RE Duplication in Mojave--and Yuman

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Reduplicated forms have thus far been largely ignored in Yuman comparative work, though they are usually given a brief nod in grammars. My recent study of reduplication in Mojave has suggested to me, however, that these words may turn out to be a rich mine of archaic data on phonology and even morphology. This paper will serve first to present some of the Mojave reduplicated words I have discovered (primarily in the course of my lexical research with Nellie Brown and Judith Crawford), with commentary. At the end of the paper I will suggest some of the generalizations that we may in time be able to make about reduplication in Proto-Yuman. Rigorous comparative work cannot, however, be begun without more information on all the languages of the family.\(^2\)

Reduplicated stems in Mojave, and Yuman generally, are usually of the shape CVC-CVC or, more frequently, CVC<CVC. (As far as I can tell for Mojave, there is no easy way to predict when a connecting schwa will occur. Margaret Langdon has confirmed that this is also the case for Diegueño.) Generally both reduplicated parts have roughly equal stress, sometimes so much so that they sound almost like separate words. Uncommonly, the reduplicated element will be augmented, giving patterns like CVC<CCVC or CVC<CVC. Occasionally the second vowel will be lengthened or (very rarely) ablauted, but otherwise a strict similarity is preserved between both parts of the word. In my discussion below, I will refer to the reduplicated elements of this type as "reduplicands".

Yuman reduplicated words are essentially verbal. The most common ways they are used, both in Mojave and generally, are alone (with suitable verb morphology) or with the auxiliary verb 'say' (usually in its shortest form). Sometimes there is no difference in meaning between these two syntactic types (as in (1)), but often there is (as in (2)):

(1a) tulykatulyk-k 'it's uneven'
    b) tulykatulyk-i-m 'it's uneven' (literally, 'it says uneven')
(2a) yenayen-m 'it's circular'
    b) yenayen-i-m 'his flesh shakes as he walks'\(^3\)

These examples are unusual, because most reduplicated verbs can only be used in one of the two ways. (The 'say' construction has been studied by Langdon (1977).)

Like any other Yuman verb root, reduplicated verbs may be used with additional derivational morphology, forming derived (primarily causative) verbs or (rarely) derived nominals or nominal modifiers. I distinguish this sort of morphological augmentation from the augmentation of the CVC reduplicand referred to above, because these added derivational morphemes only occur once in a word (that is, they are not themselves reduplicated).

There is often a clear semantic relationship between a reduplicated word and a simple unreduplicated word containing the same element.
Often (but by no means always) this relationship is one of intensification, as exemplified in (3-4):

(3a) ?alay-k 'it's bad'
    b) ?alay/ ?alay-m 'it's a mess'
(4a) ichpel i-m 'he sticks his tongue out a little bit'
    b) ichpel ichpel i-m 'he darts his tongue in and out'

Frequently reduplicated verbs refer to sounds or to other physical descriptive qualities. Many do not seem to occur unreduplicated.
Occasional CVCV reduplications occur, which do not seem to fit the basic patterns described above. Many of these are baby talk words (in Mojave), e.g.

(5) mimi 'cry' (adult imii)
    kaka 'grandma' (adult nakav 'mother's mother')
    chu chu 'cold' (adult bachuur)
    tata 'parent' (adult intay 'mother')
    tutu 'hot' (no known adult correspondent)

There are also CVCCVC baby talk words, such as

(6) pishpish 'suck' (adult ipith)
    hat-hat 'dog' (adult 'achat 'pet', hatcheq 'dog')

I think it is not unreasonable to assume that these baby talk formations need not fit exactly into the standard reduplication pattern of the language. Another source of CVCV reduplications is animal names, which might be onomatopoetic:

(7) kuku 'small dove sp.'
    qo qo 'kit fox'

(Again, there seems to be an association of this type of reduplicated word with smallness.) I know of only one Mojave word containing a CVCV reduplication which is neither a baby talk word nor an animal name:

(8) chiriri-m uukwe 'ring (of an alarm clock)'

Stress is marked here to highlight the reduplicated part of the word. It is easy to suggest that this word is onomatopoetic and reflects smallness, but it is strange that this sort of word is so uncommon.

I present below several hundred Mojave reduplicated words, arranged according to the reduplicand (standard CVC reduplicands are listed first). To save space, I have listed only one form of any given word, unless the reduplication (as opposed to other affixation) changes.

