

THE ROLE OF COMPUTERS IN DICTIONARY-MAKING AT THE UNIVERSITY OF HAWAII

Robert Hsu

1. DICTIONARIES vs. LEXICAL FILES

In a typical dictionary the different types of information in an entry are indicated by a hodge-podge of different conventions such as fonts, abbreviations, brackets, and so forth. Fig. 1 shows an excerpt from a conventional dictionary (of Woleaian). Headwords are shown in boldface, base forms in small caps, etc. For working in the computer, however, we use a representation which I will call a 'lexical file', in which such functions are overtly labelled in some uniform manner. We use short mnemonic abbreviations at the left of the line, and begin each new type of information on a new line, as in Fig. 2. In this example, 'hw' labels headwords; 'ba', base form; 'df', definition; and so on.

We call each such labelled type of information a 'band'. An entry in a dictionary corresponds in the lexical file to a sequence of such bands. A period or full stop before a band name marks the beginning of an entry. There is no limit to the number of bands one may invent for a lexical file. Typically there would be 20 to 30 bands; one of our files has over 200. Substructure within an entry is indicated by a system of numbers preceding these labels which we will not describe here. There is also a system for indicating subentries and sub-subentries, etc.

These conventions are by no means the only ones one could use for encoding lexical files, and they certainly do not handle everything one might wish. They do however have the virtue of being quite easy to work with. We have on the whole been satisfied with them in the course of working with over thirty languages.

Overtly labelling the information and its structure, rather than stringing it together into continuous paragraphs as in a dictionary, makes it easy for computer programs to identify and manipulate the various types of information. This is the basic reason for working, in the computer, with lexical files even though the principal goal may be the production of a dictionary.

Andrew Pawley and Lois Carrington, eds *Austronesian linguistics at the 15th Pacific Science Congress*, 313-328.
Pacific Linguistics, C-88, 1985.

© Robert Hsu

2. LEXICAL FILE AS A REPOSITORY

The advantages of working with a lexical file also affect any dictionary that might be produced from the file. These advantages fall into several categories. One is a consequence of treating the file as an active and growing repository of information rather than primarily as a manuscript to be edited and published. Having a structure such as a system of bands, and having the ability to invent new bands whenever needed, facilitate the organisation and filing of information as it is gathered. This facilitation effect is often noticed by lexicographers as soon as they begin putting information into a lexical file, even before any computer processing has taken place.

Another effect of treating the file as a repository is that one is free to include information that might not be appropriate for a published dictionary. One might have a band, for instance, containing coding of semantic domains, or one for references to field notebook pages or to tape counter numbers or names of speakers who supplied the form. There may be a band for private comments such as "check this form again", or "listen to the last vowel again". There may be bands for comparative data from related languages. Fig. 3 shows an excerpt from a lexical file, printed in a more readable format than Fig. 2, in which we see some bands (e.g. CO, RF, and the various comparative bands) that are probably not meant for publication in a dictionary.

Yet another result of treating the file as a repository is that, since one is freed (at least while gathering the information) from the economic, political, and other considerations of what should actually be published, one can better focus on the gathering and verifying of the linguistic and cultural materials in the file.

3. EASE OF MAINTENANCE OF THE FILE

A second category of benefits arises from the ease of maintenance of a computer file. Being in computer storage, the file can be readily edited at a terminal as new and corrected information is gathered. The band format that we use is reasonably easy to work with in this respect. After editing, a clean copy of the updated file can easily be printed out. The format of the printout can be altered to suit the purposes of the user. The typical format we use for working copy is illustrated in Fig. 4, which corresponds to a part of what appears in Fig. 2. The two boxes correspond to the boxes in Fig. 2 and Fig. 1. The headword band is given prominence by a considerable overhang at the left, entries are set off by blank lines, subentries are indented, page numbers are provided, etc. On the whole, this format is much easier to read than the original file itself, and provides more space for hand-written notes. (For reference copies we use a more compact printout format.) Other formats can easily be devised.

It is of course easy to print out copies for distribution to co-workers. It is also a simple matter to make copies of the file on computer tape, to share with colleagues at other institutions — provided that their computers are compatible. In these respects computer files are much preferable to slip files or notebooks.

4. DEVELOPING THE FILE

A third class of benefits arises from the ability of the computer to help in refining and expanding the file itself. The computer can be instructed to make changes to the file. It can also be instructed to run checks on the file. An example of automatic changes is alphabetisation. New words can be sorted into their proper alphabetical places; and if a new alphabetical order is established, the entire file can be automatically re-alphabetised according to the new system. Also, several dictionaries of the same language can be sorted together to develop a new and updated dictionary. Fig. 5 shows a consolidation, a sorting together, of several dictionaries of Tahitian dating from the 19th century which is being augmented by contemporary lexical data and made into a historical dictionary by Jack Ward. The five entries in the box come from five different dictionaries, as indicated by the names of the headword bands. Ward will now conflate such groups of entries, adding notes and material of his own.

Another example of automatic changes is the task of respelling all the words in a lexical file according to new spelling conventions. The Marshallese words in the Marshallese lexical file once had to be respelled by the application of some 50 ordered context-sensitive rules. Since this had to be done to not only the headwords but also to the thousands of Marshallese words in the illustrative sentences, this job could have been accomplished economically only by computer. A similar respelling, though very much simpler, is currently being undertaken for the Chamorro file.

Automatic checks also can be run by the computer on a lexical file. For instance, a program can check that all cross-references in the file refer to actual headwords in the file, or that all words used in illustrative sentences also appear as headwords. A program can also check spelling to the extent of reporting occurrences of prohibited or rare letter sequences.

Human checking of material in the file can be facilitated by computer generated listings: the computer can print out all headwords containing certain specified phonological sequences for further checking with native speakers; or if fish names or plant names, say, have been entered in special bands, the computer can print out all entries having such bands, and the printout can be sent to the field or to a specialist for checking and expansion. Fig. 6 shows a portion of what we call a bandsort, a listing of bands (here DF and GR) extracted from their entries and regrouped by band name rather than by entry. This has proved to be, among other things, a very effective proofreading aid, as it allows one to scan all instances of one particular band without being distracted by other bands. Other printouts can also be made which bring together similar phrases occurring in, for instance, the definitions, so that one can easily catch lack of parallelism in phrasing.

5. USES OF THE FILE

So far we have discussed how the computer can help the lexicographer maintain and develop the file itself. Now we ask, of what use is such a continually refined and expanded computer file? One of the most frequently voiced reasons for committing a lexical file to the computer is the need for easily making an English index, called a finderlist. In the sample printouts of lexical files you will have noticed asterisks attached to certain English words in the definitions. These were placed there by the lexicographer to mark words that are to be extracted by the program which makes a finderlist.

Fig. 7 is an example of such a computer-generated finderlist. The box surrounds a phrase extracted from the definition band in the first boxed entry in the previous Woleaian examples (Fig. 4). The asterisk on the word 'tuna-fish' was the signal to the program to extract the entire phrase and place it under the keyword 'tuna-fish' in the finderlist. Our programs recognise a large number of such conventions that the lexicographer can use in definition bands to delimit keywords and phrases. In this way a relatively complex finderlist can be generated automatically from a lexical file which has been appropriately decorated with stars and other special symbols.

