed. Volumes XIII to XVII inclusive in progress.

**UNIVERSITY OF CALIFORNIA CHRONICLE.**—An official record of University life, issued quarterly, edited by a committee of the Faculty. Price, \$1.00 per year. Current volume No. XIX.

Address all orders or requests for information concerning the above publications to The University of California Press, Berkeley, California.