WASCO-WISHRAM NOUN PLURALIZATION

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Working Paper for the 17th International Conference
on Salish and Neighboring Languages,
Portland State University, 9-11 August, 1982

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Criticisms and comments welcomed.
Preface

0. Almost all of this paper consists of the (entire) text of a 1982 BA thesis completed at Reed College by the first author, Nancy Fowler. (In the thesis, the pronoun "I" thus refers to her; the second author of this working paper is referred to by name or in the third person.) As a joint effort, with the preface added, the title differs slightly from that of the thesis ("Wasco-Wishram Noun Plurals").

Because the time of completion of the thesis corresponded closely to the due date for papers for this conference, we regret that it was necessary for ours to be a "late paper"
and for us to distribute the preface and the text of the thesis informally.*

This preface is intended to provide a summary, or overview, of some of the data, to add a few supplementary ideas, and to provide added information on the context for Fowler's thesis and this joint offering.

Except for scattered examples drawn from Sapir's *Wishram Texts* (1909), the data in this paper have never been published. Fowler did not undertake original field research, but she did use all of the locally available unpublished files and manuscripts. French is one of those who has done Chinookan field work, and he re-elicited or elicited at least half of the nouns.** He was the faculty advisor for the thesis and also shared in the writing of the preface. He appreciates Fowler's willingness to list him as co-author.

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*Those who have only the preface but would like a copy of the thesis section as well, can obtain one by writing to David French (address on cover page). To cover part of the expenses of duplicating and mailing, a check for $2.50, made out to Reed College, would be appreciated but is not mandatory. In due course, the thesis will be available on an interlibrary loan basis.

** Most of the examples cited by Fowler are the first reliable forms, especially singular/plural pairs, that had been recorded. This means that Walter Dyk's excellent files are the source of most examples. See footnote 5 for a listing of the others, such as Dell Hymes and Kathrine French, whose data were used.
Table I is intended to provide examples of many of the types of plural nouns. Included are those with the productive prefixes it- 'plural' and iř- 'collective neuter' and the productive suffixes -mař 'distributive' and -(Vowel)kš 'animate' plural.' There are also a few which are relatively rarer. Some of the latter are, indeed, frequently used in speech; their "rarity" refers to the fact that there are not as many nouns assignable to such types of pluralization. Following Table I is a listing of other types of pluralization--ones which could not be included in the table. Many of these, too, are "rare" in the sense used above.
Table I. Selected Wasco-Wishram Plurals

<table>
<thead>
<tr>
<th>SUFFIXES</th>
<th>(w)i- &quot;masc. singular&quot;</th>
<th>(w)a- &quot;fem. singular&quot;</th>
<th>iš- &quot;dual&quot;</th>
<th>iš- &quot;collective-neuter&quot;</th>
<th>it- &quot;plural&quot;</th>
<th>(prefix unchanged)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ø suffix)</td>
<td>wa-mwa 'worms' (31)</td>
<td>iš-gakwal (dual or pl.) 'lampreys,' 'eels' (36)</td>
<td>iš-ladas 'dishes' (19)</td>
<td>it-gulul 'acorns' (10)</td>
<td>it-q'wi-max 'houses' (15)</td>
<td></td>
</tr>
<tr>
<td>-max distributive</td>
<td>i-k'wali-max 'whales' (53)</td>
<td>a-pkwa-max 'female wildcats' (61)</td>
<td>iš- &quot;forms were not studied thoroughly)</td>
<td>iš-k'wayat-k-max 'pools of water' (cf. (41))</td>
<td>it-kšn-max 'hands' (47)</td>
<td>it-q'wi-max 'houses' (15)</td>
</tr>
<tr>
<td>-nana (human)</td>
<td></td>
<td></td>
<td></td>
<td>id-ia-guqš-nana 'his wife's rels.' (77)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-naya (human)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-nayu (human)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-(V)kš animate)</td>
<td>i-pkwa-yukš 'male wildcats' (109)</td>
<td>a-kalu-kš 'a few unknown men' (101)</td>
<td>is-č'upkal-kš 'suckers' (115)</td>
<td>iš-ga-uxti-kš 'her y. sisters' (97)</td>
<td>it-kalu-kš 'men' (89)</td>
<td></td>
</tr>
<tr>
<td>(suffix unchanged)</td>
<td>i-k'wia-k'wia-max 'finger rings' (35)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: Underlined affixes (above) function as pluralizers.

The parenthetic numbers following the translations refer to examples listed in Ch. II, q.v. for singular forms and for discussions.
Suffixes and initial prefixes are not the only grammatical features relevant to noun pluralization. Others are listed below; in the examples, the significant pluralizing element—if any—is underlined. Nevertheless, the reader will need to consult the designated sections of Chapter II in order to understand the complexities involved in some of these listings.

1. Possessive prefixes (section 2.5.1) i-da-gi-k'can 'mail, paper carriers' (202)

2. Distributive verbal suffix (2.5.2) i-da-wi-wa-lal 'dancers' (208)

3. Verbal "postpositions" (2.5.3) a-awi-k'i-čxm-al 'pots' (216)

4. Root or stem change (2.6) id-namškš 'women' (220)

5. Reduplication (particles) (2.9) wixat łaq'-łaq' 'bends in the road' (260)

6. Nouns lacking singular/plural distinctions (2.7) iš-la 'fog' (245)

There are additional aspects of pluralization not covered here. For example, double quotation marks were placed around "animate" in the heading for the -(V)kš suffix group in Table I. This is because, like Cree and some other Algonquian languages, such suffixes appear on nouns that seem to lack animate qualities (see sections 2.4.3.5 and 6).

The readers of the thesis may be puzzled by aspects of the treatment of noun prefixes in section 2.1, pp. 6-7. For example, it might be asked why the initial A/NG (appositive/number-gender) prefixes, following Silverstein, are sometimes
numbered with a subscript "3" and why possessive prefixes are numbered "4." A few comments may be helpful. If the thesis is revised for publication, it could be desirable to include an explanation that such noun prefixes are highly similar to certain verb prefixes and are surely historically derived from the latter. The numbering system is based on the (ergative) verb series, wherein subscript number "1" refers to tenses and "2" to transitive subjects (both lacking in nouns); the A/NG noun prefixes correspond to the subjects of intransitive verbs (and to transitive verb objects). Noun-verb concord is present. In the thesis, the intention was to differentiate A/NG prefixes from possessive ones in a manner consistent with certain recent writings on Chinookan. Incidentally, the designation "appositive/number-gender" (A/NG) might be improved, but no substitute has been found.

It was a surprise to both authors (cf. p. 3) that there is so little general writing on noun plurals (or number) in the literature. One hope in offering this paper for the Salish Conference is that it will then, or subsequently, elicit useful references.

Fowler was uncertain as to how many comparative statements to attempt; she regards her thesis comments on European languages as being only suggestive. We are aware that examination of languages from other areas could yield many types of noun pluralization, even though any one group might manifest only
one or a few of these. In the Pacific Northwest, Sahaptin has a
simple system; Kalapuyan doesn't appear to have true plurals
but does sometimes have distributive and collective forms
(Yvonne Hajda, personal communication). By contrast, some or
all of the Salish languages have a number of types of noun
pluralization (Dale Kinkade, personal communication). We have
not yet been able to investigate even local languages adequately.

Acknowledgments

Footnote 1 contains acknowledgments, but additional help
has been received from Kathrine French, Yvonne Hajda, and Dell
Hymes; Dale Kinkade had an opportunity only to scan the thesis,
and a comment of his is paraphrased above. Useful suggestions
were earlier made by members of the senior (BA) orals committee,
before which the thesis was defended: Lena Lencek, John Pock,
and Claude Vaucher.

Special acknowledgment is here made to Alice Florendo, Hiram
Smith and the other Wascos and Wishrams who supplied data during
the Frenches' field research. More than 30 Chinookans who are
now deceased also provided linguistic data, and their helpfulness
was most appreciated.
Wasco-Wishram Noun Plurals

A Thesis
Presented to the
Division of History and the Social Sciences
Reed College

In Partial Fulfillment
of the Requirements for the Degree
Bachelor of Arts

by
Nancy J. Fowler
May, 1982
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Abstract

This thesis describes the grammar of noun pluralization in Wasco-Wishram or Wasco and Wishram, two nearly identical dialects of Upper Chinook in the Pacific Northwest. Data are primarily drawn from unpublished lexical files. Noun plurals are found to involve a wide variety of morphological processes. It is argued that some of these processes are motivated by such semantic distinctions as distribution, collectivity, and animacy. Correlations between noun classes and pluralization types are also suggested.
Chapter I

Introduction

1.1. Introduction to the Problem

The purpose of this thesis is to provide an adequate description of nominal pluralization in Wasco and Wishram, two almost identical dialects of the Chinookan languages.