Another possibility, of interest to the comparative linguist, is that of combining the finderlists of several related or neighbouring languages. Fig. 8 shows a page from such a combined finderlist generated from the lexical files of 12 languages of Micronesia. Even though the 12 files were of uneven coverage, it has nevertheless served as an important source of data for a project in comparative reconstruction.

Possibly the most significant use of the file in the long term is as a reference work that can be consulted by means of appropriate computer programs. Since the different types of lexical information are explicitly labelled, programs can be written to extract entries, or parts of entries, containing specified information, as aids to the study of the language or the culture. Fig. 9 shows portions of four printouts of Palauan nouns classified according to the vowel of the third person possessive suffix. These printouts were made from the Palauan lexical file for a study of the distribution of these vowels. Fig. 10 is a portion of an index based on codes for semantic domains entered in a Kiribatese (Gilbertese) dictionary. This excerpt shows words having to do with food (FOO) and with geology and geography (GEO). Since the particular concerns of a culture tend to be reflected in its vocabulary, printouts such as this can be used as aids in studying and appreciating a culture.

A final example of uses of a lexical file is the making of a dictionary from the material in the file. At any time the whole file or any subset of it can be extracted, to make a reference dictionary, or a briefer glossary for school use, or a gazetteer of place names or fish names, or any other such list. As for printing, reproduction of an appropriately formatted computer printout might be adequate for some purposes, but regular letterpress quality printing is also possible through computer-driven photocomposition. Since the material is in computer-readable and structured form, it can be reformatted by program for input to a photocomposition machine. The output of the latter is a photographic master suitable for photo-offset duplication. This route by-passes the need for retyping the entire text (which would entail another proof-reading step) and is in most cases less expensive. For concreteness I have included a sample of what the photocomposition tape looks like (Fig. 11). This is, in fact, a portion of the tape used to photocompose the Woleaian dictionary. The portions enclosed in boxes again correspond to the two entries we have been following. This is, of course, not intended for human consumption. Embedded in the text are codes for shifting to italics, bold, roman, etc., for starting a new paragraph, and for other typographical functions.

After the dictionary is published the lexical file need not go into retirement. It remains a valuable resource, a database for further research, and is available for further development and use. Additional editions of the published dictionary can be produced as the file grows.

6. THE ROLE OF THE COMPUTER IN DICTIONARY-MAKING

The principal use of the computer in dictionary-making then, at least at the University of Hawaii, is in helping to maintain and develop the lexical file, a resource of many uses, one of which is the production of a dictionary.

The computer has at least two other possible uses in dictionary-making, not directly related to lexical files, which I will briefly touch on in conclusion. They involve the computer as an aid in finding and defining words in the language. The first method was first used by Vern Carroll for Nukuoro. He called it generative elicitation. We have since used it many times. It consists in having the computer produce all possible forms of words according to the known phonotactics of a language, Fig. 12 is a part of such a printout of trisyllables for Motu. A native speaker is invited to read through such a list and to note all forms which actually occur in the language. In the case of Nukuoro, Carroll further had the computer generate all morphotactically possible derivations of the roots discovered from the first list. In either case, such a project is not to be embarked upon lightly, since an exhaustive printout of all disyllables, not to mention trisyllables, for a language with even a small inventory of consonants and vowels runs into the tens of thousands, and the rate of return is typically very low. It also requires literate and very patient native speakers.

The other method of finding words is the quite common one of making concordances from text. Fig. 13 is a sample of an interlinear concordance of an American Indian language of the Pacific North-West. A concordance not only finds all the words or morphemes in a text but also brings together all the contexts of a given morpheme or word, so that it can be studied in all its uses and meanings in the text.

These two additional uses of the computer complete our quick survey of the computer's role in dictionary-making.

Woleaian-English	
tafey	
tafey (tafeyə). 1. N medicine. <i>Yoor t. lan sipitaal</i> There is medicine in the hospital. 2. VI to be treated. <i>Ye sa t. pesheei</i> My leg has been treated.	
tafeya (tafeyaa). VT give medicine to him, treat him. <i>Tagota u sa ye t. sar uə</i> . The doctor treated the child. <i>Ye t. Mary</i> He gave medicine to Mary.	
tafiy (tafi-a). VT open it with fingers (referring to vagina), pull it apart. <i>T. lag!</i> Open it (the vagina) up!	
tafish (tafishh). 1. N trap, snare. <i>Ye lag seuw t. shiul gashi la yaai</i> . There is a trap on my tuba tree. 2. VN to trap, snare.	
tafishfish (tafishfishh). VI to sparkle. <i>Ye t. lag yaf uə reel timu uə se bbul</i> . The burning house gives away sparkling fire.	
tafishhiy (tafishhi-a). VT trap it, set a trap for it, snare it. <i>T. gesh uə!</i> Set a trap for the rat!	
tafitē ₁ (tafitaf). VN to open (vagina), pull apart. <i>Mwal uə ye tau t. tingiy</i> . The man habitually opens (vagina).	
tafitē ₂ (tafitaf). N fishing kit. <i>Ifa t. uə yaai?</i> Where is my fishing kit?	
tafusiufius (tafusiufiusiu). VI to be spotted, have a small mark. <i>Ye t. pesheel</i> . His legs contain many marks. <i>Ye t. siilo uə</i> The pig is spotted.	
tag ₁ (tagē). VI to float in shallow water, sail in shallow water. <i>Ye t. uə uə</i> The canoe is able to sail in the shallow water.	
tag ₂ (tagē). DIR upward, eastward, up. <i>Ye sa rig t. sar uə</i> The child ran eastward.	
tag ₃ (tagiu). N needle fish.	
-tagē (-tagē). [directional suffix] upward, up, eastward. <i>gabitageyei</i> , make me go up. CF. tag ₂ .	
tageey (tagee-a). VT. ride it, sail in it. <i>Re t. wa uə</i> . They sailed on the canoe.	
tageloa (tage-loa). VI to surf. <i>Re t. Waikiki</i> They are surfing in Waikiki.	
tageshaliyal (tageshali-yala). N sunrise. SYN tegaliyal.	
tagiulwosh (tagiuli-woshə). N a kind of needle fish.	
tagiunal (tagiuli-lala). N trumpet fish.	
tagiur ₁ (tagiuriu). VI to face, turn. <i>Ye t. tanqiyei</i> She faced away from me.	
tagiur ₂ (tagiuriu). N back (anatomical).	
tagiuraar (tagiuranaar). N sword fish.	
tagiuriu (tagiuriu-a). N my back. <i>Ye biuu shiul t.</i> My backbone is broken.	
tagiuriupaai (tagiuriu-paai). N a kind of lizard. <i>Resepaal re muommuwongo t.</i> Japanese people ate lizards.	
tagiuter (tagiuteriu). N a kind of needle fish. <i>seuw t. semal t.</i> , a needle fish.	
tagiyat (tagiyata). VI. ADJ. (to be) high, tall, great, lofty. <i>Ye t. wa uə</i> . The canoe is high.	
tagiyetaat (tagiyataatə). N high place, raised place. <i>Ye matt wool seuw t.</i> He is sitting on a raised place.	
tagomeliuw (tagomeliuwa). N a kind of breadfruit with smooth surface and white flesh. <i>Ye iyeri sefash t.</i> He picked breadfruits from a tagomeliuw tree	
tagomwaailey (tagomwaaileyali). VI to be dizzy, go around in a circle. <i>Ye sa t. sar uə</i> . The child is dizzy as a result of going around in a circle.	
tagulugul (tagulugulu). VI to spin (many times), rotate, turn. <i>Ye t. misiil uə</i> . The machine is turning.	
tagun (tagunu). VI to turn, return, shift (of wind). <i>Ye t. tangi</i> . He turned away from her.	
tagutog (tagu-tagu). VN to chase, block. <i>Re t. ig uə</i> . They are chasing fish. CF. taguuw.	
taguuw (taguu-a). VT chase it, block it. <i>Re t. ig uə</i> . They chased the fish. CF. tagutog.	
taguw (taguu-a). N yellow-fin tuna-fish.	
tai (taə). ASP [negative] not. <i>Ye tai goang</i> . It is not me. <i>Ye tai lag</i> . He did not go.	
taig (taigo). [rang in Faraulep dialect] 1. N turmeric. <i>Ye lag tingar t. me reel melewe sin</i> . She went to ask for turmeric from her mother. 2. VI. to apply turmeric on one's body. <i>Re t. sar kare</i> . Those children are putting turmeric on their bodies.	
taiif (taiifa). N platform of a house, stones around the house used to keep the gravel from spreading out. <i>Ye matt wetaiif</i> . He is sitting on the platform.	
taii (taiiə). N mountain, hill. <i>Ye toulap t. uoal Hawaii</i> There are many mountains in Hawaii.	
taikeil (tai-kaila). VI. ADJ. (to be) weak, unhealthy. <i>mal t.</i> weak person. CF. kail	

