

cnida		cni	7							-	need
damni				dam	6					1f	down
ditlu	targo			tag	3	tao	4			-	argue
djino	vinjo			vin	7					-	wine
durna				dun	1	dua	6			-	adorn
falji				fal	6	fai	1			-	false
firpa				fir	3	fia	4			-	afraid
gancu				gac	3	gau	4			-	win
genza				gen	6	gea	1			-	again
koldu	holdu			hol	4	hou	3			-	hole
kutla		klu	7							-	cut
lelpi				lel/p	6/1					-	level
likti	flidu	fli	7							-	liquid
modvi				mov	4	moi	3			-	motive
muzgi				muz	5	mui	2			-	music
randi	rande			rad	6	rae	1			-	round
ratci	patce			pac	2	pae	5			-	device
retca				rec	6	rea	1			-	different
rolgu				rol	7					-	roll
siltu				sil	2	siu	5			-	shake
sitci				sic	4					3f	city
skalu		ska	7							-	scale
spada	ponda					poa	7			-	respond
spebi				peb	6					1f	special
spicu		spi	7							-	spirit
spila	cpula	cpu	7							-	pull
surva				suv	5					2f	serve
vedma				ved	4	vea	3			-	sell

7 :	32 wds	9	8	56	24	107	16	54	0	7	48 afs	217
7+:	198	47	59	988	153	1082	105	1186	0	22	317	3256
	28%	28%	7		4.5		3.4		3.1%	39%		70%

The loss-rate is now showing signs of increasing. Eventually it will turn up sharply. The relative power of the three kinds of affixes is now characteristic. Note that there are now very few CCVs being assigned; indeed, very few useful CCVs are left by this point. Even the CVVs are getting crowded. The remaking rate is still high, but after the 6's it will decline.

6	bakso					bao	6			-	box
	bekti			bek	3					3f	object
	bradi	brudi	bru	6		buu	2			-	brother
	bukcu			buk	4					-	book
	ckano		cka	6						-	kind
	clado		cla	6						-	loud
	cmeni		cme	6						-	money
	cninu		cnu	6						-	new
	condi			con	6					-	deep
	cutci			cuc	5					1f	shoe
	djimi	jmite	jmi	6						-	meet
	dreti		dre	6						-	correct
	fekti	purfe		puf	3	pue	3			-	perfect
	fitpi			fit/p	3/3					-	foot
	fosli			fos	6					-	force
	gritu		gri	6						-	sing
	kamfu	komfu		kof	5	kou	1			-	comfortable
	kamtu	kumtu		kum	4	kuu	2			-	common

POWER LISTING

kasfa				kaf	5			1f	punish
kecri				kec	4	kei	2	-	sad
korma	horma			hor	3	hoa	3	-	horse
kruma		kru	6					-	room
kurfa				kur	6			-	square
kusmo				kus	5	kuo	1	-	custom
laldo				lal	6			-	old
litri	cisti			cit	6			-	history
manta	monca			mon	3	moa	3	-	mountain
nitru	fatru			fat	4	fau	2	-	trouble
spali				pal	6			-	side
speni		spe	6					-	experience
stisi	steti	ste	6					-	sentence
tcaro		tca	6					-	car
tepli				tep	5			1f	church
tokna						toa	6	-	take
trena		tre	6					-	train
tricu		tri	6					-	tree
tugle				tul	4	tue	2	-	leg

6 :	37 wds	10	14	84	22	99	12	33	0	6	48 afs	216
6+:	235	57	73	1072	175	1181	117	1219	0	28	365	3472
	33%	27%	6		4.5		2.8		2.7%	45%		75%

Remaking is still peaked; the affix-types show the same pattern of relative productivity; the loss-rate is still substantial and about to climb. By this time we have three-quarters coverage and nearly half of all the affixes have been assigned. But note that only a third of the primitives are yet engaged.