Table 1. Mojave Reduplicated Words

<table>
<thead>
<tr>
<th></th>
<th>run wild, act crazy</th>
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<tbody>
<tr>
<td>'al</td>
<td>'a'</td>
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<tr>
<td>'ala'</td>
<td>al i</td>
</tr>
<tr>
<td>'aly</td>
<td>nyaval</td>
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<tr>
<td>'an</td>
<td>'a'</td>
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<tr>
<td>'as</td>
<td>'a'</td>
</tr>
<tr>
<td>'en</td>
<td>'ena'</td>
</tr>
</tbody>
</table>

43
'er 'amat qa'era'er  a place near Needles
'ey chuuch'eyu'ey negotiation
'on 'ona'on be just one (sticking up or standing out)
'oq 'oqa'oq be dome-shaped
'oy 'oya'oy spherical
cha'oya'oy roll dough balls
ta'oya'oy make round, curl
'us ii'we 'usa'usny meat part of the buttocks
kam'ito 'usa'us cantaloupe (var.)
'uth 'utha'uth fuzzy
chily chilyachily, chilyachily stick out, stand out (of hair)
mat kachilyachily, mat sachilyachily bristle (of cat's tail)
chuk tachukachuk crouch, squat
dol dolado dol i hunch up
doq chuudoqadoq rub clothes to wash them
dor dorador walk along bent over, looking for something
chuudorador bend down to hide while stalking game
duly 'a'ii tuudulyaduly, 'a'ii kwachadulyaduly termite
suudulyaduly dip one's hand in
duny taudulyaduny make a hole in the sand with one's buttocks
tahuedunyaduny be too weak to get up or walk
dur duradur i be itching to do something
hal 'akyes halhal grass sp.
halhal i make a hollow sound
halhal yellow beetle sp.
hap hapahap slanted, with a low hump
hath hathahath smooth off, sand
hathahath i make noise while going through the brush
haw hawahaw crumble (intr.)
hay hayahay be smooth
ahayahay glide, slide
tahayahay slide down
hel helhel i flow gently over
hen henhen i fly off together all at once
hes heshes i chatter, gossip
hoh hohahoh puff up, bloat
hong hoohoong i make a hollow noise
hop iisa ly chahopahop hollow the hand
uuhopahop make something stick up in a hollow cylindrical shape
hwaly suhwalayahwaly scratch
hwar hwarwuar, tiinyam hwarwuar noisy insect sp.
hwaruuhuar what tiinyam hwarwuar says
salwarahwar scrape hard
hway chuuchhwayuway talk in whispers (multiple pl.)
hwech hwechhwech name of an old song
'ahwechhwech, hwechhwech oriole
hwep suuwepahwep build a temporary shelter of mud, arrowweeds
hwey chachhweyahwey, chuuhweyahwey talk in whispers (dual)
hwich mat awwichawwich sit up straight to aid digestion
hwiny hwinyahwiny have one big curve
tahwinyahwiny carve something out, make a curve
<table>
<thead>
<tr>
<th>hwir</th>
<th>tahwilahwir</th>
<th>turn, spin (tr.)</th>
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</thead>
<tbody>
<tr>
<td>hwiv</td>
<td>uuhwilahwiv</td>
<td>pull out gradually (tr.)</td>
</tr>
<tr>
<td>hyol</td>
<td>hyolahyol</td>
<td>hunch up</td>
</tr>
<tr>
<td>hyor</td>
<td>hyorahyor</td>
<td>walk along with bent back</td>
</tr>
<tr>
<td>kal</td>
<td>kalakah, thin (e.g., of mesquite beans)</td>
<td></td>
</tr>
<tr>
<td>kalkal</td>
<td>'ahwe duuch-ve</td>
<td>place name</td>
</tr>
<tr>
<td>kan</td>
<td>takanakan</td>
<td>squat down</td>
</tr>
<tr>
<td>kap</td>
<td>kapakap</td>
<td>'have a big hole, crack, or wound</td>
</tr>
<tr>
<td>kar</td>
<td>karakar i</td>
<td>be trimmed with lace at the edge; tremble</td>
</tr>
<tr>
<td>kas</td>
<td>kaskas i</td>
<td>chatter (of teeth)</td>
</tr>
<tr>
<td>kel</td>
<td>kelakel i</td>
<td>rattle</td>
</tr>
<tr>
<td>kik</td>
<td>kikakik i</td>
<td>crack (of an old house)</td>
</tr>
<tr>
<td>kol</td>
<td>kolakoly</td>
<td>be piled up log-cabin style</td>
</tr>
<tr>
<td>chuchkolakoly</td>
<td>pile up log-cabin style</td>
<td></td>
</tr>
<tr>
<td>kong</td>
<td>koongkoong</td>
<td>make the sound of an unripe melon</td>
</tr>
<tr>
<td>kuh</td>
<td>chahakhakuh</td>
<td>knock, tap</td>
</tr>
<tr>
<td>kul</td>
<td>takulakul</td>
<td>be piled up, one on top of each other</td>
</tr>
<tr>
<td>kwer</td>
<td>kwerakwer i</td>
<td>be soupy, not thick</td>
</tr>
<tr>
<td>kwerakwer</td>
<td>sharp (of pointed object)</td>
<td></td>
</tr>
<tr>
<td>takwerakwer</td>
<td>sharpen to a point (sg.)</td>
<td></td>
</tr>
<tr>
<td>kwir</td>
<td>'ahchet kwirakir</td>
<td>barley</td>
</tr>
<tr>
<td>takkwirakir</td>
<td>sharpen to a point (pl.)</td>
<td></td>
</tr>
<tr>
<td>kyen</td>
<td>kyenakyen i</td>
<td>make a barely audible hollow sound</td>