Figure 1

.hw	tagun
ba	tagunu
ps	vi-
df	to *turn, *return, *shift (of wind)
sx	ye t. tangi he turned away from her
.hw	tagutog
ba	tagu-tagu
ps	vn-
df	to *chase, *block
sx	re t. ig they are chasing fish
see	taguuw
.hw	taguuw
ba	taguu-a
ps	vt-
df	*chase it, *block it
sx	re t. ig we they chased the fish
see	tagutog
.hw	taguw
ba	taguwa
ps	n-
df	yellow-fin *tuna-fish
sem	*fish-species
.hw	tai
ba	tai
ps	asp.
gr	negative
df	*not
sx	ye tai gaang jit is not me
ps	ye tai lag he did not go
.hw	taig
ba	taigo
al	rang [in Faraulep dialect
1ps	n-
1df	*turmeric
1sx	ye lag tingar t. me reel melewe sin she went to ask for turmeric from her mother
2ps	vi-
2df	to apply *turmeric on one's body
2sx	re t. sar kare those children are putting turmeric on their bodies
.hw	taiif
ba	taiifa
ps	n-
df	*platform of a house, stones around the house used to keep the gravel from spreading out
sx	ye matt wetaiif he is sitting on the platform
sem	*house-parts: platform
.hw	taiit
ba	taiita
ps	n-
df	*mountain, *hill
sx	ye toulap t. uoal Hawaii there are many mountains in Hawaii
.hw	taikeil
ba	tai-kaila
ps	vi., adj.
df	(to be) *weak, *unhealthy
px	mal t. weak person

Figure 2

- 408 .HW I 52
 GC P
 GG *DIRECTIONAL PREP.
 GL *FROM
 PI *LONG
 EG NAU E AU I #HAATAE: I CAME FROM #HAWAII
- 409 .HW I 53
 GC P
 GG *DISTRIBUTIVE PREPOSITION
 GL *AMONG, *BETWEEN
 PH SE TAMA I TAATOU: ONE PERSON AMONG US
 CO CHECK GLOSS
- 410 .HW IA
 GC PN
 PPH *IA | HE, SHE + (B1)
 GR SEE GRAMMAR FOR DETAILS OF USAGE
 GG 3RD PERS. SG. PN.
 GL *HE, *SHE, *IT; *HIN, *HER, *IT
 PI *EM
 CP AATA: USED AFTER XI, KI; AIA: USED AFTER SUFFIXED VERBS, ETC.
 PCO IA | HE, SHE + (H)
 NAN IA | HE, SHE + (R1-28)
 NUK IA | X + (C3-248)
 SIK -IA | 3RD PER SG 'HE' (OBJ) + (S1-15)
- ..HJ NAIA
 GC
 GL *WITH *HIN (*HER, *IT)
 PI
 EG
- ..HJ SOROIA
 GC
 GL BY *HIM*SELF, *HERSELF, *ITSELF
 PI *EM TASOL, EM WAPALA, EM YET
 LUA SO'IA | ALONE, BY HIMSELF + (S2-68)
- 411 .HW IAA-
 GC PREFIX
 GL *ALONG, *THROUGH
 PI *LONG
 CP AA-, VAA-, I
 CO GET BETTER GLOSS. #SIEKI SAYS #IAATAI IS 'ALONG THE EDGE OF THE LAGOON', #VAATAI IS 'LAGOON SIDE OF SOMETHING'
 BP (GR-029)
- 412 .HW IAA
 PS EXCLAM
 GL *EXCLAMATION MADE WHEN GIVING SOMETHING: *HERE!
 PI HAP *TOK YU HEKIB LONG TAIN YU GIVIN SAMING LONG WAPALA HAW

Figure 3

WOLEAI LEXICAL FILE	
.hw	taquw
	ba taquwa
	ps n.
	df yellow-fin *tuna-fish
	sem *fish-species
.hw	tai
	ba tai
	ps asp.
	qr negative
	df *not
	sx ve tai qaang it is not me
	sx ve tai laq he did not go
.hw	taiq
	ba taiqo
	al ranq in Faraulep dialect
	1ps n.
	1df *turmeric
	1sx ve laq tingar t. me reel meleve sin she went to ask for turmeric from her mother
	2ps vi.
	2df to apply *turmeric on one's body
	2sx re t. sar kave those children are putting turmeric on their bodies
.hw	taif
	ba taiifa
	ps n.
	df *platform of a house, stones around the house used to keep the gravel from spreading out
	sx ve watt wetaiif he is sitting on the platform
	sem *house-parts: platform
.hw	taiit
	ba taiita
	ps n.
	df *mountain, *hill
	sx ve toulap t. wool Hawaii there are many mountains in Hawaii
.hw	taikeil
	ba tai-kaila
	ps vl., adj.
	df (to be) *weak, *unhealthy
	px mal t. weak person
	see kail
.hw	taiko
	ba taikoo
	lo Jap.
	ps n.
	df *drum
	sx re sa qakiunqiu t. ve they have sounded the drum