5	balci			bac	2	bai	3	-	build
	barma			bar	4	baa	1	-	arm
	bidje					bie	5	-	edge
	briga			rig	2	ria	3	-	brave
	broko	bro	5					-	break
	cavle			cav	3			2f	shovel
	ciktu			cik	2	ciu	3	-	equal
	cinta			cin	5			-	infant
	danza					daa	5	-	desire
	ditca					dia	5	-	teach
	djeta			jet	5			-	owe
	djeto	dedjo		ded/j	4/1	(deo)		-	finger
	djipo			jip	3	jio	2	-	important
	djitu			jit	4	jiu	1	-	tight
	djupe			jup	1	juo	4	-	support
	fagro			fag	5			-	fire
	fanpo	pozfa		poz	2			3f	oppose
	gorma	hatro		hat	4			1f	hot
	jugra			jug	2	jua	3	-	grab
	kamra			kar	4			1f	camera
	kerju			kej	1	keu	4	-	care
	korci	korce		koc	4	koe	1	-	cord
	korva			kov	4	koa	1	-	curve
	krali	kroli	kro	5				-	current
	kunti	kenti		ken	4			1f	question
	lakse			lak	3			2f	wax
	litnu					liu	5	-	hold
	lodji			lod	5			-	logic(al)

metri	sorme			som	2	soe	3	-	sister
milfa						mia	5	-	meal
mubre				mub	4			1f	wood
mursi				mur	4			1f	sea
nerbi				neb	3			2f	necessary
nirne				nin	2	nie	3	-	year
panta	herba			heb	5			-	plant
rofsu				rof/s	4/1			-	rough
simci				sim	1	sii	4	-	seem
skitu	ski	5						-	sit
spuro	spu	5						-	skill(ed)
tceru	tce	5						-	through
tedji				ted	4	tei	1	-	attend
tobme				tob	3	toe	2	-	table
totco	tco	5						-	touch
trati						rai	5	-	try
troku	tro	5						-	rock
valna				van	4	vaa	1	-	violent
vendu				ven	4	veu	1	-	poison
vidju				vij	3	viu	2	-	view
volsa				vol	3	voa	2	-	voice

5 :	49 wds	8	7	35	38	121	26	75	0 14	71 afs	231
5+:	284	65	80	1107	213	1302	143	1294	0 42	436	3703
	40%	16%	5		3.2		2.9		5.7%	53%	80%

We are now beginning to add big batches of words with small effects. For a long time I regarded these 5's as having the lowest power of any prims having real importance for word-making. But, as you'll see, coverage has now been extended with good effects into even lower ranks of the power-list. Note that the remaking-rate is now diminishing. Coverage loss is still confined to final terms but the rate of loss is steadily increasing. By the lowest ranks, the 3's, 2's and 1's, it will become a flood, reaching 31% among the 1's.

4	bendu			ben	2	beu	2	-	band
	betcu			bet	4			-	bent
	betpu	bedpu		bed	3			1f	bed
	brato					rao	4	-	ratio
	brocu			roc	2	rou	2	-	brush
	buste			bus	1	bue	3	-	step
	cefli			cef	3			1f	chief
	cirna			cir	2	cia	2	-	learn
	ckemi	kemdi		kem	4			-	chemical
	cmiza		cmi	4				-	amuse
	comtu			com/t	1/2	cou	1	-	ashamed
	dakli			dak	3			1f	probable
	darli			dar	3			1f	far
	dislu					diu	4	-	discuss
	djela	dje	2	jel	2			-	healthy
	dzoru	dzo	4					-	walk
	fekto			fek	2	feo	2	-	fact
	ferlu	felda		fel/d	1/2	fea	1	-	fall
	fizdi			fiz/d	2/2			-	physical
	flora			lor	3	loa	1	-	flower
	frezi			rez	4			-	free
	gandi			gad	4			-	god