</tr>
<tr>
<td>kyeng</td>
<td>kyengakyeng</td>
<td>ring (of a bell)</td>
</tr>
<tr>
<td>kyengakyeng</td>
<td>ring, toll (of a bell)</td>
<td></td>
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<tr>
<td>lany</td>
<td>lanyalany</td>
<td>trot</td>
</tr>
<tr>
<td>lap</td>
<td>lapalap</td>
<td>flat</td>
</tr>
<tr>
<td>chualapalap</td>
<td>flatten (for instance, a tortilla)</td>
<td></td>
</tr>
<tr>
<td>talapalap</td>
<td>flatten</td>
<td></td>
</tr>
<tr>
<td>las</td>
<td>alasalas</td>
<td>space feathers out on a lance</td>
</tr>
<tr>
<td>lath</td>
<td>lathalath</td>
<td>make the sound of raindrops on a mud house</td>
</tr>
<tr>
<td>kalathalath</td>
<td>smash repeatedly with the feet</td>
<td></td>
</tr>
<tr>
<td>lav</td>
<td>lavalav</td>
<td>flutter</td>
</tr>
<tr>
<td>law</td>
<td>lawalaw i</td>
<td>shake head around to look at everybody</td>
</tr>
<tr>
<td>lep</td>
<td>lepalap</td>
<td>not fit right, fit loosely (of clothes or skin)</td>
</tr>
<tr>
<td>lev</td>
<td>levalev i</td>
<td>tremble; be flabby</td>
</tr>
<tr>
<td>lik</td>
<td>likalik</td>
<td>be a very small protuberance</td>
</tr>
<tr>
<td>loch</td>
<td>lochaloq i</td>
<td>be dripping</td>
</tr>
<tr>
<td>loy</td>
<td>loyaloy</td>
<td>be in a row</td>
</tr>
<tr>
<td>luy</td>
<td>'utis taluyaluy</td>
<td>30/30 rifle</td>
</tr>
<tr>
<td>lyah</td>
<td>chuuyahuley</td>
<td>pat on the back, using both hands alternately</td>
</tr>
<tr>
<td>lyap</td>
<td>chuuyapalyap</td>
<td>flatten with the hand</td>
</tr>
<tr>
<td>lyep</td>
<td>lyepalypalyp</td>
<td>flattened out</td>
</tr>
<tr>
<td>kalyepalypalyp</td>
<td>step on something to flatten it (e.g. stomp grapes)</td>
<td></td>
</tr>
<tr>
<td>lyik</td>
<td>lyikaliik</td>
<td>flake off</td>
</tr>
<tr>
<td>lyom</td>
<td>chuuyonalyom</td>
<td>crumple up (tr.)</td>
</tr>
<tr>
<td>lyum</td>
<td>taalyumalyum</td>
<td>crush paper into a ball</td>
</tr>
</tbody>
</table>
man manaman be lying in a bunch (e.g. melons)
chamanaman roll (tr.)
kwichchamanaman, kwichmanaman cocoon
mar kamaramar level off grave to hide it
mel melamel football-shaped (sg.)
men menamen long and thin, cigar-shaped (sg.)
mer meramer true, straight
tameramer straighten
mich michamich be a little cracked
mil milamil football-shaped (pl.)
amat milamil be covered with mud
min minamiin long and thin (pl.)
tadiich minamin corn on the cob
mir miramir straight (of hair)
mith mithamith i have leprosy
moq moqamoq i growl
muk nyamukumuk rub wheat on canvas to remove the seeds
muny munyanumy i rotten clear through
mur muramur i crumble (intr.)
suumuramur crumble with the fingers
nam tanamanam fold over
nap hunapnap butterfly
napanap flattened
iisaly suunapanap have webbed fingers
naq naqanaq stop or end unexpectedly or inconveniently
nat natatanat i sound the way a ripe melon does when it's plunked
nun 'ahnumanun darn
nyem nyemanyem i shining, light, silky; flash
nyep nyepanyep i soft, spongy, squeezable
nyik nyikanyik i caught, tangled inside
pach chupachapach dust off one's clothes with the hand
paq paqapaq i make a popping noise
paqapaq firecrackers
pel pelapel very dirty
pik pikapik short and fat
piny pinypiyi i "love" a pet
por porapor narrow (of a strip or edge)
kaporapor shove dirt into a ridge
pot potapot i come out (of lots of small subjects); snag (of stockings)
puly pulypuly i move around while covered with a sheet or blanket
qal tatqalqal notch (tr.)
qaly qalyaqaly i very soft
qam chaqamaqam knock, bang
qany qanyaqany i long
qpq qapaqap flat
qar qaraqar i gelatinous; feeble
qaw qawaqaw really hard
tatuqawaqaw run into one another
qay qayaqay i shake like jello
qer qeraqer i thin, watery
qes qeesaqes i rub
qes (cont.) taqaqaqes all tied up in knots
qoh qohqhoq i sound like pounding
qol qolaqol i rattle inside (e.g. canned goods)
qoly qolyqoly i swell up
qony qonyaqony i shake, bounce (of body fat)
qwai 'ahaly qwalqat wade for fun
qwaw modily chuuqwawaqwaw biscuits
qwel qwelqwel i make the sound of someone flopping around in water
qwer taqweraqwer sharpen to a point (sg.)
qwev qwevqwev long and straight
qwil tatawirawi sharpen to a point (pl.)
rat raprap washed smooth
raq 'aharaqaraq, 'araqaraq mesa on the side of Fort Mojave
ratrath rathrath rough
rem chuuremrem flick finger at something repeatedly
rep reparep i very thin, transparent
rev revarev i thin, shiny
rik rikarik i fall, pour out