Figure 4

SORTED FE, FI SECTIONS

```

11 .js feaa
    pos vn
    fr *penser, *hesiter, *douter

12 .an fea'a
    enq *doubt, *vacillate, *agitated
    cf fea |hov
    | *heanqaanqa

13 .sv fe'a'a
    1pos vi
    lenq to *coqitate, to *think, to *hesitate, to be *undecided
    lenq to *doubt

    2pos n
    2enq *doubt

..sv fea'a'ra'a
    enq *doubt, *hesitation

..sv fea'a-'ore
    enq *thoughtless, *unconcerned

..sv fea'a-piti
    enq to *hesitate between two alternatives

14 .da feaaore
    dr fe'a'a'ore
    pos a
    enq *thoughtless, *unconcerned

15 .da feaabiti
    dr fe'a'apiti
    pos v-D.
    enq to halt between-*two-opinions

16 .na feaabiti
    pos v int
    fr *hesiter entre deux idees

17 .js feaa-piti
    pos vn
    fr *hesiter entre deux partis

18 .an fea'apiti
    enq a *halt between two *opinions, to *vacillate
    na fea'a |doubt: |piti |two

19 .ln fea'a piti
    fr *hesiter entre deux idees
    ex 'ua fea'a piti to:'u sana'o *no: *te haere i No'orea |j'hesite (na penseie hesite) a2 aller a
    No'orea

```

Figure 5

TYOA	29841	DF	WEDGE PLACED ACROSS THE HULL OF THE CANOE, *THWART
PEL	21769	DF	WHITE *COCONUT *MEAT
MOUS	18844	IDF	WHITE *HAIR, GRAY HAIR
GEFAAMASH	9371	DF	WHITE *MORNING-GLORY (XIPONCEA TUBA)}
UBIL	30005	DF	WHITE *SHELL, *COWRY, BIVALVE *MOLLUSC
RESH \$2	23151	DF	WHITE CAPPED *NODDY
REEMASOW	23015	DF	WHITE MATURE *TURTLE *EGG
GIYEGYI \$2	11335	DF	WHITE OR FAIRY *TERN
PFNGAGIL	21815	DF	WHITE PORTION OF SEA *CLAM
ITFIU	12627	DF	WHO?
GFPAABUTA	10270	DF	WISH *BAD-LUCK CN HIM
GFFAIYEBUTA	9430	DF	WISH HIM *BAD-LUCK
GEFAIYEFISHIYI	9442	DF	WISH HIM *GOOD-LUCK
GEPAAFISHIYI	10277	DF	WISH HIM *GOOD-LUCK
GAULESHIMW	6370	2DF	WITH THE HEAD BENT FORWARD
GEMASE	9902	DF	WITNESS HIS DEATH
GILIGIL \$1	11026	DF	WOMAN'S *CUTTER FOR BANANA OR LAVALAVA FIBERS
SIF	25878	DF	WOMAN'S *SKIRT, *GRASS-SKIRT
REWA	23167	DF	WOODEN NATIVE *COMP (MEN'S COMB ONLY)
PERAS \$1	21956	DF	WOVEN *COCONUT *LEAVES USED ON SAILING CANOES
GILIECHO	11059	DF	WOVEN *COCONUT *LEAVES FOR STORING DRY COPRA, *COPRA-*BASKET, *MAT FOR DRYING COPRA
TFPELIUNWAN \$2	28489	DF	WOVEN WHITE *COCONUT *LEAVES USED AS *LEIS
TIUGIUM	29118	IDF	WRAPPED PRESERVED *BREADFRUIT COOKED BY AN UNDERGROUND OVEN
MWE TAR \$1	19477	DF	YELLOW *FAT ON THE *INTESTINE
MOSHORANG	31824	DF	YELLOW *REEF, YELLOW *CORAL
JAGUW	27120	DF	YELLOW-FIN *TUNA-FISH
GURUB	17853	DF	YOUNG *COCONUT
WOLSHIG	31691	DF	YOUNG *COCONUT TREE
UB \$3	30000	DF	YOUNG *COCONUT, YOUNG *COCONUT MEAT
MWAG	18976	DF	YOUNG *NEEDLE-FISH
ROWAF	23547	DF	YOUNG *OCTOPUS
IL \$4	12170	DF	YOUNG *SHOOTS SURROUNDING AN OLD PLANT, *YOUNG-*PLANT
LIPEDMASHING	15834	DF	YOUNG *SKINNY PERSON
TAR \$5	27697	DF	*TARO, YOUNG TARO PLANTS SURROUNDING THE PARENT TARO PLANT, YOUNG *PLANT, YOUNG ONE
USHUGA	30281	DF	YOUNG BREADFRUIT
LAUMW	14957	DF	YOUR *CHILD
PAUMW	21634	DF	YOUR *HAND, YOUR *ARM
-IS	12580	GR	*NUMERAL-*CLASSIFIER FOR A CLUSTER OF BANANA HANDS; *APPEARS ONLY WITH XSE- *ONE
-UT	30324	GR	*NUMERAL-*CLASSIFIER FOR A HANDFUL OF SPONGE-LIKE OBJECTS (USUALLY BREADFRUIT); *APPEARS ONLY WITH XSE- *ONE
-BIS	1426	GR	*NUMERAL-*CLASSIFIER FOR A SMALL AMOUNT
-KIIT	13941	GR	*NUMERAL-*CLASSIFIER FOR A SMALL AMOUNT
-KIUT	14140	GR	*NUMERAL-*CLASSIFIER FOR A SMALL AMOUNT; *APPEARS ONLY AFTER XSE- *ONE
-NMWIT	18743	GR	*NUMERAL-*CLASSIFIER FOR A SMALL AMOUNT; *APPEARS ONLY WITH XSE- *ONE
-PAIU	21293	GR	*NUMERAL-*CLASSIFIER FOR AN ARM LENGTH; *APPEARS ONLY WITH XSE- *ONE; *FOR TWO ARM LENGTHS, XSENGAF IS USED
-MAL	17237	GR	*NUMERAL-*CLASSIFIER FOR ANIMATE BEINGS SUCH AS ANIMALS, HUMAN BEINGS, GHOSTS, INSECTS; *CLAMS, CRABS, TURTLES, SNAILS, ETC., ARE NOT COUNTED BY X-MAL [UNLESS THE SHELLS ARE REMOVED]; *THE GENERAL CLASSIFIER X-UW IS COMMONLY USED FOR THEM. *XVAS *ROOF IS USED WITH X-MAL
-BIUN	1526	GR	*NUMERAL-*CLASSIFIER FOR BREAKS IN THINGS
-GOFET	11431	GR	*NUMERAL-*CLASSIFIER FOR BROKEN OR TORN PARTS OR PIECES
-PILEG	22282	GR	*NUMERAL-*CLASSIFIER FOR BUNDLED OR GROUPED OBJECTS
-YAF	31963	GR	*NUMERAL-*CLASSIFIER FOR BUNDLES OR GROUPS OF TEN (OR EIGHT) REFERRING TO COCONUTS, EGGS, COPRA, ETC.
-PA	21638	GR	*NUMERAL-*CLASSIFIER FOR CHAINED OR STRUNG OBJECTS SUCH AS PALM FRONDS, LEIS, SHELL BELTS
-MATIP	17729	GR	*NUMERAL-*CLASSIFIER FOR CUT PIECES, USUALLY OF VEGETABLES, FRUITS, ETC.
-TIP	20068	GR	*NUMERAL-*CLASSIFIER FOR CUT-UP SEGMENTS (OF BREADFRUIT, TARO, ETC.); *XSETIP RE