POWER LISTING

garko	harko		har	1	hao	3	-	shelter
gusto			gus/t	2/2			-	flavor
janto			jan	3			1f	hunt
kamda			kad	1			3f	fight
kerti			ker	4			-	air
klini		(no affixes)					3n 1f	clean
kupta			kup	3			1f	cup
kurni			kun	3			1f	warn
limji			lim/j	2/1			1f	limit
manko			mak	4			-	mouth
menki			mek	4			-	eye
metlo	cetlo		cet	4	(ceo)		-	wet
mitro			mit	1	mio	3	-	meat
mroza			roz	1	roa	3	-	hammer
naldi			nal	2			2f	nail
nirli			nil	4			-	girl
pentl	petci		pec	2	pei	2	-	pay
pifno			pif	3	pio	1	-	frequent
pinti			pin	4			-	paint
plata		pla		4			-	plate
posta			pot	4			-	post(al)
potri	hutri		hut	1	hui	3	-	destroy
prati			rat	2			2f	price
pruci		pru		4			-	test
retpi			rep	3			1f	answer
rilri					rii	3	1n	regular
rispa	daspa		das/p	2/1			1f	responsible
sanca		sna		4			-	sand
sange		(no affixes)					4f	suggest
santi					sai	3	1n	silent
sinma			sin	4			-	cinema
spopa		spo		4			-	hope
sudna					sua	4	-	sudden
sumji			sum	3			1f	sum
tarci			tar	4			-	star
tardu	hardu		had	4	(hau)		-	hard
tcali			cal	3			1f	wall
tcura	curca		cur	4			-	safe
tetri			tet	3			1f	weather
tosku	hedto		hed	4			-	head
trime			rim	2	rie	2	-	tool
tsime		tsi		4			-	crime
valpu			vap	2	vau	2	-	wave
verti	vreti	vre		4			-	vertical
volti			vot	1	voi	3	-	jump
vrici		vri		4			-	river

4 :	68	12	(2)	10	38	58	150	22	54	5	25	90	afs	242
4+ :	352	77	(2)	90	1145	271	1452	165	1348	5	67	526		3945
	50%	18%	3%		3.8		2.6		2.5		11%	65%		85%

In this group we encounter the first two words that have no affixes at all, klini & sange, and also two others, rilri & santi, where coverage fails, for the first time, on non-final terms. klini & sange would be the words to work on first if further remaking of primitives were thought necessary. (There is no hope for either of them unless something is remade.) The rate at which "no-affix" words have suddenly appeared in this group is 3%. We'll add this datum (in parentheses) to the statistical summaries for this and the last three groups.

The 4's constitute a watershed. With their addition we have involved exactly 50% of all the prims that appear in the CPXs listed in L4. The primitives on and above this watershed--the 4+'s--together manage to shorten fully 85% of all the terms that appear in those complexes...an even higher percentage, namely 89%, of the 95% of them we're actually going to cover with this affix set. What that means is that the last three groups of primitives--the rare ones that figure in at most 3 CPXs--are nearly as numerous (there are 350 of them, in fact) as the 352 more powerful prims that do 89% of the work of this affix set. Accordingly, these low-power prims will come in very big batches indeed and seem to accomplish very little. Still, they are important. The language may yet grow around them. And it is precisely because the remaining 11% of current CPX-reduction is going to be accomplished by primitives which supply a great number of rarely used affixes that those affixes themselves may, I fear, be more difficult to learn. Therefore, perhaps, they will repay our close attention.

3	badjo		baj	1		2f	bough
	balma		bam	2		1f	ball
	basni		bas	1		2f	base
	blada	bla 3				-	blade
	bongu		bon	1		2f	bone
	botci				boi 3	-	boy
	brano	breba	reb	2		1f	bread
	brili		ril	3		-	bright
	broda		rod	3		-	broken
	cabro		cab	2	cao 1	-	burn
	capri		cap	2		1f	print
	carbo		car	3		-	carbon
	cidja		cid	3		-	awake
	cimra		cim	3		-	summer
	cirzi	cersi	(cer)		cei 3	-	chair
	cteki	cte 3				-	tax
	dante		dat	3		-	tooth
	disri				dii 3	-	decide
	djora	jorta	jor	1	joa 2	-	hour
	djula		jul	3		-	jewel
	dotra		dot	3		-	winter
	fanra		fan	3		-	farm
	fasli	(no affixes)				2n 1f	face
	fasru		fas	3		-	easy
	ferno	fernu	fen	2	feu 1	-	iron
	fikco		fik	1		2f	fiction
	fragu		rag	3		-	fog
	fruta	fru 3				-	fruit
	gardj	(no affixes)				1n 2f	garden
	getsi		get	1	gei 2	-	get
	jalti				jai 3	-	product
	junti		jun	3		-	young
	kalpi	kopca	kop	3		-	copy
	kapma	(no affixes)				2n 1f	hat
	karda	(no affixes)				1n 2f	card
	karku	(no affixes)				3n	crack
	karsa		kas	2		1f	across
	kasni	(no affixes)				1n 2f	cow
	katca	(no affixes)				3f	watch
	klabu	kla 3				-	cloth
	kreni	kre 3				-	ray
	lengu		len	3		-	language