rith rithariith speckled, freckled
roq roqarq long and narrow (sg.)
roy roaryroq i gradually spill or sift out (pl.)
runy runyuaruni sink under the feet
'amat runyaruny quicksand
ruq ruqaruq long and narrow (pl.)
rury kataryruy horned owl
ruyryroq i gradually spill or sift out (sg.)
sich siichasich i drip, drop (of rain)
sil silasil stick out further (than the rest of a group)
sip sipasip long and sharp
tasipasip sharpen
sir sirasir having very small branches
sup iiyany chuusupasup pucker up the mouth
shap kwashapashap badly faded
sheng shengasheng i ring
shengeng i jingle, ring
shik shikashik scary creature (baby talk)
tah iisaly chuutahatah clap the hands
taly talytaaly ichaa play an instrument
tath chuutatatatah pat on the hand or back; clap
taw tawtaw i flash on and off
tem tematem i sparkle, shine
teq teqateq i scratch; lick, lap
tik tik tik i tik tik i minute, second
stukituk type (on typewriter)
tikatik be well-dressed
tiv ativativ shake (tr.)
'tamayk vuutivativ shake (tr.) at someone
uyutivutiv shake out (tr.)
tivativ i very cold, chilling
tor torator small and round (sg.)
tuk satukatuky plough straight through the water (of a boat)
tuly 'avii tulyatuly place name
tuny tuny tuny roll (intr.)
tuny tuny iina roll, dance (like tumbleweed)
tup iinyany chatap atup pucker up the mouth
tup atup stick out, pucker (intr.)
tur tur tur tur small and round (pl.)
tus 'aqwaath kwatusatusny orange
kam'ito tusatus cantaloupe
thal thalathal full of little holes
thany thanyathany move up and down in the air
thap kwa bathap pathap badly faded
thaq thaq pathaq i feel uncomfortable while being tickled
iwinych thaq pathaq i be excited
thar tharathar i be in long strips or boards
'aqyaas kutharathar place name
thay thay thay i drizzle
thel thelathel i pitted, perforated
thev thevathev i move in the breeze
thich thichathich i be dotted, speckled all over
in yooork thichathich i be mottled in color
thily thilyathily rustle
tuuthilyathily shake a bush or tree to make fruit fall
thir athirathir clean out one's nose or ear
thiv 'aqwaath thiythev young or small deer (story word)
thol tholath bol hang down
thon thonathon i burrow; be weak, of a plant
thor thorathor i have many wrinkles
thuk thukathuk i feel weak
thuly thulyathuly itch
thup thupathup i soft, over-ripe, old
val valaval i roomy
savavalal make pretty big holes
valy iisaly avalyavaly wave the hand
vap vapavap i wave in the breeze (of something very fine)
var varavar i have hair cut at uneven lengths
vel velavel i overcooked
ven venaven i too weak to get up
ver veraver i be in a hurry
viny vinyaviny i very soft, wiggly
vuul vulavul stick out (of something round, like eyeballs)
vuly vulyavuly i bubble (like a boiling liquid)
wam awamawam rub quickly together (tr.)
chuwu wa mamawam rub onto the skin
tawamawam rub together (tr.)
wan huwaaly awanawan railroad tie
war tadiich warawar second crop of corn—small and skinny ones
was iisaly awasawas wave the hand
wel welawel i swing back and forth
tawelawel throw hard
wen wenawen short
wet wetawet i wag the tail (of a dog)
wil willawil musical instrument
wil (cont.) wilawil i hang down
wily wilyawilily be loaded, heavy with fruit
wilyawil i rlobber
win winawin move around flabbily (of a woman)
winy winyawiny i shake the head no
wir wirawir i hang down, ready to fall
wis wiwis i push swing back and forth (between two people)
wit kawitawit kick repeatedly
yan 'achii yanayan perch
'ahmat yanayan round pumpkin sp.,
yanayan, yanayaan circular (pl.)
yar yarayar small, flat, circular; have hair cut even all around
(pl.)
yarayar i move fast while in a hurry
yek yekayek i come apart at the seams, come open
yen yenayen circular (sg.)
yenayen i shake; shake flesh as one walks
tayenayen make a circle
tuuyenayen make into a circle
yep aaephyaap flap wings when taking off
yopayep i hang loosely (of clothes)
yer aayerayer lie around all day long
yerayer small, flat, circular; have hair cut even all around
(sg.)
yil yilayil round (e.g. neck of bottle)
yir yirayar circular
tayirayar throw a Frisbee or curve ball
aaayarayar cut one's hair off even all around
yoh yohayoh i walk with bent back
ayohayoh bend over to walk through a narrow place
yol yolayol i favor an injured part of the body
yoq yoqayq i cool, pleasant, refreshing (like a breeze)
yuk yukayuk odd-shaped
sayukayuk saw (tr.) back and forth
yuly yulyayuly uneven