Figure 6

ENGLISH - WOLEAI FINDERLIST

tube
 pipe, tube:: paip
 tube attached to a stick of dynamite:: raikauq

Tuesday
 Tuesday (lit. second day of work):: Gariuweranel venqaanq

tuq
 pull it loose, pull it off, draw it down, tuq it:: tefinqi
 pull it up, tuq (on) it:: lugosi
 pull it, draw it, pluck it, tuq it, pull it out, take it to pieces, destroy it::
 taiuv
 to pull loose, pull off, draw down, tuq:: tefitef
 to pull, draw, tuq, pluck:: taiuteiu
 to pull, tuq, draw, drag, trail:: luq
 tuq it, pull it, pull and fold it:: tali

tuq-of-war
 tuq-of-war (a kind of game):: tal\$0

tuqqed
 (to be) pulled loose, fall off, drawn down, tuqqed:: tefinqeq

tumble
 to fall (down), be off one's feet, tumble down:: bur\$2

tuna-fish
 king-size tuna-fish:: tanqir
 yellow-fin tuna-fish:: taquv

turkey:: tuuruki

turmeric:: taiq
 to apply turmeric to one's body:: taiq
 turmeric, yellow or orange-colored baby powder:: ranq\$1

turn
 corner, turn:: fat\$1
 make him turn:: qaliuwekiu
 to blow (as of wind), wave, stir, turn:: filefil
 to change, shift, take one's turn, alternate:: kootai
 to face, turn:: taqiu\$1
 to flip, turn over:: volcal
 to spin (many times), rotate, turn:: taquluqul
 to turn (as of a sailing canoe), move around:: sap
 to turn around:: scssor\$2
 to turn around, be turned (of the ends):: sessor
 to turn around, be turned over:: wqiteq\$1
 to turn around, move round:: faan\$1
 to turn one's head:: liuvek
 to turn out, appear, become clear, come into view:: naq\$1
 to turn over, change from primitive ways of life to modern, civilized ones, be
 converted, transferred:: weq
 to turn, be bent, be twisted:: iyaap

Figure 7

beso's	bedesi'1	*oar; *paddle; *propeller;	bab	bebu'1	area/space *above; *top; *surf
bla'i	blil	*house; *household; *family	bad	bedu'1	*asleep
buch	becbi'1	*spouse; *husband or *wife	bar\$1	beru'1	*blanket; *bedding
but	btil	*genitals; *anus; *vagina;	ba'u\$1	bul	*smell; *odor; *scent
cha'lech	chelecheli'1	end of bamboo pole of sail	ba'u\$1	bekebu'1	n.obliq.poss. *smell; *odor; *s
chas\$1	chesi'1	n.obliq.poss. *soot; *ink; *	redu'1\$1	bdelu'1	*head; *leader
ched	chedi'1	low *tide	bedu'1\$2	wobedu'1	n.obliq.poss. *direction; <*fac
chelebla'd	chelebeldi'1	*deception; cheating; *vild	teka'i	bekiu'1	*pottery; clay *pot/*jar; incu
chele'd	cheldi'1	any product of the sea (cr,	bleche's	blechesu'1	new or clean state of somethin
cheltech'a't	cheltecheti'1	wound	blenq'r	blenqru'1	*seal
chese'ches\$1	chesechesi'1	*leprosy; disease with *so	brer	berru'1	*raft (usually made of bamboo)
cheti'1	checheti'1	n.obliq.poss.redup. has com	buk\$1	bkul	*plate; *bowl
chur\$1	cheri'1	*laughter	chab	chebu'1	*ashes; *fireplace; *hearth
dach	decbi'1	*excrement; *shit; *resid-	cha(i)dire'nq	cha(i)direnqu'1	*heart (=internal organ); co
ba'ched	bechede'1	protruding struts on outr	belu'u	belua'1	*country; *village; *place; *te
bachedi'1	bachedile'1	*diarrhea (substance)	bnq\$1	bnqal	*flower; green coconut sheath p
ba'chel	bechele'1	Palauan *money in form of	chad\$1	cheda'1	*alive; living
ba'dek	bedeke'1	*mat (or similar object) ;	chad\$2	chedenqa'1	*liver
ha'eb	bebe'1	*pipe (for plumbing, etc.);	char\$1	chera'1	*price; *cost; *amount of money
ba'il	bile'1	(article of) *clothing; *	cheda'm	deba'1	father (term of address less fo
ba'is	bise'1	action of wandering aroun	cheldechedu'cb\$1	cheldechedecha'1	*conversation; *speech; *
ba'kes\$1	bekese'1	*step (in walking)	chim	chima'1	*hand; *arm; front *paws (of an
ta'kes\$1	blekikle'1	n.r.s.obliq.poss. move (le	chur\$3	chura'1	*tonque
baks	bekse'1	*box (made of any materia	dinq	dinqa'1	*ear
ba'lech	beleche'1	*slingshot; any material	dub	dbal	*bomb; *dynamite; anything *des
banqch	benqche'1	*bite	dach	decha'1	*ability; *skill
bandd\$1	benqde'1	*bounce; *rebound; *suspe	du'i\$2	dia'1	*title (for village chief or fa
banqk\$1	benqke'1	*bank; any storage place	kuteli'nq	kutelnqa'1	*bow of boat; either end of can