Two basic tasks are relevant to the investigation of noun plurals. First, all the regular grammatical processes by which nouns may be pluralized must be identified. This task involves looking for contrasts among forms and meanings. Where a difference involving plurality is observed for nouns based on the same stem, one seeks to isolate the grammatical element, or elements, responsible for this contrast. The many ways in which Wasco-Wishram nouns may be pluralized are inventoried in Chapter II of this thesis.

A second aspect of the complete description of noun pluralization, the investigation of semantic distinctions which intersect with the category of plurality, is integrally linked to the first. In addition to functioning as pluralizers, many of the grammatical elements discussed in this thesis are involved in semantic oppositions which go beyond the simple indication of plurality.

One of the most fruitful approaches to the study of grammatical meaning has been developed by Roman Jakobson (Jakobson 1971; cf. Jakobson 1941). Inspired by structural treatments of phonology,
Jakobson has argued that the concepts of *marked* and *unmarked* semantic features can be employed to elucidate the meaning of grammatical categories. The marked member of a semantic opposition is seen as communicating a relatively specific piece of information about the presence of a quality or feature. The unmarked member expresses either the absence of the quality in question, or more generally, says nothing about its presence or absence, depending on the level or context of the contrast.

The utility of the concept of markedness, when adapted to the study of grammatical meaning, is that it allows one to posit levels of contrast at which various semantic distinctions are realized, rather than looking for invariant correlations between form and meaning. In this thesis, it will be seen that certain affixes involved in pluralization do not have fixed semantic values, but that these values sometimes depend on the context of their usage.

The study of grammatical categories has often led to statements about the cultural implications of different world views, which can supposedly be inferred from pervasive patterns of linguistic structure. Such questions will not be emphasized in this thesis. However, a description of the variety of ways to pluralize Wasco-Wishram nouns will make clear that the distinctions made in the process of pluralization, and conversely, those which are not obligatorily made, certainly differ from English. The amount of information conveyed about a given noun ranges from what we as speakers of English might consider to be insuf-
icient, to what would seem to us to be a profusion of details. In Chapter III, I will argue that the degree of elaboration of information about a noun, expressed in the process of pluralization, can be roughly correlated to semantic domains.

The general literature in linguistics concerning the pluralization of nouns is strikingly sparse. Of course, linguists have studied nominal pluralization in individual languages. However, to my knowledge, no attempt has been made to synthesize these efforts for comparative or typological purposes. There is thus no well-defined theoretical framework to which the findings of this thesis can be related. A statement by Dell Hymes, although very general in scope, could apply to the literature pertaining to plurality:

... although the discovery procedures that are prerequisite to a solid descriptive foundation are well worked out for phonology and morphological form, this is not the case for grammatical categories ... Precise definitions of subtypes, and the specification of operations for determining the presence or absence of a category, and its nature, are little available.

(Hymes 1961:30)

1.2. Linguistic Classification and Ethnographic Background

Aboriginally, Wasco and Wishram were the most easterly dialects of the Chinookan languages. These languages were spoken in an area including the edge of Shoalwater (Willapa) Bay, the north and south sides of the Columbia River, from its mouth to approximately 200 miles to the east, and in the extreme northern part of the Willamette Valley. The Chinookan family has usually been divided into two languages, Lower Chinook and
Upper Chinook. Lower Chinook dialects were "Chinook proper" (or Shoalwater Chinook) and Clatsop. Upper Chinook is comprised of Kathlamet (shading into its near neighbors), and a group of mutually intelligible dialects collectively known as Kiksht (or Kiksht). Kiksht dialects can be labeled as Clackamas, Cascades, Wasco, and Wishram. (Clackamas, and possibly Cascades, are extinct.) Because Wasco and Wishram are almost indistinguishable in terms of phonology, grammar, and lexicon, they can—for the most part—be treated as a single linguistic unit, Wasco-Wishram.

Village sites inhabited by Wascos and Wishrams were once located near the present site of The Dalles, Oregon. The social organizations, cultures, and economies of the two groups were highly similar. However, Wishrams tended to inhabit and frequent the north (now Washington) side of the Columbia, while Wascos were associated with the south side of the river. The distinction between the two groups was maintained, or perhaps heightened, when most Wishrams later moved to Washington's Yakima reservation, while Wascos were generally relocated to the Warm Springs Reservation in Oregon.

1.3. Methods and Materials

The most complete description of the grammar of Wishram, and by implication, Wasco, was provided by Walter Dyk in his Grammar of Wishram (Dyk 1933). However, Dyk's description of nominal pluralization does not include all of the many types of noun plurals, nor is Dyk's treatment of their semantic correlates adequate.
To improve on Dyk's treatment of plurality, I have made use of a large corpus of data. Lexical files for Wasco-Wishram are the source of most of my examples. Included in these files, in varying quantities, are the notes of Walter Dyk (n.d.), David and Kathrine French (n.d.), Dell Hymes (n.d.), Philip Kahclamat (n.d.), and Edward Sapir (n.d.). Michael Silverstein's lexical files were not available, but many of his verb entries for the unpublished Wasco and Wishram dictionary were in the Frenches' personal library and were occasionally used to aid in the analysis of nouns (Hymes, Silverstein, and French, n.d.). (Edward Curtis' vocabularies (1911) do not include noun plurals.)

Finally, Edward Sapirs's Wishram Texts were searched for relevant nouns, with special attention being paid to variations in noun forms and the contexts in which they occur. These are the primary sources from which my data were drawn; other sources which were infrequently used appear in the bibliography.4

A limitation of this thesis is that I have only selectively exhausted and presented the data. Although I have attempted to inspect every noun available to me, it is impractical to include all such forms in this study. Instead, I have tried to provide ample exemplification of all regular patterns of plural formation. When nouns are pluralized in a grammatically unusual fashion, or do not conform to the usual semantic patterns of nominal pluralization, I have included all available attested examples.
Chapter II

Noun Plurals

2.1 Structure of the Wasco-Wishram Noun

Each Wasco-Wishram noun is based on a stem. To the stem an obligatory initial prefix is added. This initial prefix conveys the person, number and—in the third person singular only—the gender (masculine, feminine, or "neuter") of the noun. However, the various forms of person, number, and gender of nouns distinguish two kinds of initial prefixes. For most nouns the initial prefix is a number-gender or classifying prefix. Number-gender prefixes are always in the third person; the gender of the noun is fixed; and the prefix may be changed only to indicate number (singular, dual, plural, or indefinite).

Appositive prefixes, on the other hand, occur with nouns whose gender and person are not fixed and can be productively indicated by the appositive prefix. Thus, an appositive prefix can have any one of the three genders in the third person singular. Unlike number-gender prefixes, appositive prefixes can also appear in the first and second persons. The number of an appositive prefix can be any of the forms common to number-gender prefixes, but also, for first person forms, dual inclusive, dual exclusive, plural inclusive or plural exclusive.

The distinction between number-gender and appositive prefixes will not be maintained in this thesis. All initial nominal prefixes will be called appositive/number-gender prefixes, here-
after abbreviated as A/NG.

A second element, the possessive prefix, may precede the noun stem. This prefix expresses the number, person, and in the third person singular only, the sex of the possessor of the noun stem. With some noun stems, such as those denoting certain body parts, a possessive prefix is obligatory.

The noun stem follows these prefixes. Suffixes may be added to the stem. Relevant to this thesis are those suffixes which function to pluralize nouns (see section 2.4).

Michael Silverstein (Hymes, et al. n.d.; also, personal communication to David French) has developed a numbering scheme for identifying and specifying the order of verbal and nominal elements. Occasionally, I will use his convention of labeling the A/NG prefix of a noun with a subscript 3, and the possessive prefix with a subscript 4, in order to cross-reference these Wasco-Wishram morphemes to their English translations.

2.2. Pluralization of Nouns

Dyk (1933:93) states that there are 15 different patterns of Wishram nominal pluralization, given all possible combinations of A/NG prefixes and the two pluralizing suffixes which Dyk identifies. In this chapter, I will suggest that there are patterns of pluralization which Dyk neglected to describe.