In Table 2 I present a list of Mojave reduplicated words with reduplicands longer than CVC. These are analyzed as C-CVC, CVC-C, etc. (In all but one case, I have treated the vowels which appear in the listed orthographic forms [see footnote 3] as non-organic--the exception is uu-'in, which contains a reduplicated prefix uu.

Table 2. Mojave Reduplicated Words with Non-CVC Reduplicands

'-'h-nar 'ahnar'ahnar water turtle sp. (name refers to wavy motion)
'-'k-'oy 'ik'oy'ik'oy i bob up and down
'-'lay 'alay'alay be a mess
'-'s-'kar 'askar'askar have notched edges
chov-th choovthachoovth i explode repeatedly
ch-pel ichpelichpel i dart tongue in and out
h-chuch ichuchichuch i shuffle along
hit-k chuuhitkuhitk rub (tr.) together to make fire
h-lok ihlokihlok linked together (cf. l-hok)
wam-k  tawamkawamk  swing round and round
yor-s  yorsayors i  come up here and there when the wind blows
(of dust)

Consideration of the data in Tables 1 and 2 reveals a number of interesting facts about Mojave reduplication. Metathesis has been shown to be important in other areas of Yuman phonology (Langdon 1972), but examples like il'holihok/ihlokihlok above show that it can be involved in reduplication as well. Different parts of a morphologically complex word like l-kyuk-v may be reduplicated, as shown by the doublet il'kyulkylkynk 'crooked' /talakyukvykyuk 'real crooked'. The pair t'iyqtiyq i 'scratchy' /tiyqtityq 'have pins and needles' (compared with tegateq i 'scratch') show one of the only cases I have ever seen of apparent stress shift onto an original schwa.

Often comparison of a reduplicated word with some unreduplicated counterpart is productive: chathkwilathkwil 'flake off (of skin)', for instance, is reduplicated from chathkwil 'skin', which otherwise appears to be an unanalyzable word in Mojave—yet the whole word was not copied.