Figure 9

F60	ENGLISH - KIRIBATI GLOSSARY COMPILERS 10/10/80 64	ENGLISH - KIRIBATI GLOSSARY COMPILERS 10/10/80 65
	<p>TONGO -- N. A PREPARATION OF XKABUBU] AND MOLASSES. TOTO/KI -- A SOFT PREPARATION OF XTUAE. TUAE -- N. DRIED PAN PASTE. TUAE -- N. PANDANUS PULP DRIED IN LAYERS ON LEAVES. V.T. XTUAEANA]: TO MAKE INTO ... TUAIROA -- V.T. TO GRATE. TO SCRAPE ON GRATER (COOKED PANDANUS). N. XTE KAI N TUAIROA]: GRATER FOR ... TUAMWI -- N. A DISH MADE FROM TARO AND COCONUT. U/KA -- OPEN UP OR UNCOVER AS A NATIVE OVEN AFTER BAKING. U/KEBIRI -- STATE OF DOUBT OR PERPLEXITY AS TO THE SUPPLY OF FOOD. U/KINGNA -- EATING OUT THE KERNEL OF A CN WITH THE TEETH. GNAW. U/MUNA -- BAKE IN AN EARTH-OVEN. U/NGIRA -- CHEW AND EAT OR SUCK AS PANFRU OR XBUNIA. UA/NGA -- OVERFEED. UAS -- FRUIT. UA/KANA -- ENGAGE REPEATEDLY IN TAKING FOOD TO A PERSON. UAKANA -- V.T. XUA-KANA]: TO HAVE. OR CARRY PROVISIONS. VICTUALS. UAKANGKANG -- N. A DELICIOUS COCONUT. UBA/EETE -- SUFFERING WITH DYSPEPSIA OR A SENSE OF FULLNESS AFTER EATING. UKIA/EA -- BITE OFF THE XUKIA BEFORE CHEWING THE PANFRU. UNIMU -- FISH SET SIDE TO BE BAKED IN OVEN (AFTER ...) UN/RA -- EAT OR CHEW PANFRU, XBUNIA MUSK, OR SUGAR CANE. UNG -- CHEW AND EAT OR SUCK PANFRU OR XBUNIA. VA/NIMU/TE -- TO BE VERY HUNGRY. WA/NGA -- TO FEED WELL. WAI N ANG -- (1) IDIOM. XE WAI TE ANG]: THE WIND COMES UP... BLOWS. GUSTS OF WIND. (2) A REFRESHING DRINK. AGREEABLE ... WAIN -- N. WINE. WIKANG/KANG -- HAVING A VORACIOUS APPETITE. WIKANGKANG -- N. GOURMET. GOURMAND. LOVER OF GOOD FOOD. WITA -- N. WHEAT.</p>	<p>ATI TANO]. A. SHALLOW, NEEDING A HEAP OF SAND TO COVER. BI/KE -- WHITE SAND, THE SANDY BEACH, SANDY LAND WITHOUT VERDURE. BIKE -- N. BEACH SAND, SAND BANK, SANDY SOIL, THE BEACH, THE SHORE. BU/NGINTA:] -- THE WESTERN HORIZON. BUKINARORA -- N. REEF JUTTING OUT AT END OF LAND. BUKINAEWEA -- N. EXTENSION OF REEF BEYOND XBUNINARORA]. BUKININAIWAI -- N. EXTREME EDGE OF REEF. E/KA -- N. ACRE. E/NATINAI -- GO TOWARD OR ONTO THE SHORE, AS FISH WHEN FRIGHTENED. EMSAIA -- N. EMPIRE. I/BENTANO -- CLCD OF EARTH. I/TIMATI -- N. ISTHMUS. IA/NEA -- STRANGER, NATIVE OF ANOTHER COUNTRY. IKUE/TOA -- N. EQUATOR. KA/HARU/ARUA -- VA DEPRESSIONS, OR PITS OR VALLEYS. KABI -- A BAY OR INLET OF SEA OR LAGOON ADVANCING IN POINT OR ROUND INTO THE LAND, A CREEK. KABINO/JUNOU -- A SPACE MORE OR LESS DEEP ON A FLAT. KABIO/NGONGD -- DEEPLY INDENTED AS THE SHORE. KABUAKA -- N. THE DARK, ROCKY BED OF LAGOON, AS OPPOSED TO SANDY BOTTOM. ANT. XKAMAI]. KA NI KAKIKI -- N. A CROSS BAR, A WOODEN TOOL WITH SHARP POINT FOR EXTRACTING LARGE MOLLUSC FROM SHELLS, A SANDBANK EXTENDING UNDER WATER. KAM/A/NOKA -- HAVING A SLIGHT COVE, OR INDENTATION, AS A BEACH. KAM/A/NONO -- A SMALL DEPRESSION OR PIT. KANAMO -- FORMING A POND OR LAKE AT LOW TIDE, OR CREEK. KARA -- N. A LAYER OF HARD SOIL OR SOFT ROCK. (SOMETHING BETWEEN THE TWO). KARANGA -- N. A RIVER. V. TO MAKE FLOW. KARARANG -- FROM XRANGA]: FLOW. N. RIVULET, BROOKLET, SMALL TRENCH, CHANNEL, TRICKLE OF WATER. KE/KE -- A CAPE OF LAND. KEKE -- N. A CAPE, END OF LAND JUTTING OUT TO SEA. KIMARAWA -- N. (1) STALACTITE OF CORAL (GENERALLY RED). (2) A PLANT. M/A/EIET -- EARTHQUAKE, SWAYING. MA/IAKI -- SOUTH. MA/INIKU -- EAST. MA/UNGA -- MOUNTAIN. MAIKU -- N. XMAIKUN TE] ... ON INSIDE OF CURVE OF ISLAND. MANGIEVETE -- OR XWANGIWEYE] A SHARP POINTED CORAL STONE. MANGIWE -- N. A KIND OF CORAL STONE. MANOKU -- (1) N. BAY, GULF, CREEK, ELBOW, COVE. A. XNANOKU. XMANOKU]: CURVED, #L-SHAPED ANGLE, FULL OF COVES. V.A. XKAMANDKUA]: TO FORM A ... (2) N. A FISH (XIKAWAIN TE KUAI)]. MARAN -- A. SMOOTH, GLOSSY, POLISHED. MATA N RAWARAWA -- N. AN OPENING, CHANNEL, GAP IN THE REEF. MAUNGA -- N. HILL, MOUNTAIN. A. XAE NAMAUNGA]: VERY MOUNTAINOUS. MBEHE -- N. VENT HOLE OF OCTOPUS. SYN. XNIMAINAI]. N. STALAGMITE (XIBANABA)]. NA -- LOOSE ROCKS OR STONES ON A FLAT. NAMA -- N. LAGOON, LAKE (DIFF. FROM XNAMO)]. NAMO -- N. A SMALL LAGOON, SMALL LAKE, SHALLOW WATER FORMING LAKE AT LOW TIDE IN CERTAIN PARTS OF LAGOON. V.A. XNAN RADI]. FIG. WELL PLACED, NESTLED. NANGANANGA -- N. GROTTO, CAVE, CAVERN, EXCAVATION. NARI -- (1) A LAGOON FISH, SCOMBER, MULLET. XTE NARINARI]: SMALL XNARI. NE/I -- FRESH WATER POOL OR POND. NEI -- (1) N. A POND, POOL, SWAMP, MARSH. NI/KU -- WIDE AS THE RIM OF LAND IN CERTAIN PLACES. NIKURAROA -- N. WIDE PART OF ISLAND, LAND EXTENDING FAR ACROSS THE ISLAND. NU/KAKOTU -- AN UNINHABITED TRACT BETWEEN VILLAGES. NU/KU -- VERY WIDE AS THE LAND. NU/NEABA -- THE MIDDLE OF THE ISLAND RIM FROM OCEAN TO LAGOON SHORE. O/BO -- PLACE NEAR THE BEACH NEVER SHOAL AT LOW WATER. O/NATU -- PORTION OF A CORAL FLAT SLIGHTLY RAISED. O/NATABU/KIBUKI -- UNEVEN, ELEVATED A LITTLE IN PLACES, AS THE SURFACE OF THE GROUND OR OF A PLANK.</p>
-GEO	<p>B/TIM/ANE -- LEDGE OF CORAL ROCK IN THE LAGOON SMALLER THAN A XRAKI. B/TIMA/UNA -- SUNKEN ROCK OR LEDGE WHICH CAN BE SEEN WHEN IT IS CALM. BTIM/A/KORD -- ISLET IN THE REEF. BTIMOTU -- LARGE ROCK IN A LAGOON. 'E/BERA -- N. HEBREW. 'E/RENE -- A GRECIAN. 'I/TA -- N. HEATH. 'ORA/ITAN -- N. HORIZON. A/BA -- LAND. A/BA-NA/KORD -- ISLAND. A/IAKI -- SOUTH. A/INIKU -- OCEAN SIDE OF A CORAL ISLAND. A/NEA -- FOREIGN LAND, LAND NOT ONE'S OWN. A/OBUAKA -- ROUGH, AS LAND, UNEVEN LAND. A/ONTEDRA -- THE FLATS (I XORA] THE FLAT REEF FROM THE BEACH TO THE BREAKERS, A SHOAL). A/ONTIA -- LAND ADJOINING (I XTIA] A BOUNDARY, LIMIT). A/ORAOI -- LEVEL PLACE, NOT RIDGY OR ROUGH, HENCE EASY AS A YOKE, LEVEL. A/RORA -- RIDGE IN THE CORAL REEF ON THE OCEAN SIDE. A:/TIMA:TA -- A SMALL SUNKEN ROCKS. A:/TIMOTU -- A LARGE SUNKEN ROCKS. AN/NA -- TERRA FIRMA. ADATA:/TA -- BEACH ABOVE THE HIGH WATER LINE. ADNA:/BA -- THE EARTH, ALL LANDS. ADNE/INEI -- WET LAND, LAND HAVING WATER BENEATH NEAR THE SURFACE. WET, AS LAND. ATITE/I -- LOFTY CORAL ROCK BENEATH THE SURFACE OF THE WATER. B/A -- A CONTINUOUS HARD CORAL ROCK OR LEDGE. B/A/KATE/KE -- A ROUGH LEDGE OF ROCK OR STRATUM. B/A/NGANING/TANG -- A CAVE. BAKATATI -- N. STEEP SLOPE, CLIFF. A. STEEP, SHEER, CUT STRAIGHT, IN LINE. V.T. XBAKATATA]: TO CUT STRAIGHT, TO CROP STRAIGHT. BAOTI -- N. REEF, SUBMERGED ROCK. BATANO -- N. SAND STONE, CRUMBLING ROCK, SOFT ... SYN. XTE</p>	