Dyk further characterizes most Wishram nouns as having "no regular rule by which plurals are formed" (Dyk 1933:93). By this remark, Dyk seems to have meant that, due to the multiplicity of ways to pluralize a noun, one cannot predict how a noun
will be pluralized on the basis of which A/NG prefix it takes in the singular. This observation is true, but fails to consider that other features of the noun can throw light on the form taken by its plural. By paying close attention to the morphological and semantic regularities (and irregularities) associated with each type of noun pluralization, I hope to describe the nature and extent of the variability of noun pluralization more clearly than Dyk has.

2.3. Pluralization by Change of Appositive/Number-Gender Prefixes

Morphologically, the simplest type of noun pluralization is achieved by changing a singular A/NG prefix (i-~wi-, masculine, or a-~wa-, feminine) or an indefinite prefix (iI-) to another type of A/NG prefix.5

2.3.1. it- (~id-), the third person plural A/NG prefix, is semantically less complex than the other prefixes and suffixes which can mark a noun as plural. This is because it- does not enter into any of the semantic specializations exhibited by other pluralizing morphemes. The following are examples of nouns which may be pluralized by changing an A/NG prefix to it-:

(1) i-q'inačxwai 'bullhead' (Dyk n.d.)
(2) it-qa4-q'inačxwai 'her4 bullheads' (WD n.d.)
(3) i-č'ank 'male deer (singular)' (WD n.d.)
(4) it-č'ank 'deer (plural)' (WD n.d.)
(5) i-gunat 'Chinook salmon (singular)' (WD n.d.)
(6) it-gunat 'Chinook salmon (plural)' (WD n.d.)

(7) a-unafax 'huckleberry (one species)' (WD n.d.)

(8) id-unafax 'huckleberries' (WD n.d.)

(9) a-gûlul 'acorn' (WD n.d.)

(10) it-gûlul 'acorns' (WD n.d.)

(11) a-Iagagwuli 'spider' (WD n.d.)

(12) it-Iagagwuli 'spiders' (WD n.d.)
   (cf. example (33))

Although it- generally indicates that a noun is plural, some nouns take it- when this, in the usual sense, is not the case. These are often nouns in which true number is conveyed by the possessive prefix (see also section 2.51):

(13) id3-ia4-xi-k'wilal 'he is a talker' 'he has talkings'
   (lit. 'they3 his4 talkings') (WD n.d.)

Other nouns take it- in both the singular and the plural forms, so that it- does not function as a pluralizer:

(14) it-q'wi 'house' (WD n.d.)

(15) it-q'wi-max 'houses' (WD n.d.)

2.32 A second A/NG prefix, iil-, is semantically much more complex than it-. This is in part due to the number of semantic oppositions in which iil- participates. A brief discussion of some of these oppositions will help to clarify the uses of iil- as a pluralizer.
With certain noun stems for which the distinction of sex is productive, mostly nouns denoting human beings and domesticated or large animals (Hymes 1961), i- can be used to indicate indefiniteness as to sex, in contrast to masculine and feminine. For example, i-q'iuqt (WD n.d.) means 'old man,' a-q'iuqt (WD n.d.) means 'old woman,' but i-q'iuqt (WD n.d.) means 'old person,' without specifying sex. It is perhaps this usage of i- which led Dyk, and others, to call i- the "neuter singular" prefix.

However, Michael Silverstein has suggested that i- is more appropriately described as "collective-neuter," (Silverstein 1977:144) because it is commonly involved in indicating number rather than gender. Although the Chinookan languages are usually said to have three number classes, singular, dual, and plural, Silverstein feels that i- constitutes a fourth number class:

[i-] is the class not of true plurals but of collectives, which as such are 'restricted' to being referred to in lumps or indefinite masses; they are not counted, and therefore the mass plurals and collectives in i- are part of this class. (Silverstein 1972:398)

By "mass plurals," I believe that Silverstein is referring to the capacity of i- to connote 'some, a few,' instead of the more truly plural connotations of it-. Thus, the noun a-q'iq'wal 'bead' (WD n.d.) can be pluralized with both it- and i- . However, i-q'iq'wal connote 'some beads,' in contrast to it-q'iq'wal 'beads,' (WD n.d.) which is more truly plural. This connotation of i- was explicitly recognized by Philip Kahclamat, a speaker of Wishram. While working with Walter Dyk, he gave the form
it-pa?al-max 'caves' (WD n.d.) as the plural of i-pa?al, 'cave' (WD n.d.). Apparently in response to a question by Dyk, Kahclamat reacted to the form i-pa?al by saying "sounds like 3 or 4 caves" (WD n.d.).

With certain noun stems, then, the meaning of the prefix i? can be ambiguous. In the example given above, i?-q'iuqt (WD n.d.) was said to connote indefiniteness as to sex, but it can also mean 'some, a few old people.'

The examples which I have presented of the usage of i? have, up to this point, been in keeping with Silverstein's characterization of i? as emphasizing the group or mass quality of a plural noun. However, there are many nouns which take i? as a plural, where i? does not seem to have these semantic specializations, but is rather a true pluralizer. It would seem that i? has the connotations of 'some, a few,' only when it is also possible to pluralize the noun with it-. Examples of nouns for which i? functions as a true plural A/NG prefix are:

(16) a-gik'win? 'pin' (WD n.d.)
(17) i?-gik'win? 'pins' (WD n.d.)
(18) i?-l?adas 'dish' (WD n.d.)
(19) i?-l?adas 'dishes' (WD n.d.)
(20) i-k?ui 'cedar bark container' (WD n.d.)
(21) i?-k?ui 'cedar bark containers' (WD n.d.)
(22) a-la?i? 'chair' (WD n.d.)
2.33. Some nouns are pluralized by changing a singular A/NG prefix to a different singular A/NG prefix. This type of pluralization does not appear to have been productive in Wasco-Wishram for some time. Nouns pluralized by singular prefixes are:

(26) i-gakwal "eel" (lamprey) (WD n.d.)
(27) a-gakwal "eels" (lampreys) (WD n.d.).

(28) wi-q\^dixa 'body louse' (WD n.d.)
(29) wa-q\^dixa 'body lice' (WD n.d.)

(30) wi-mwa 'worm,' 'maggot' (WD n.d.)
(31) wa-mwa 'worms,' 'maggots' (WD n.d.)

(32) wi-q\^sti 'head louse' (WD n.d.)
(33) wa-q\^sti 'head lice' (WD n.d.)

(34) a-k'wia-k'wia-max 'finger ring' (WD n.d.)
(35) i-k'wia-k'wia-max 'finger rings' (WD n.d.) (see also p. 15)

2.34. For a very few nouns, the dual prefix i\^s- (\w^is-) can serve also to pluralize the noun:

(26) i-gakwal "eel" (lamprey) (WD n.d.)
(36) i\^s-gakwal "eels" (lampreys) (dual or plural) (WD n.d.)
   (cf. example (27))

(37) a-k'adaqi 'small game fish (singular)' (WD n.d.)
2.4. Plural Suffixes

In addition to—or instead of—changing a singular or indefinite A/NG prefix to a plural A/NG prefix, many nouns affix plural suffixes. These suffixes can convey more specific information about the noun, as well as the fact that it is plural.

2.4.1. The plural suffix -max emphasizes the distributive or individuated quality of the noun to which it is attached. Semantically, -max, like it-, contrasts with iə- when iə- has the "restricted" plural connotations of 'some, a few.'

2.4.2. Most nouns which take -max in the plural also change their A/NG prefixes to it-:

(38) iš-k'adaqi 'small game fish (dual or plural)' (WD n.d.)

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2.4.2. Most nouns which take -max in the plural also change their A/NG prefixes to it-:

(11) a-žagagwuli 'spider' (WD n.d.)

(39) it-žagagwuli-max 'spiders' (WD n.d.) (cf. example (12))

(40) a-kwayat 'cache hole' (WD n.d.)

(41) it-kwayatk-max 'cache holes' (WD n.d.)

(42) i-č4-tukw 'my4 neck' (WD n.d.)

(43) id-1xa4-tug-max 'our (inclusive)4 necks' (WD n.d.) (cf. example (124))

(44) a-c'igala 'swallow' (WD n.d.)

(45) it-c'igala-max 'swallows' (WD n.d.)