Reduplicated words of the simplest type appear to be quite archaic. Trivially, they do not contain loan phonemes like Mojave l [л]. More interestingly, however, they appear to preserve relics of some of the controversial sound shifts which Mojave shares only with the other languages of the River branch of Yuman, Maricopa and Yuma—the change of prestress Proto-Yuman ay and aw to d and v. In standard spoken Mojave these sounds never show any alternation, but consider sets like (8) and (9):

*(8a)* doladol  hunch up
 b) hyolahyol  hunch up
c) yolayol i  favor an injured part of the body

*(9a)* iisaly awasawas  wave the hand
 b) iisaly avalyavaly  wave the hand

Sets like these suggest interesting questions concerning the possibility of considering some reduplicated forms as conservative "islands" immune to various phonological processes. A related issue is how to explain the fact that grammatical affixes are sometimes reduplicated along with a CVC root (though more often not). Consider, for instance, talakyukvykyuk (cited above) with reduplicated mediopassive -v, vs. words like satukatukv, with a simple suffix -v. Table 2 shows, in addition, several cases of a reduplicated suffix -l, which is postulated to be the earlier form of the same suffix --apparently another archaism.  

Another thing which demonstrates even more effectively the phonological conservatism of reduplicated words is the fact that a fair number of them appear to be reconstructable for Proto-Yuman. I made a very limited pilot search for reduplicated cognate sets, comparing the Mojave words just presented with reduplicated words from Diegueño (from Couro and Hutcheson 1973), Cocopa (from Crawford 1966), and Yavapai (from Shaterian (n.d.), reheard and with
some additions from Molly S. Fasthorse, a speaker of the Tolkapaya dialect). The sets I feel reasonably sure of are presented below (in the orthography of the source, except that the Yavapai examples are all normalized to Tolkapaya practical orthography).

Table 3. Reduplicated Cognate Sets

<table>
<thead>
<tr>
<th>Word</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;èin&quot;</td>
<td>ippi 'inn wii moves around</td>
</tr>
<tr>
<td>Mo</td>
<td>'ena'en i move</td>
</tr>
<tr>
<td>Ya</td>
<td>ch'in'iiin shake a big tree to make fruit fall</td>
</tr>
<tr>
<td>&quot;èir&quot;</td>
<td>'ir 'ir wii is rough, trembles</td>
</tr>
<tr>
<td>Ya</td>
<td>'ir'ir stick up by itself</td>
</tr>
<tr>
<td>poss.</td>
<td>Mo</td>
</tr>
<tr>
<td>Mo</td>
<td>'usa'us seems to mean 'round, fleshy'</td>
</tr>
<tr>
<td>Ya</td>
<td>'oya'oy spherical</td>
</tr>
<tr>
<td>Ya</td>
<td>kl'ul, kr'urk spherical</td>
</tr>
<tr>
<td>* sis</td>
<td>D</td>
</tr>
<tr>
<td>Mo</td>
<td>chilyachily stick out, stand on end</td>
</tr>
<tr>
<td>*kaS, or specifically *sk-kaS</td>
<td>D</td>
</tr>
<tr>
<td></td>
<td>hekalhekal has intermittent edges, is scalloped</td>
</tr>
<tr>
<td>Mo</td>
<td>'a'iituskarakar bullroarer</td>
</tr>
<tr>
<td></td>
<td>'askar'askar have notched edges</td>
</tr>
<tr>
<td></td>
<td>tatgalaqal notch (tr.)</td>
</tr>
<tr>
<td>C</td>
<td>kag'kat' mi you nod your head indicating yes</td>
</tr>
<tr>
<td></td>
<td>kagan'gan' i be bumpy</td>
</tr>
<tr>
<td>poss.</td>
<td>Mo</td>
</tr>
<tr>
<td></td>
<td>kaskas i chatter (teeth)</td>
</tr>
<tr>
<td></td>
<td>kelakel i rattle</td>
</tr>
<tr>
<td>*xul</td>
<td>C</td>
</tr>
<tr>
<td>Mo</td>
<td>kolakolv piled up log-cabin style</td>
</tr>
<tr>
<td></td>
<td>takulakul piled up on top of another</td>
</tr>
<tr>
<td>*kwar</td>
<td>D</td>
</tr>
<tr>
<td>C</td>
<td>kwarkwar i I talk</td>
</tr>
<tr>
<td>*kwiS</td>
<td>D</td>
</tr>
<tr>
<td></td>
<td>kwilwil is dangling</td>
</tr>
<tr>
<td></td>
<td>eyay kwilwil wii feels very weak (heart goes round)</td>
</tr>
<tr>
<td>Mo</td>
<td>kwenpakwenp i roll around in the water</td>
</tr>
<tr>
<td></td>
<td>imkvelkimkwel i roll</td>
</tr>
<tr>
<td></td>
<td>akwina'kin go round and round</td>
</tr>
<tr>
<td>Ya</td>
<td>kwirkwrir go all around</td>
</tr>
<tr>
<td></td>
<td>kwirkwrir 'i spin</td>
</tr>
<tr>
<td>poss. the same set:</td>
<td>Mo</td>
</tr>
<tr>
<td>Ya</td>
<td>huu kwirkwira beak, bill</td>
</tr>
<tr>
<td>*lap</td>
<td>D</td>
</tr>
<tr>
<td>C</td>
<td>laplap i, laplap i flat</td>
</tr>
<tr>
<td>Mo</td>
<td>lapalap flat</td>
</tr>
<tr>
<td></td>
<td>chulyapalyap flatten with the hand</td>
</tr>
<tr>
<td></td>
<td>lyepeyey flattened out</td>
</tr>
<tr>
<td>Ya</td>
<td>laplap flat</td>
</tr>
<tr>
<td></td>
<td>rapraap small and flat</td>
</tr>
</tbody>
</table>