Figure 10

a2nBtagiurium0nR nR(aitagiuriu-igR). nCN. nRay back. nIYe biun shiu t. nRMy backbone is broken.
 a2nBtagiurupaa0nR nR(aitagiuriu-paa0nR). nCN. nRa kind of lizard. nIResepaal re mwomwoujo t. nRJapanese people a
 te lizards.
 a2nBtagiuter0nR nR(aitagiuteriuR). nCN. nRa kind of needle fish. nIseuw t. nsemal t. nRa needle fish.
 a2nBtagiyatu0nR nR(aitagiyatauR). nCVI. ADJ. nR(to be) high, tall, great, lofty. nIYe t. wa we. nRThe canoe is high
 a2nBtagiyetaatn0nR nR(aitagiyataatanR). nCN. nRhigh place, raised place. nIYe matt woal seuw t. nRHe is sitting on a
 raised place.
 a2nBtagoweliw0nR nR(aitagoweliw0nR). nCN. nRa kind of breadfruit with smooth surface and white flesh. nIYe iyeri
 sefash t. nRHe picked breadfruits from a itagoweliw nRtree
 a2nBtagowaaaliyel0nR nR(aitagowaaaliyal0nR). nCVI. nRto be dizzy, go around in a circle. nIYe sa t. sar we. nRThe c
 hild is dizzy as a result of going around in a circle.
 a2nBtaguluguin0nR nR(aitagulugulu0nR). nCVI. nRto spin (many times), rotate, turn. nIYe t. misiiil we. nRThe machine i
 s turning.
 a2nBtaguun0nR nR(aitagunuuR). nCVI. nRto turn, return, shift (of wind). nIYe t. tanqi. nRHe turned away from her.
 a2nBtagutog0nR nR(aitagutog0nR). nCVN. nRto chase, block. nIYe t. ig. nRThey are chasing fish. nCCF. nBtaguuv.
 a2nBtaguuv0nR nR(aitaguu-anR). nCVT. nRchase it, block it. nIYe t. ig we. nRThey chased the fish. nCCF. nBtagutog.
 a2nBtaguw0nR nR(aitajuw0nR). nCN. nRyellow-fish tuna-fish.
 a2nBtaib0nR nR(aitaib0nR). nCNSP. nRynegativeRaz nRnot. nIYe tai gaang. nRIt is not me. nIYe tai lag. nRHe did not g
 o.
 a2nBtaig0nR nR(aitaig0nR). nRnyuIrang nBin Paralep dialectRazn nR1. nCN. nRturmeric. nIYe lag tinjar t. we reel
 welewe sin. nRShe went to ask for turmeric from her mother. nB2. nCVI. nRto apply turmeric on one's body. nIYe t.
 sar kave. nRThose children are putting turmeric on their bodies.
 a2nBtaill0nR nR(aitaill0nR). nCN. nRplatform of a house, stones around the house used to keep the gravel from spr
 eading out. nIYe matt wetaill. nRShe is sitting on the platform.
 a2nBtaill0nR nR(aitaill0nR). nCN. nRmountain, hill. nIYe toulap t. woal Hawaii. nRThere are many mountains in Havi
 i.
 a2nBtaikail0nR nR(aitaikail0nR). nCVI. ADJ. nR(to be) weak, unhealthy. nIYe t. nRweak person. nCCF. nRkail.
 a2nBtaik0nR nR(aitaik0nR). nCJAP. nCN. nRdrum. nIYe sa gakiungiu t. we. nRThey have sounded the drum.
 a2nBtaikusang0nR nR(aitaikusang0nR). nCJAP. nCN. nRcarpenter.
 a2nBtaik0nR nR(aitaik0nR). nCVT. nRsharpen it, make it sharper. nIYe t. saat we. nRHe sharpened the knife. nCCF.
 nRtaitei.
 a2nBtaing0nR nR(aitaing0nR). nCVI. nRto menstruate, be in one's menstrual period. nIYe sa t. Shoabut ve. nRThe wom
 an is in her menstrual period.
 a2nBtaisob0nR nR(aitaisob0nR). nCJAP. nRy'sententialRaz nRDon't worry! No trouble!
 a2nBtaitei0nR nR(aitaitei0nR). nCVN. VI. nRto sharpen, make sharper. nIYe t. saat. nRHe is sharpening a knife. nIY