(46) iila-kšin 'hand' (WD n.d.) [probably, the stem is better written -kšin or -kšn]

(47) it-kšin-max 'hands' (WD n.d.)
(48) a-c'óməna 'staging-pole' (Sapir 1909:184)
(49) it-c'óməna-max 'staging-poles' (Sapir 1909:184)

2.412. Other nouns can be pluralized simply by adding -max.
Since the A/NG prefixes of these nouns do not change, gender is
retained in the plural:

(50) i-t'uxwáčk 'brush (singular), 'thicket' (WD n.d.)
(51) i-t'uxwáčk-max 'brush (plural), 'thickets' (WD n.d.)

(52) i-k'wáli 'whale' (WD n.d.)
(53) i-k'wáli-max 'whales' (WD n.d.)

(54) wa-c'ia 'calico [chum] salmon (singular)' (WD n.d.)
(55) wa-c'ia-max 'calico salmon (plural)' (WD n.d.)
(The plural form of this noun was also
recorded as wa-c'ia-mx (DF n.d.), sug-
gestig that -mx is a possible variant
of -max. This Wasco speaker (Hiram
Smith) also stated that wa-c'úiha 'blue-
back salmon' should probably be plural-
ized in the same manner as 'calico sal-
on,' i.e., with -mx. However, this
form was never actually recorded as
the plural of wa-c'úiha (see example
(231))

(56) i-kmágapx 'work, 'job' (WD n.d.)
(57) i-kmágabx-max 'jobs' (WD n.d.)

(58) i-pkwa 'male wildcat'; 'male lynx' (WD n.d.)
(59) i-pkwá-max 'male wildcats'; 'male lynxes' (WD n.d.)
(cf. example (109))

(60) a-pkwa 'female wildcat'; 'female lynx' (WD n.d.)
(61) a-pkwá-max 'female wildcats'; 'female lynxes' (WD
n.d.)
2.4.3. The presence of -max usually indicates a contrast between the plural form of a noun, and its singular, which does not have -max. However, -max sometimes appears on singular nouns. Frequently, these are nouns in which things or qualities, which are themselves plural and take -max, are possessed (see also section 2.5.1):

(63) id-ia-q'i-xul-max "he jokes with women" (WD n.d.)

(64) id-ia-gmxmai-max 'he is a shouter' (WD n.d.)

(65) id-ia-balau-max "he is one who talks of seeming wonders" (WD n.d.)

(66) id-ia-musxi-max "a silly-acting little kid" (WD n.d.)

(67) il-ia-luk'-max "he is divorced" 'a divorced man' (WD n.d.)

2.4.4. A few nouns take -max in both the singular and the plural; in some cases no motivation for the presence of this suffix in the singular has been found:

(34) a-k'wia-k'wia-max 'finger ring' (WD n.d.)

(35) i-k'wia-k'wia-max 'finger rings' (WD n.d.)

(68) il-p'uyan-max 'egg or eggs' (WD n.d.)

(69) it-p'uyan-max 'eggs' (PK n.d.)

(70) i-gix-max 'yellow lichen frequently found on dead wood' (lit. 'yellow item [which grows] here and there') (DF, KF n.d.)
2.415. For many nouns, pluralization with -max and pluralization utilizing other plural suffixes, or the use of plural A/NG prefixes alone, are alternative options of the speaker. A comparison of the examples used in the above section with those cited in sections illustrating other types of pluralization will provide some instances of nouns for which the use of -max is optional. However, it should be noted that these examples are by no means exhaustive, and that they do not adequately reflect the degree to which -max may be affixed or omitted freely. This is not to suggest that this free usage of -max is possible with all nouns. There are many nouns which do not occur with -max in my data, and also those which always take -max in the plural.

2.42. The plural suffix -nana is used almost exclusively with kinship terms. These terms usually refer to persons who are not exceptionally close to ego. -nana may have distributive connotations similar to -max. Some nouns which can be pluralized with -nana can also take -kš (see section 2.4j), but -max and -nana are not attested as alternative plurals for any nouns in my data:

(74) a-\text{kg}_4\text{-gútx} 'my\_4 mother's sister' (WD n.d.)

(75) iž-\text{ga}_4\text{-gútx-\text{mana} 'her\_4 mother's sisters' (WD n.d.)}

(cf. example (99))
The suffixes -nayu and -naya are possibly related to -nana. I have found only one example of the usage of each of these suffixes, and they occur with a noun stem which can also take -nana:

(86) iñ-k₄-šikš-naya 'my₄ friends' (WD n.d.)
(87) iñ-k₄-siks-nayu 'my₄ friends' (WD n.d.)

2.43 The plural suffix -kš (~-ks~-ukš~-uks~-yukš~-yuks
~-ikš~-iks~-yikš~-yiks~-akš~-aks) marks one of the more interesting grammatical categories of Wasco-Wishram, that of animacy. David French (personal communication) has suggested that -ukš, -akš, -ikš, and -kš are not in free variation with each other, but that they tend to be differentially correlated with the gender of a noun in its singular form. -ukš and -kš are seen as unmarked for gender, while -akš is most likely to occur with nouns
of feminine gender, and -ikš with nouns of masculine gender. This would suggest that, diachronically if not synchronically, -u-, -a-, and -i- are morphemes distinct from -kš. Because this idea has not been investigated fully, I will continue to hyphenate these suffixes before the vowel, when one is present, thus representing them as single morphemes.

The variation between final /s/ and /s/ of these suffixes is similarly non-sporadic. This alternation is often an aspect of the complicated system of sound-symbolism found in Wasco-Wishram. Sapir refers to this feature of Wishram as "consonantal ablaut" (Sapir 1911:630), and describes it as:

... a series of changes in the manner, and to some extent the place, of articulation of many of the consonants, in order to express diminutive and augmentative ideas in the words affected (Sapir 1911:638; see also Dyk 1933:20-23).

For the purposes of this discussion, it is enough to note that while the final /s/ of animate plural suffixes is generally unmarked with respect to the contrast of diminutive and augmentative, the occurrence of a final /s/ on these suffixes can indicate diminution.

Although -kš specifies that a noun is animate, there is no grammatical marking of nouns as inanimate. Nouns can be described as inanimate only by the negative criterion of never affixing -kš. That -max, and other pluralizing prefixes and suffixes, do not distinguish inanimate nouns is supported by the fact that many nouns which can be pluralized with -kš can be pluralized alternatively by means of prefixes and suffixes occurring with inanimate nouns.
Dyk (1933) does not discuss in any detail the semantic features of nouns which may take animate plurals. The majority of nouns which can affix -kš fall into four semantic categories, to be discussed in the following paragraphs. (It will be noted that nouns taking -kš occur with a wide variety of A/NG prefixes, including ones which are usually associated with singular nouns.)

2.431. Plural nouns denoting human beings frequently take -kš:

(88) i-kala 'man' (WD n.d.)
(89) it-kål-u-kš 'men' (WD n.d.)
(90) i-t'uanxä 'Paiute' (Sapir 1909:220)
(91) i-t'uanxä-yukš 'Paiutes' (Sapir 1909:220)
(92) i-t-q'iuxt 'old person' (WD n.d.)
(93) i-t-q'iuxt-ikš 'old people' (WD n.d.)
(94) i-t-mimelušt 'dead person' (Sapir 1909:78)
(95) id-mimelušt-ikš 'dead people' (Sapir 1909:78)
(96) a-ga₄-útxix 'her₄ younger sister' (WD n.d.)
(97) i-t-ga₄-útxi-kš 'her₄ younger sisters' (WD n.d.)
(98) a-k₄-gutx 'my₄ mother's sister' (WD n.d.)
(99) i-t-nša₄-gut-kš 'our (exclusive)₄ mother's sisters' (WD n.d.) (cf. example (75))

The A/NG prefixes which are paired with the suffix -kš, as well as -max, are involved in a special semantic distinction
which is restricted to nouns denoting human beings. With plural forms of these nouns, ił- indicates that the people in question are known to the speaker, and that their number is limited to 'some, a few.' By contrast, a- specifies that these people are unknown to the speaker, but has the same restricted connotations of number as ił-:

(100) ił-kálu-kš 'a few known men' (Dyk 1333:97)
  (cf. example (69))

(101) a-kálu-kš 'a few unknown men' (Dyk 1333:96)

(102) ił-nømškš 'a few known women' (WD n.d.)
  (cf. example (220))

(103) a-nømškš 'a few unknown women' (WD n.d.)