52
*las
Mo lathalath make sound of raindrops on mud house
kalathalath smash repeatedly with the feet
Ya vlathvlath 'icha sound of thunder

*las
D kullali kullali goes up and down
C mcaililil you shake (e.g. a tree)
Mo lanyalanay trot

*lip
D lip lip wii flutter eyelids
Mo lava lav i flutter
lapalep not fit right, hang loosely
levalev i tremble, be floppy
Ya vliplip i wing flutters

*mar
Mo kamaramar level off grave to hide it
Ya rub out traces

*miS
C mirim i be straight
Mo meramer true, straight
miramir straight (of hair)
Ya mirim straight

*mVS
D semilemilip is rolling like a log
semilymilyp rolls over
semimmimnnp tosses and turns
C milmil, mimmin be long and thin
Mo tadi ch minamin corn on the cob
chamanaman roll (tr.)
melamal football-shaped
milamiil football-shaped (pl.)

*paq
C paqpaq i it makes a popping noise
Mo paqapaq i make a popping sound
Ya paqpaq 'i sharp cracking sound

*pil
D pil pil flickers, flares
Mo ichpelichpel i dart tongue in and out

*qV8
Mo sulyqachilyqach tickle
Ya nytqochqoch 'ichkyum he tickled me

*qis
Mo qesaqes i rub
Ya qisqis i rub hard against

*ris
Mo rithariith speckled, freckled
Ya kwath rithrith 'i, yuu rithrith i freckles

*sak
D eyay sakesak wii is anxious, nervous (heart is itchy)
C qaqaqa i be itchy
Mo thaqataq i feel uncomfortable when being tickled
iwiwych thaqataq i be excited

*suly
Mo thulyathuly itch
Ya thulithul, thulthuil, thurthuur itch

*šil
C šilyšily i be long and thin
Mo silasil stick out further than the rest
Y selsel stick up, be raised

*tam
C tam tam k i it flashes intermittently
Mo tematem i sparkle, shine

*tas
Mo iisaly chuuta hatah clap the hands
Ya tahthath 'i tick

*tuS
D tulltull wii is bumpy
tultytuly wii hops along
tuS (cont.) Mo tulykatulyk, tulykatulyk i uneven

'avii tulyatuly place name (descr. 'rock')

wiS D wirewir, wirewir wing
C pcavinywiny i shake him
Mo wiwiwis i push swing back and forth
winywiny i shake the head no
Y wilwil i shake in order to make something sit properly
wirir flutter

poss. Mo iisaly avalyavaly, iisaly awasawas wave the hand

xal D hallhall wii makes a rattling or rustling noise
Mo halhal i, halhal i make a hollow sound

xil D hilhil gradually, barely moving
Mo helhel i flow gently over
Ya 'ha bolbol 'icha waterfall

x'ač D shaahwachwach Oriole
Mo 'aiwechahwech, hwechahwech Oriole

x'ay C x'ayx'ay m' you whisper

x'may C chuuhwayuhway talk in whispers (multiple pl.)
Mo chuuhwayuhway talk in whispers (dual)

yVS D yareyar circular, round, and flat (large object)
yarreyar circular, round, and flat (small object)
Mo yenayen circular (sg.)
yanayan, yanayaan circular (pl.)
yirir circular
yilayil round like the neck of a bottle

Undoubtedly, many more such sets will be discovered when more extensive data is examined. Even at this stage, though, it appears that whole reduplicated words may be reconstructed in some cases. Also, the idea that reduplicated forms may resist the River glide frication process seems to be supported (consider wiS and yVS). It also is clear that study of reduplicated forms will provide new data on the subject of sound-symbolic alternations in Yuman—in the chart above, an indeterminate sound-symbolic alternating consonant is represented simply as S.