Fig. 11

AVUD0	AVUDU	AVUGA	AVUGE	AVUGI	AVUGO	AVUGU	AVUGWA	AVUG'A	AVUG'E
AVUG'I	AVUG'G	AVUG'U	AVUHA	AVUHE	AVUHI	AVUHO	AVUHU	AVUKA	AVUKE
AVUKI	AVUKU	AVUKU	AVUKWA	AVULA	AVULE	AVULT	AVULL	AVULU	AVUMA
AVUME	AVUMI	AVUMU	AVUMU	AVUNA	AVUNE	AVUNI	AVUNO	AVUNC	AVUPA
AVUPI	AVUPI	AVUPU	AVUPU	AVURA	AVULC	AVURI	AVURG	AVURU	AVUSL
AVUSI	AVUTA	AVUTU	AVUTU	AVUVA	AVUVE	AVUVI	AVUVU	AVUVL	EBABA
EBABE	EBABI	EBABU	EBABU	EBADA	EBADE	EBADI	EBADD	EBADU	EBAGA
EBAGE	EBAGI	EBAGU	EBAGU	EPAGWA	EBAG'A	EBAG'L	EBAG'U	EBAG'U	EBAG'U
EBAHA	EBAME	EBAMI	EBAMU	EBAMU	EBAKA	EBAKE	EBAKI	EBAKL	EBAKU
EBAKWA	EBALA	EBAL	EBALI	EBALO	EBALU	EBAMA	EBAM'E	EBAMI	EBAM
EBAMU	EBANA	EBANE	EBANI	EBANO	EBANU	EBAPA	EBAPE	EBAPI	EBAPU
EBAPU	EBARA	EBARE	EBARI	EBARO	EBARU	EBASE	EBAGI	EBATA	EBATO
EBATU	EBAVA	EBAVE	EBAVI	EBAVU	EBAVU	EBEBA	EBEUE	EBECI	EBEBU
EBEGU	EBEDA	EBEDE	EBEDI	EBEDU	EBEDU	EBEGA	EBEGE	EBEGI	EBEGO

Fig. 12

<p>191 λ'u'e tu' xe'e he s/pu'λ'm-s tu + /ci'txw and.so from NEARBY DIR NOB/exit-3.PSV from(v.p.) E.P /house and then he went out of the house</p>	<p>MM40 † /xwuy' /xwesi't-s-t-n us E.P /FUT /travel-CAU-TR-(3.OBJ)IDF CJV that thing which was going to take him</p>
<p>23 /p'e'n't-s-t-e xe'e w + e c'i'e' vs. /Return-CAU-TR-1SP NEARBY toward E.P DIR EMPH/INTRO CJV Put that back here where it belongs!"</p>	<p>MM38 † /xwuy' /xwesi't-s-t-n us. E.P /FUT /travel-CAU-TR-(3.OBJ)IDF CJV that thing which was going to take him.</p>
<p>16 /xwu'y' xe'e /Xək-p-s-t-e'ne /FUT NEARBY /know-1NC-CAU-TR-1S.SBJ "I'm going to find out</p>	<p>MM31 † /xwuy' /xwesi't-s-t-n us E.P /FUT /travel-CAU-TR-(3.OBJ)IDF CJV what he was going to travel in</p>
<p>/xe'-t-/tai'xw</p>	<p>xwas=xwesi't</p>
<p>32 u † /xe'-t-/tai'xw toward E.P /above-LIG-/world to go up to heaven--</p>	<p>MM2 λ'u'e s/xwu'y'-s xwas/xwesi't and.so HCR/FUT-3.PSV AUG+travel who was going to take a trip</p>
<p>/xe'-t-/tai'xw.</p>	<p>/xwu'y'</p>
<p>33 u † /xe'-t-/tai'xw. toward E.P /up-LIG-/world up to heaven.</p>	<p>MM72 'u'u, /xwu'y' kn /kwne'-n tək /pə'ye' oh /FUT I /take-HDL DESCR /one "Oh, I'm going to take one</p>
<p>34 u † /xe'-t-/tai'xw. toward E.P /above-LIG-/world to heaven.</p>	<p>MM16 /xwu'y' xe'e /Xək-p-s-t-e'ne /FUT NEARBY /know-1NC-CAU-TR-1S.SBJ "I'm going to find out</p>
<p>/xe'-t-/tai'xw.</p>	<p>/xwuy'</p>
<p>41 u † /xe'-t-/tai'xw. toward E.P /above-LIG-/world up to heaven.</p>	<p>MM74 /xwuy' kn /kwne'-n tu' xe'e tək / /FUT I /take-HDL from NEARBY OBL UMR /one I'm going to take one of these."</p>
<p>/xi'epə'y'us</p>	<p>MM33 † /xwuy' n/xwesi'(t)-t-n E.P /FUT LOCL/travel-1NS-3.PSV his intended means of traveling</p>
<p>89 /te'kn + /xi'epə'y'us /all E.P /shelf It was all of the shelves</p>	<p>MM8 tək /c'i'y us /xwuy' s/cu-tə'n-s. DESCR /certain-way CJV /FUT WOH/do-1NS-3.PSV about how to do things.</p>
<p>87 † /xi'epə'y'us u ci'e' E.P /shelf toward THERE --the shelves there--</p>	<p>MM38 † /xwuy' /xwesi't-s-t-n us. E.P /FUT /travel-CAU-TR-(3.OBJ)IDF CJV that thing which was going to take him.</p>
<p>/xi'epə'y'us.</p>	<p>MM31 † /xwuy' /xwesi't-s-t-n us E.P /FUT /travel-CAU-TR-(3.OBJ)IDF CJV what he was going to travel in</p>
<p>78 tu † /c'y'e' tu + /xi'epə'y'us. from(v.p.) E.P /basket from(v.p.) E.P /shelf from [where] the baskets [were]-- from the shelves.</p>	<p>MM40 † /xwuy' /xwesi't-s-t-n us E.P /FUT /travel-CAU-TR-(3.OBJ)IDF CJV that thing which was going to take him</p>
<p>/xw'-i'...ot</p>	
<p>56 λ'u'e s/vi'k-c /xw'-i'...ot † c'i'e'/c'y'e'. and.so HCR/see-TR.3.SBJ /many-PLV E.P AUG-/basket and he saw many, many baskets.</p>	

Figure 13

Hsu, R. "The role of computers in dictionary-making at the University of Hawaii". In Pankey, A. and Carrington, L. editors, *Austroasiatic Linguistics at the 15th Pacific Science Congress*. C-88-313-328. Pacific Linguistics, The Australian National University, 1985. DOI:10.15144/PL-C88-313
©1985 Pacific Linguistics and/or the author(s). Online edition licensed 2015 CC BY-SA 4.0, with permission of PL. A sealang.net/CRCL initiative.