(104) a-dilxám-ax 'a few unknown people' (Dyk 1333:96)
  *(The /m/ of -max has been assimilated to the stem.)*

2.4.2. Many nouns denoting animals take animate plurals:

(105) i-ål-ic'iau 'garter snake (various kinds)' (WD n.d.)

(106) it-ål-ic'iau-ks 'garter snakes (various kinds)' (WD n.d.)

(107) i-kná'am 'magpie' (WD n.d.)

(108) it-kná'am-ukš 'magpies' (WD n.d.)

(109) i-pkwa 'male wildcat'; 'male lynx' (WD n.d.)

(109) i-pkwá-yukš 'male wildcats'; 'male lynxes' (DF n.d.)
  (cf. examples (59), (61), (62))

(110) a-c'igula 'female bat' (WD n.d.)
(111) it-c'igulaf-yuks 'bats' (WD n.d.)

(112) i-čilaq 'grasshopper' (Sapir 1909:162)

(113) it-čilaq-ukš 'grasshoppers' (Sapir 1909:162)

(114) a-čupkal 'sucker' (WD n.d.)

(115) is-čupkal-kš 'suckers' (WD n.d.)

2.433. Other nouns which can affix -kš include the body parts of human beings:

(116) i-wan 'belly' (WD n.d.)

(117) i-d-wan-kš 'bellies' (WD n.d.)

(118) a-ya₄-mlqʷ-tan 'his₄ cheek (human or salmon)' (WD n.d.)

(119) i-d-mlqʷ-tan-kš 'cheeks (human or salmon)' (WD n.d.)

(120) i-búkčan 'forelock' (WD n.d.)

(121) i-búkčan-kš 'forelocks' (WD n.d.)

(122) i-gikau 'back' (WD n.d.)

(123) i-d-nša₄-gigaú-kš 'our (exclusive)₄ backs' (WD n.d.)

(42) i-še₄-tukʷ 'my₄ neck' (WD n.d.)

(124) it-tkʷ-ikš 'necks' (WD n.d.) (cf. example (43))

2.434. Similarly, animal body parts and products are frequently animate in the plural:

(125) i-q'wínan 'fish fin' (WD n.d.)

(126) it-q'wínan-kš 'fish fins' (WD n.d.) (cf. example (138))
(127) iš-lišt 'fish tail' (ND n.d.)

(128) id-lišt-ka-kš 'fish tails' (ND n.d.)
(The appearance of the element -ka-, or -k-, in the plural is unexplained.)

(129) i-šm'1q 'seashell' (DF n.d.)

(130) iž-šm'1q-ukš 'large seashells' (PK, DF n.d.)
(cf. examples (139), (141))

(131) i-k'läšin 'salmon-head gristle' (WD n.d.)

(132) it-k'läšin-kš 'salmon-head gristles' (WD n.d.)

(133) a-séq-séq 'buckskin' ('D n.d.)

(134) it-séq-séq-ukš 'buckskins' (ND n.d.)

(135) i-p'askwal 'hide,' 'skin' (WD n.d.)

(136) it-p'askwal-ks 'hides,' 'skins' (ND n.d.)

2.435. While most nouns taking animate plural suffixes fall within one of these four semantic categories, there remain many nouns which, according to this scheme, should not occur with -kš, but which in fact do. This puzzling situation is similar to that faced by linguists studying certain Algonquian languages, which also have classes of nouns which are grammatically marked as animate. Regarding Arapaho categories of animate and inanimate, Zdeněk Salzman states: "While in general these native categories correspond to the Western dichotomy of ORGANIC and INORGANIC, there are instances of disagreement . . ." (Salzman 1965:43). Salzman cites as examples of nouns which are unexpectedly classified as animate such things as 'spoon,' 'tepee pole,' 'glove,' 'ball,' and 'wagon or wheel.'
The unexpected classification of some Wasco-Wishram nouns as animate can be explained by semantic features other than the meaning of the noun as a whole. Many nouns and noun stems are used as metaphors to denote inanimate objects. In such cases, the metaphorical usage of an animate noun or noun stem may result in the appearance of -kš on a noun denoting an inanimate object:

(137) i-q'inya-yuks 'hooks and eyes' (lit. 'twins') (WD n.d.)

(138) it-q'winan-uks 'wing chaps' (lit. 'fish fins') (DH n.d.) (cf. example (126))

(139, i-šm'1q-ukš 'Shell gasoline and sign' (lit. 'shells, especially abalone pendants and earrings') (DH n.d.)

(140) it-sak'al-uks 'pants' (lit. 'shins') (PK n.d.)

(141) i-ia4-smlq-uks 'quaking aspen' (lit. 'it has shell earrings' 'they3 his4 shell earrings') (DF n.d.)

(142) 1-ia4-xalu-kš 'maile plant,' "stalk that comes up and blooms" (lit. 'it has friends' 'they3 his4 friends') (DH, DF n.d.) (i₄- sometimes varies with 2-)

(143) it₃-ga₄-qpu-ks 'tops of grass' (lit. 'it has tips of dentalium shells' 'they3 her4 tips of dentalium shells') (Sapir 1909:70)

(144) it₃-ga₄-č'ank-š 'basketry design named deer' (lit. 'it has deer (plural) 'they3 her4 deer') (Spier and Sapir 1930:268) (The /k/ of -kš has been assimilated to the /k/ of -č'ank-š.)
(145) i-k'waik'wai 'shooting star or bird-bill' (a blossom of various species of Dodecatheon in which the pistil and stamens protrude like a bird beak.) (lit. 'a kind of bird with a narrow, pointed bill') (PK n.d.) (A Wishram form of this word is given here; Wasco recordings vary.)

(146) it-k'waik'wai-yuks 'shooting stars or bird-bills' (lit. 'certain birds with narrow, pointed bills') (PK n.d.) (see example (145))

Other objects of material culture and plants take animate plural suffixes because their stems include the stems of body part nouns, which often occur with -kš:

(147) i-ya₄-qəč-mat 'his, cinch' (lit. 'chest instrument') (DH n.d.)

(148) it-qəč-mat-kš 'cinches' (lit. 'chest instruments') (DH n.d.)

This noun contains the stem -qəč-, meaning 'chest.'

(149) i-gič-mat 'halter'. (lit. 'nose instrument') (DF n.d.)

(150) id-gič-mát-kš 'halters' (lit. 'nose instruments') (DH? n.d.)

The stem of this noun, -gič-, means 'nose.'

(151) iā-kana-p'ustm-ks 'hair-like plant' (perhaps dodder) (WD n.d.)

Here, metaphorical usage is made of the noun stem -p'ustm-, 'braid.'

(152) a-qʷnam-kš 'powdered rose gall' (WD n.d.)

The stem of this noun probably means 'swelling on animal or plant,' which, as an animal body part, may take an animate plural suffix.
This noun may take -ks because its stem, -mal- 'marrow,' is considered to be a body part.

Three nouns include the stem -xut- 'eye,' and hence occur with animate plural suffixes:

(154) a-k'alala-xut 'eyelet,' 'grommet' (WD n.d.)

(155) it-k'alala-xut-akš 'eyelets,' 'grommets' (WD n.d.)

(156) i-gič-xut 'quiver,' 'gun scabbard' (WD n.d.)

(157) it-gič-xut-kš 'quivers,' 'gun scabbards' (3apir 1909:170) (Dyk n.d. gives this form as it-gič-xu-kš; the absence of the final /t/ of -xut- is probably an error.)

(158) it-ga-k'alala-xut-akš 'worm-eaten nuts, acorns' (WD n.d.)

A non-metaphoric relation to a normally animate class of nouns may explain the occurrence of -kš with a small set of clothing and materials. Aboriginally, Wasco-Wishram clothing was commonly made from animal hides (French 1961:357). It is my hypothesis that items made of animal hides may take -kš by extension of the principle by which hides, as animal products, can take animate plurals (see examples (134), (136)):

(159) i-p'usian 'leather strap' (WD n.d.)

(160) it-p'usyan-ks 'leather straps' (WD n.d.)

(161) i-qanyak 'breech-clout'; 'buckskin dress'; 'diapers' (WD n.d.)
(162) it-ga₄-xanyak-ukš 'her₄ or their₄ breech-clouts' (WD n.d.)

(163) īl-q'iįxap 'dress' (WD n.d.)