Footnotes
1. A preliminary version of A Mojave Dictionary by Munro and Brown was privately printed in 1976. A revised and expanded version with Crawford as co-author is now in preparation. All the words in this paper have been checked recently with Nellie Brown; many of them were brought to my attention by Judith Crawford. The work was supported by the Academic Senate of the University of California, Los Angeles. Thanks to all.
2. So get going, Yumanists.
3. All Mojave forms are presented here in the Mojave Dictionary orthography: ' = [ʔ], ch = [Y], d = [b], hw = [hW], kw = [kW], ky = [kY], ly = [lY], ny = [nY], qw = [qW], sh = [s], th = [θ]; ny = [nY], which I am treating here (at least) as a unit phone. All poststress t's in these examples are nondental. Doubled vowels are long. A hyphen separates two sounds which would otherwise be
interpreted as a digraph: t-h = [th]. Stress is as described in the
text (equally on the vowels of both CVC's). In general, unstressed
short vowels are probably inorganic, but there are particular prob-
lems with this statement for Mojave which are beyond the scope of this
paper. Initial vowels and their source are another, related problem
which I won't go into further here.

4. The hedge here is "word", of course—I don't mean simply "dic-
tionary entry", but rather something like "stem". Specifically, verb
plurals not derived by reduplication are not listed, and complex nomi-
nals including reduplicated modifiers are not listed unless they con-
tain an otherwise unattested reduplicated stem or seem (in my judg-
ment) to shed additional light on the meaning of the basic reduplica-
ted element.

In listing the reduplicands, I have neutralized vowel length
distinctions (preserved in the words themselves, of course). The
great majority of stressed vowels in reduplicated forms are short.
'Sg.' in glosses, of course, means 'nonplural' (to save space).

5. I have wondered whether this word could reflect not only
the idea of a truck with a large hole in it but also something of
the sound of the English word. However, this would then be an extreme-
ly rare case of loan reduplication (but cf. ti below).

6. Another conservative grammatical element that shows up in an
expectedly large number of reduplicated forms is the "passive" suf-
fix -k, hitherto attested only in Diagüeño, but which I have found
examples of in a number of lexical items in Mojave and Maricopa.

7. In this table, V represents some indeterminate vowel and
S represents a consonant involved in sound symbolic alternation
(primarily coronal sonorants, also ʔ and ʃ). I have tried to be
reasonably conservative, but obviously some will like some of these
sets better than others. Space did not present discussion of the
semantics of what the starred forms might be, but it's fun to puzzle
it out—some of the more difficult correspondences improve with
thought, I think. There also appear to be some k/q alternations
which need attention (also possibly sound-symbolic?).
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Southern Illinois University at Carbondale
OCCASIONAL PAPERS ON LINGUISTICS

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1978 HOKAN LANGUAGES WORKSHOP

James E. Redden, Editor

Held at

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June 27-29, 1978

Department of Linguistics
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Carbondale, Illinois

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PREFACE

Unfortunately, everyone who presented a paper at the 1978 Hokan Languages Workshop was not able to prepare a final version for inclusion in this volume. All the papers in this volume were presented in an earlier version at the 1978 workshop. The papers are arranged in the order that they appeared on the program at the workshop.

The participants of the 1978 Hokan Languages Workshop gratefully acknowledge all the work done by Professor Carol Baker Slater and the students at the University of California, San Diego, which made the workshop run so smoothly and enjoyably.

Copies of the 1977 workshop are still available from the Department of Linguistics, Southern Illinois University, Carbondale, IL 62901. The volumes for the 1975 and 1976 workshops, which appeared in the SIU-C University Museum Studies, are now out of print, but copies may be obtained in microfiche or hard-bound copies from ERIC Clearinghouse on Languages and Linguistics, Center for Applied Linguistics, 1611 N. Kent Street, Arlington, VA 22209.

The 1979 Hokan Languages Workshop will be held at the University of California, Los Angeles, June 26-28. The proceedings of the 1979 workshop will appear in Occasional Papers On Linguistics in late spring 1980. Copies may be ordered from the Department of Linguistics, Southern Illinois University, Carbondale, IL 62901.

James E. Redden
Carbondale, May 1979
CONTENTS

Webb, Nancy M.
The Semantic Domain 'tree': Hakan Lexical Evidence 1

Redden, James E.
Notes on Walapai Syntax II 8

Watahomigie, Lucille J., Malinda Powskey, and Akira Y. Yamamoto
The Structure of Nominal Modifiers 11

Hardy, Heather K.
An Integrated Account of the Morpheme θ in Tolkapaya 19

Hardy, Heather K.
The Development of the Fai Vowel System 29

Munro, Pamela
Reduplication in Mojave—and Yuman 42

Oswalt, Robert L.
An Exploration of the Affinity of Wappo and Some Hakan and Penutian Languages 56

Bendixen, Birgitte
Aspects of the Rhythmic Structure of Cocopa 72

Bibliography 91