POWER LISTING

lista		lis	1			2f	list
litla		lit	3			-	light
miksa		mis	3			-	mix
minku				miu	2	1n	ore
murki		muk	2			1f	monkey
nardu		nad	3			-	difficult
natra		nar	2	naa	1	-	nature
norma		nom	1	noa	2	-	average
nreti	netre	net	2			1f	net
nuzvo		nuz	3			-	news
palna	nable	nab	3			-	problem
pismi		pis	3			-	peace
pluci	plu		3			-	please
pluma		lum	2	lua	1	-	feather
porju		poj	1			2f	pig
prano	(no affixes)					1n 2f	run
raznu		raz	3			-	reason
revri		rev	1	rei	2	-	dream
rirda		rir	2			1f	record
rispe		ris	1			2f	respect
salfa		saf	3			-	sail
sarni		sar	3			-	sour
sirna		sir	3			-	certain
skapi	(no affixes)					1n 2f	skin
smano	sma		3			-	smoke
solda		sod	2			1f	soldier
sporu	(no affixes)					2n 1f	spring
sputa		put	3			-	spoon
sputu	spetu	(no affixes)				3n	spit
stali				tai	2	1n	stand
stire		tir	2	tie	1	-	stairs
surna	sru		3			-	injure
sutme		sut	3			-	smell
tarle		tal	2	tae	1	-	tired
tarmo	harmo	ham	3			-	harmony
tcari	karti	(no affixes)				3f	cart
terla		tel	3			-	terrestrial
tetcu		tec	2	teu	1	-	stretch
tidjo		tid	2	tio	1	-	heavy
tifru				tiu	3	-	offer
torni		ton	1			2f	twist
tovru		tov	3			-	over
traci		rac	3			-	travel
vidre		vid	3	(vie)		-	idea
virta		vir	3			-	ad

3 :	87	10	(12)	8	24	60	140	19	35	19	43	87	afs	199
3+:	439	87	(14)	98	1169	331	1592	184	1383	24	110	613		4144
	63%	11%	14%	3	2.3	1.8	24%	75%	89%					

Note that the rate at which no-affix words are emerging has already leaped from 3% to 14%. And the loss-rate has suddenly climbed from 11% to 24%. This is just what we want, of course. Ideally, we would like to confine our coverage losses to the more rarely used CPXs of the language...failing that, to make the curve approaching that ideal as steep as possible. Thus both loss-rates are climbing very steeply now as we're encountering the more rarely used components of metaphor in the 1975 language.

While it is in general true that the more rarely-used primis appear in the more rarely-used CPXs, this is not always the case. We must look at the use-frequency issue directly whenever two or more assignment options offer the same coverage. For example, either plado or klada can use lad with the same effect on coverage; both are '1's, see below. But the klada-metaphor is klada kuvga which means 'cloud-covered' or 'cloudy' (Eaton 4-language frequency rank: 5800); and its word would be ladkua. The plado-metaphor is plado duvra which means 'plow-do' or 'to plow' (Eaton rank 5700, a close call). Its word would be ladrdru. Apparently the second is slightly the more frequent notion, or at least the one which more clearly deserves a short word. So despite the phonotactic hyphen (which reduces ladrdru's score), I have assigned lad to plado. So klada kuvga will be kladrkua, which seems an appropriate length: Ti kladrkua denli = 'It's a cloudy day'. These are the kinds of decisions which, in their hundreds, have determined affix-assignment among the less powerful primis. Among these primis, differential coverage is usually not the issue.