(164) it-q'iįxap-ukš 'dresses' (WD n.d.)

2.436. I turn now to those nouns which end in /kš/ when no semantic motivation can be found for this as a plural suffix. The first group of nouns, (165) through (181), is unusual because the singular form ends in /kš/ as if it had a plural suffix:

(165) īl-sgilukš 'wolf' (WD n.d.)

(166) īl-sgilukš 'wolves' (WD n.d.)

(167) īl-mt'iks 'calf' (WD n.d.)

(168) id-mt'iks-max 'calves' (WD n.d.) (It is not clear which meaning of English 'calf' is intended.)

(82) īl-k₄-šikš 'my₄ friend' (WD n.d.)

(86) īl-k₄-šikš-naya 'my₄ friends' (WD n.d.)

(169) wa-knš 'tall grass used for mats' (DF n.d.)

(170) īl-knš 'tall grasses used for mats' (KF, DF n.d.) (The Wasco form of the stem of this noun may be -kunkš (KF, DF n.d.)

(171) īl-nxiamkš 'puberty dance (?)' (WD n.d.)

(172) ā-t'ainikš 'white shell bead' (WD n.d.)

(173) īl-t'ainikš 'white shell beads' (WD n.d.)

(174) is-t'ilailaks 'breech-clout' (WD n.d.)

(175) ā-sk'alyukš 'thimble' (PK n.d.)
There are alternative possible interpretations of the apparent occurrence of -kš with these nouns. -kš may have become a fossilized element of certain noun stems, meaning that this suffix has lost its capacity to distinguish number. In other cases, /kš/ may be part of the noun stem proper. Since the stems of some of the nouns listed above are not fully analyzable, it is difficult to determine the status of /kš/ within the noun.

Other nouns taking -kš are aberrant because they are not encompassed by the general semantic classes described earlier in this section, nor can secondary semantic factors, which might account for their animate status, be identified. This residual class of animate nouns may include some of those nouns which possibly take -kš in the singular ((165) through (181)). However, there are many other nouns which more clearly take animate plurals without obvious semantic motivation:

(182) a-dx'-dx 'fir-like tree' (DF n.d.)
(183) iäl-dx-dx-ulkiš 'fir-like trees' (DF, PK n.d.)

(184) a-wač 'watch' (WD n.d.)

(185) iä-wač-kš 'watches' (WD n.d.)

(186) is-c'ik-c'ik 'wagon' (WD n.d.)

(187) id-c'ik-c'ik-uks 'wagons (WD n.d.)

(188) wa-unam 'knoll' (WD n.d.)

(189) id-unam-kš 'knolls' (WD n.d.)

(190) a-kămin 'month,' 'moon' (WD n.d.)

(191) iäl-kămin-akš 'months' (WD n.d.)

(192) wa-tap 'tree knot' (WD n.d.), a-gă4-tap 'her4 limb' (DF n.d.)

(193) i(ä)-tap-ulkiš 'tree knots,' 'tree limbs' (DF n.d.)

(194) iäl-sik'nvat 'twined handbag' (DF n.d.)

(195) iäl-sik'nvat-kš 'twined handbags' (DF n.d.)

(196) i-c'ulbat 'beaded bag' (DH n.d.)

(197) it-c'ulbat-kš 'beaded bags' (DH n.d.)

(198) iäl-q-lau-lau-kš 'seeds' (DF n.d.)

(199) iäl-k-lau-lau-kš 'round water-washed stones' (DF n.d.)

(200) iäl3-ia4-k'ibwat-kš "white fir" 'filaree' (lit. 'it has awls' 'they3 his4 awls') (DF n.d.)

There are a number of possible interpretations of these aberrantly animate nouns. The stems of some of these nouns are perhaps more fully analyzable. Further analysis might reveal
some metaphorical usage of the stem of a more truly animate noun, which would explain the presence of -kṣ. Since the stems of many of these unexpectedly animate nouns have been analyzed, and do not appear to involve metaphor, one would still be left with a class of aberrantly animate nouns, but they would be fewer in number.

Concerning this residual class of animate nouns, one might speculate that Wasco-Wishram categories of animacy are somewhat broader than was originally postulated. For example, one could argue that 'watch' takes an animate plural because its hands move, and that things which are capable of movement are potential candidates for categorization as animate.

I am reluctant to propose this sort of interpretation for most of these nouns. Because they do not seem to possess any unifying semantic characteristics, one would be forced to create ad hoc categories of potentially animate things to suit almost every unexpectedly animate noun. A more reasonable, if less satisfying, way to view these nouns is as confirmation of Edward Sapir's statement that "all grammars leak" (Sapir 1921:38).

2.5. So far, we have considered noun plurals formed by suffixes and/or A/MG prefixes. These are by far the most common patterns of noun pluralization. However, pluralization can involve other morphemes of the noun. Moreover, when a noun stem is derived from a verb stem, verbal morphemes may convey the plurality of a noun.

2.51. A relatively common type of Wasco-Wishram noun forma-
tion involves the possession of a quality or thing, denoted by the nominal stem, by the "subject" of the noun. For example, the noun $i_3$-$ia_4$-$piq$ 'wing' (Hale 1968) can be analyzed as 'it has feathers' (lit. 'they$_3$ his$_4$ feathers'). When a noun follows this pattern, the A/NG prefix conveys the number of the thing or quality which is possessed, rather than the number of the possessor, the true "subject" of the noun. Nouns of this type can be pluralized by changing the possessive prefix from a singular to a plural form:

(201) $i_3$-$ia_4$-$gi$-$k\text{"can}$ 'mail, paper carrier' 'he has carrying' (lit. 'it$_3$ his$_4$ carrying') (WD n.d.)

(202) $i_3$-$da_4$-$gi$-$k\text{"can}$ 'mail, paper carriers' 'they have carrying' (lit. 'it$_3$ their$_4$ carrying') (WD n.d.)

(203) $ia_4$-$ga$-$lal$ 'airplane' (lit. 'his$_4$ flying') (DH n.d.) (The A/NG prefix of this noun appears to be lacking, but the prefix $i$- has probably been assimilated to the possessive prefix $-ia$.)

(204) $i_3$-$da_4$-$ga$-$iwa$-$lal$ 'airplanes' 'they have flying' (lit. 'it$_3$ their$_4$ flying') (DH n.d.)

(205) $id_3$-$ia_4$-$xilalit$ 'doctor' 'he has doctoring' (lit. 'they$_3$ his$_4$ doctoring(s)') (Sapir 1909:196)

(206) $t_3$-$ga_4$-$xilalit$ 'doctors' 'they have doctoring' (lit. 'they$_3$ their$_4$ doctoring(s)') (Sapir 1906:196) (t- is an occasional variant of it-.)

(207) $i_3$-$ya_4$-$wi$-$lal$ 'dancer' 'he has dancing' (lit. 'it$_3$ his$_4$ dancing') (DH n.d.)

(208) $i_3$-$da_4$-$wi$-$wa$-$lal$ 'dancers' 'they have dancing' (lit. 'it$_3$ their$_4$ dancing') (DH n.d.)
(209) i3-ča4-k'i-čxəb-čxəb "she is a putter out of lights, fires" 'she has extinguishing' (lit. 'it, her, extinguishing') (WD n.d.)

(210) i3-da4-k'i-čxəb-čxəb 'they are putters out of lights, fires' 'they have extinguishing' (lit. 'it3, their, extinguishing') (WD n.d.)

(211) id3-ia4-lalam-ax 'singer' 'he has songs' (lit. 'they3, his, songs') (WD n.d.)

(212) it3-ga4-lalam-ax 'singers' 'they have songs' (lit. 'they3, their, songs') (DF n.d.) (The terminal suffix -ax of these forms is surely -ma, where the /m/ has been assimilated to the final /m/ of the stem -lalam-.)

(213) i3-ya4-xmagapx 'worker' 'he has work' (lit. 'it3, his, work') (WD n.d.)

(214) i3-da4-xmagapx 'workers' 'they have work' (lit. 'it3, their, work') (Y) n.d.)

It is undoubtedly significant that most, or all, of the above examples have verb roots or stems; the verbal element functions differently than do those in section 2.52, which follows.

2.52. A few nouns make use of verbal elements to express plurality. In his Grammar of Wishram, Dyk describes the verbal function of one such element, -yu- (~-iw-~-iwa-):  

The distributive plural element individualizes and separates the plural objects of a transitive construction upon which the action of the verb is bent, or the plural subjects of an intransitive construction by whom the action is being performed. The translation usually given to -yu- is each one, individually, separately, here and there, etc. (Dyk 1933:62)

Thus, -yu-, which appears in the following examples as -wa- and -iwa-, is semantically the near-equivalent for verbs of the
nominal suffix -max.

(207) i₃- ya₄-wi-lal 'dancer' 'he has dancing' (lit. 'it₃ his₄ dancing') (DH n.d.)

(208) i₃-da₄-wa-lal 'dancers' 'they have dancing' (lit. 'it₃ their₄ dancing') (DH n.d.) (-iwa- appears here as -wa-, the /i/ is assimilated to the /i/ of the stem -wi-.)

(203) ia₄-ga-lal 'airplane' (lit. 'his₄ flying') (DH n.d.)

(204) i₃-da₄-ga-iwa-lal 'airplanes' 'they have flying' (lit. 'it₃ their₄ flying') (DH n.d.)

2.5.3. Pluralization by means of the verbal element -1- occurs only once in my data. Dyk calls -1- a "relational element," and translates it as "to, in, within, for" (Dyk 1933:39). In Michael Silverstein's terminology, -1- is a "postposition" (Silverstein 1980:39). Dyk further notes that -1- "combines with 3[rd] person plural] -u- to form -awi" (Dyk 1933:40).

(215) q₃-a-l-k'ičxm-al 'pot' (lit. 'someone is continuously boiling in it') (DH n.d.)

(216) q₃awi-k'ičxm-al 'pots' (lit. 'someone is continuously boiling in them') (DH n.d.)

2.6. A small number of nouns have different stems in the singular and plural forms:

(217) i₃-laititix 'slave' (TD n.d.)

(218) i₃-giššltki-ukš 'slaves' (TD n.d.) (-iššššš may be better)

(219) a-gagššlak 'woman' (Sapir 1909:52)

(220) id-namšškš 'women' (TD n.d.) (cf. examples (102), (103))
2.7. The last class of nouns to be considered here consists of those nouns which do not change to form plurals. These nouns are sometimes specifically singular in form, i.e., they occur only with A/NG prefix i- or (w)a-

(221) a-gákw'al 'eel berries,' 'eel berry' (WD n.d.)

(222) wa-mxé 'core or cores, as of apples' (WD n.d.) [\text{DIS-tributive pl.} wa-mxé-max, also occurs; cf. 12.1.2.]

(223) i-kába 'ice' (Sapir 1907:168)

(224) i-libum 'apple,' 'apples' (Dyk 1933:138, 139)

(225) wa-qáč 'thorn,' 'thorns' (DH n.d.)

(226) i-tána-liq'-liq'-w 'icicle,' 'icicles' (WD n.d.)

(227) i-léx-léx 'fish scale,' 'fish scales' (WD n.d.)

(228) i-yúxpas 'cranberry,' 'cranberries' (WD, DF n.d.) [\text{Sahaptin-derived}]

(229) i-ya₄-quq 'his offspring' (WD n.d.)

(230) a-c'iidixax 'ant,' 'ants' (PK, DF n.d.)

(231) wa-c'uíha 'blue-back salmon (singular and plural)' (WD n.d.)

Other nouns which do not have distinct singular and plural forms are invariably plural in form, because they always take it- or a plural suffix:

(232) it-k'wá'an 'dew' (WD n.d.)
(233) it-k'ilak 'powdered salmon' (WD n.d.)

(234) a-sí'una-yuks "bird?" "bird?" (WD n.d.)

(235) it-k'íšgglal-max 'feathers worn on hat or head' (WD n.d.)

(236) it-ká 'cloud,' 'clouds' (WD n.d.), it-ká-max 'clouds' (WD n.d.)

(237) it-šúlit 'smoke' (Sapir 1909:78)

(238) it-laxaxu-max 'goose,' 'geese' (WD n.d.)

(239) it-t'ú-max 'breast,' 'breasts' (WD n.d.).

A third set of nouns, those taking the "collective-neuter" prefix i-#, are marked as neither singular nor plural:

(240) i-qašwulq 'blood' (Sapir 1909:14), i-غاَلَىَت (WD n.d.)

(241) i-šínina 'dust' (Sapir 1909:74)

(242) i-šík'a 'oil' (Sapir 1909:64)

(243) i-šk'wan 'pitch' (Sapir 1909:36), i-kašk'wan (WD n.d.)

(244) i-šqwa 'water' (Dyk 1933:90)

(245) i-š-lá 'fog' (WD n.d.)

(246) i-šxnán 'smelt' (DF n.d.)

(247) i-š-úaut 'urine' (DR n.d.)
(248) il-t'ok 'fruit juice' (WD, DF, DH n.d.) 'ink made of huckleberry juice' (DF, DH, ES n.d.)

(249) il-úluśq 'soup' (WD n.d.)

(250) il-pālal 'salal berry' (also, 's. berries' and 's. bush') (DF n.d.)

Many of these nouns correspond to our English mass nouns, which Whorf has described as designating "homogenous continua without implied boundaries" (Whorf 1956:140). However, it may be the case that the lack of differentiated singular and plural forms may not be due to an implicit categorization of these nouns as mass in character, but is rather a result of a less strongly felt need to express number unambiguously than we as speakers of English feel. I shall return to this point in Chapter 3.

2.8. Having presented all the types of pluralization occurring at the level of the noun itself, I should now point out that Wasco-Wishram has a series of particles and adjectives which, as part of a noun phrase, can be used to elaborate a noun's plural quality. Particles do not typically take prefixes, and generally precede the noun which they modify. Examples of particles relevant to the pluralization of nouns are:

(251) haʔas 'plentiful,' 'more than enough' (Dyk 1933:131)

(252) paʔa 'lots,' 'full' (Dyk 1933:131)

(253) gawat 'a few,' 'some' (Dyk 1933:131)
(254) palalai 'lots,' 'plenty' (Dyk 1933:131, q.v. for similar forms)

Wasco-Wishram also possesses a system of cardinal and ordinal numbers, which of course can function to specify the degree of plurality of a noun. I will not discuss numerals here; the reader may wish to consult Dyk 1933:136-141. However, one feature of this system pertains to animate plurals. When certain numerals modify nouns denoting human beings, they affix the suffix -ikš. Moreover, when combined with special prefixes, this suffix can convert a number to a substantive, meaning 'a certain number of human beings.'

(255) a-lakd-ikš a-kalu-kš 'four men' (WD n.d.)

(256) gúnm-ikš ił-t'uánx-ayukš 'five Paiutes' (Sapir 1909:204)

(257) d-makʷštág-an-ikš 'twenty of them, people' (Dyk 1933:140)

Adjectives conveying plurality differ from particles in that they are nominals, i.e., they take prefixes. An adjective takes a possessive prefix which corresponds in number, and if specified, gender, to the A/NG prefix of the noun which it modifies:

(258) a³-ña₄-tlx iž-nímškš 'lots of women' (lit. 'they women it³ their₄ abundance') (WD n.d.) (see example (102))

2.9. Reduplication is not a regular pluralization process
for Wasco-"ishram nouns. However, included in my data are examples of particles which can function as noun stems and are pluralized by reduplication. Although particles do not typically take affixes, some of them do so in certain contexts; most of these examples have prefixes and/or suffixes:

(259) wixat 4aq' 'a bend in the road' (WD n.d.)

(260) wixat 4aq'-aq' 'bends in the road' (WD n.d.)

(261) yaq'-ix wilxba 'a hollow on the ground' (WD n.d.)

(262) yaq'-yaq'-max-ix 'hollow places,' 'depressions' (WD n.d.)

(263) 1=axwap 'hole' (WD n.d.)

(264) axwap-axwab-max 'holes' (WD n.d.)

(70) i-gis-max 'yellow lichen frequently found on dead wood' (lit. 'yellow item [which grows] here and there') (DF, KF n.d.)

(71) i-gis-gis-max 'yellow lichen (plural) frequently found on dead wood' (lit. 'yellow items [which grow] here and there') (DF, KF n.d.)
Chapter III

Conclusion

3.1. It has been shown that the ways in which nouns can be pluralized are multifarious, and that the grammatical and semantic diversity of these pluralization types is great. In this chapter, I will suggest that the variety of productive pluralization processes, and the types of information which they convey, are not randomly distributed among the nouns. Instead, it seems that these factors can be correlated to certain semantic features of nouns.

3.1.1. Nouns denoting human beings are subject to the most morphologically and semantically varied pluralization processes. In the first place, there are two pluralizing suffixes which seem only to apply to human beings. The plural suffix -nana is primarily affixed to nouns referring to kinship relationships (see section 2.42). With numerals, the suffix -ikš seems to function mainly to mark the status of a noun referring to a human being (see section 2.8).

The restriction of a semantic distinction to human referents is another index of the relatively greater potential for semantic specificity in this class of nouns. The contrast between ila- 'a few known people' and a- 'a few unknown people' is perhaps the most subtle distinction made in noun pluralization (see section 2.431).

Because nouns denoting human beings may also be plural-
ized by all the combinations of prefixes and suffixes used in other domains, these nouns exhibit the widest possible range of methods of pluralization. With regard to specificity of number, the class of human beings is also somewhat set apart from other nouns. Except for a few true collectives, one does not find nouns in this class which lack distinct singular and plural forms. Similarly, the singular form of a noun is never used when plural human beings are referred to, as will be seen to be the case for other types of nouns. These things suggest that nouns denoting human beings are less tolerant of ambiguity as to number than are other nouns.

3.12 The number of ways to pluralize nouns denoting animals is somewhat more limited than the class of human beings. Of course, -max and -kš can both occur with animals, as well as human beings. However, there are no grammatical elements or contrasts which specifically indicate that a noun denotes an animal.

When compared with nouns having human referents, animals as a class are only slightly less constrained by obligatory specification of number. We find that there are only a few animals for which singular and plural are not distinguished.

3.13 It is in the domain of plants, material culture, and natural features that the least amount of information is expressed in pluralization. Since nouns of these domains cannot normally take -kš and there are no pluralization processes which only occur with these nouns, they are involved in the
smallest set of pluralization processes.

Nouns denoting plants, material culture, and natural features are often characterized by a relative indifference to the communication of number. For many of these nouns singular and plural forms are not differentiated. This also eliminates the possibility of expressing distribution, as well as contrasting il- 'some, a few' with more true plurality.

Another indication that nouns in these domains are more likely to exhibit indifference to number is the fact that they sometimes vary in form between the singular and the plural, although the referents of the noun remain the same. For example, in the myth The Raccoon Story (Sapir 1904:152-165) the narrator switches rather freely between it-gulul and a-gulul, the "plural" and "singular" forms of 'acorn,' even though both are translated as "acorns."

3.2. Thus, information conveyed by the pluralization of nouns, obligatory and otherwise, is potentially greatest for nouns denoting human beings, minimal for plants, natural features and material culture, and intermediate for animals.

3.2. In order to provide a perspective for the description of Wasco-Wishram noun pluralization, I would like to sketch some of the ways in which Wasco-Wishram noun plurals are similar to—and differ from—noun pluralization in European languages. Only those European languages with which I am acquainted, i.e., Latin, French, German, and English, will be mentioned here.

3.2.1. In terms of the morphological complexity of pluralization processes, German is perhaps closer to Wasco-Wishram than
other European languages. Wasco-Wishram and German nouns are both subject to much more complicated pluralization processes than in either French or English, where noun pluralization is overwhelmingly regular. The many types of Wasco-Wishram noun plurals were discussed in Chapter 2. German noun plurals are formed by changing a singular article to a plural article and affixing one of an array of pluralizing suffixes. Many German noun plurals also involve un/s-laut. By contrast, the burden of English nominal pluralization falls to the suffix \(-s\) and its phonologically conditioned allomorphs. Plurality is also conveyed by some articles. French plurals are similarly straightforward. They are always marked by plural articles, with the suffix \(-s\) expressing plurality when liaison occurs.

3.22 With respect to the various kinds of nominal plurality which a language may distinguish, Wasco-Wishram exhibits more diversity than the European languages. Of course, Wasco-Wishram shares with these languages the distinction between mass or collective and individuated nouns (see sections 2.32 and 2.7). However, the European languages do not express distributive plurality, as does Wasco-Wishram (see section 2.41). The most striking contrast between Wasco-Wishram and these European languages lies in the non-obligatoriness of the expression of plurality for certain Wasco-Wishram nouns (see section 3.13). This sort of indifference to number simply does not occur in the European languages.

3.23 Correlations between the form of a noun plural and
other semantic or grammatical features are present in Wasco-Wishram, Latin, and—to a lesser extent—German. Semantic correlates of Wasco-Wishram noun plurals include animacy (see section 2.43), a noun’s status as a person, animal, or "thing" (see sections 3.11, 3.12, and 3.13), and possibly gender (see section 2.43). Latin noun declensions convey not only the plurality of the noun, but also its gender and case. In German, the plural articles and suffixes can indicate the case of the noun. Correlations between the gender of a noun and the form of its plural are only indirect for German. For example, nouns ending in /ə/ affix -n in the plural, and many feminine nouns end in /ə/.

3.24 Differences in the treatment of nominal pluralization among various languages have been only briefly discussed here. However, even these differences point to the need for comparative studies of noun plurals. It is hoped that this thesis will provide data for such endeavors.
Notes

1 I am indebted to David French for suggesting the topic of Wasco-Wishram noun plurals to me, and for his helpful advice on all phases of this thesis. I also wish to thank Dell Hymes for his reactions to the written proposal for this thesis, Robert Benson for reading an earlier draft of it, and Kathrine French and Robert Moore for conversations about this thesis and related matters.

2 See French (1961) for an ethnographic and historical description of Wasco-Wishram culture. The standard earlier monograph was Spier and Sapir 1930.

3 See Silverstein (1974:50-51) for comments on this linguistic classification.

4 Dell Hymes' Ph.D. dissertation on the grammar of Kathlamet (Hymes 1955), another type of Upper Chinook, was available to me in the form of a near-final draft. I found his discussion of noun plurals helpful in understanding Wasco-Wishram noun affixes. (The pages on which this discussion occurs cannot be cited here because the draft which I used does not include the final page numbers.) Because my data include patterns of pluralization which do not appear in Hymes' Kathlamet grammar, I was unable to adapt his schematic representation of noun plurals without running the risk of misleading the reader. Boas' grammar of Lower Chinook (1911) was also helpful.

5 Various pluralization processes occur for nouns which do not have singular forms, but instead are "inherently dual" with respect to basic A/NG prefixes. Since these nouns are rather rare and involve problems which are beyond the scope of this thesis, my discussion excludes these plurals.

6 From this point on, initials will be used to indicate the names of linguists and ethnographers responsible for the collection and transcription of forms which I have obtained from their unpublished notes. Names, and the initials used are:

WD Walter Dyk
DF David French
KF Kathrine French
DH Dell Hymes
PK Philip Kahclamat (A Wishram who was taught by Dyk to write his language)

ES Edward Sapir

I have not listed the initials of all persons who collected each word; many words were obtained by more than one person. Except for Philip Kahclamat's own recordings, the names of Wasco and Wishram speakers who provided these data are not given here. Since Wasco and Wishram forms of nouns are generally identical, I have not indicated from which dialect particular examples have been taken. However, when it appears that there is a significant difference between Wasco and Wishram, I have pointed this out. The WD and PK forms are all Wishram. The transcriptions in this thesis are "near-phonemic," in accordance with recent publications on Chinookan.

7i-,id-, -yułmax 'spirit power' (WD n.d.) has been excluded from this category because its stem is almost certainly a borrowing from a neighboring language.

8 Such nouns are unusual in that they end in -max followed by -nana. David French (personal communication and in entries in Hymes et al. (n.d.)) has a tentative interpretation for these phenomena: -č'-max is the stem, and -nana is an animate plural suffix. In French's view, the stem may be analyzable, with č'-being one (or more) of an array, -max, of 'relatives of the great-grandparent/grandchild generations.' Such forms as -łx-d-max would be similar in referring to an 'array of older relatives or ancestors.' Note that -max remains 'distributive' but has a specialized meaning and can occur in a non-final position.

9 Two other nouns, i-, a-nanukš 'otter' and a-, i-šukš "flint," "flint knife," were omitted from the above list because it was suspected that the stem was borrowed from some other language.

10 It was hoped that a chart or table representing all of the types of Wasco-Wishram noun plurals could be devised for inclusion in this thesis. Unfortunately, due to the great semantic and grammatical complexity of these plurals, it proved impossible to represent them schematically.
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