2	bakto		bak	2		-	bucket	
	balpi		bal	2		-	balance	
	banci		ban	2		-	bathe	
	banko	(no affixes)	-			2n	bank	
	batmi		bat	1		1f	trade	
	batpi		bap	2		-	bottle	
	berci	(no affixes)				2f	sheep	
	blabi		lab	2		-	white	
	blabo	bulbi	bub	1	bui	1	-	bulb
	bre	2					-	ready
	bulju		bul	2			-	boil
	caslo		cas	2			-	whistle
	cidza	cedzu	ced	2	(ceu)		-	shadow
	ckela				kea	2	-	school
	clidu	(no affixes)				1n 1f	slide	
	crina	cri	2				-	rain
	dampa	(no affixes)				1n 1f	pump	
	denro		den	2			-	danger(ous)
	dilri	(no affixes)				2f	represent	
	dipri		dip	2			-	precious
	ditka		dit	1		1f	bite	
	djoso		jos	2			-	sew
	draka		rak	2			-	dark
	dustu		dus	2			-	dust
	dzabi	dza	2				-	real/exist
	dzaso		zas	2			-	soap
	falba		fab	1	faa	1	-	fail
	famji		fam	2			-	family
	ferti		fet	2			-	fertile
	fibru		fib	2			-	weak
	fleti	fle	2				-	fly
	foldi		fod	1		1f	fold	
	frama		ram	1		1f	frame	
	fundi	(no affixes)				2f	like/fond	
	glida	gli	2				-	guide
	gotca				goa	2	-	goat
	gotri		gor	2			-	industry
	grani	drani	dra	2			-	dry
	grato	(no affixes)				2f	cake	
	groci				roi	1	1n	angry
	grunu		run	2			-	grain
	gutra		gur	2			-	strange

POWER LISTING

janro		jar	2			-	narrow
jokla		jok	1			1f	clock
jupni				jui	2	-	opine
kance		kac	1	kae	1	-	conscious
kangu				kau	2	-	dog
kanlo	klogu	klo	2			-	close
kanmo		kan	1			1f	able
kanpi		(no affixes)				1n 1f	compete
kante	konte	kon	2			-	count
katma		(no affixes)				2f	cat
kicmu		kic	1	kiu	1	-	doctor
klipu		(no affixes)				2f	keep
kokfa		kok	2			-	cook
kompi		(no affixes)				2f	company
kraju		raj	2			-	scratch
kubra		kub	2			-	wide
lenki		lek	2			-	electric
lenze	lenzo			leo	1	1n	lens
lerci		ler	1			1f	letter
lesta		[les]				(2f)	east
letra				lea	1	1n	character
likta		lik	1			1f	week
lusta		[lus/t]				(2f)	west
malbi		mal	2			-	sick
mandu	dupma	dup	2			-	deceive
metli		met	2			-	metal
mildo		(no affixes)				1n 1f	mild
mipli		mip	1	mii	1	-	example
monza		moz	2			-	morning
motci		moc	1			1f	motor
muslo		mus	2			-	muscle
narmi		(no affixes)				2n	army
narti		(no affixes)				2n	apart
negda		neg	2			-	egg
nervi		nev	2			-	nerve
nesta		nes	1			1f	honest
norla	nordi	nod	2			-	north
padzi		paz	1			1f	pad
panba		pan	2			-	pan
pasti		(no affixes)				2n	paste
pazda		pad	2			-	wait
pidra	hompi	hom	2	(hoi)		-	drink
pilno		pil	2			-	plain
preni		(no affixes)				2n	prisoner
prusa		rus	1			1f	approve
pudru		pud	2			-	powder
ranta		ran	2			-	rotten
rinta		rin	2			-	rhythm(ic)
rodlu		(no affixes)				1n 1f	road
sakli		sak	2			-	sack
sekci		sec	2			-	sex(ual)
selba	helba	hel	2			-	help
setco	sekta	sek	2			-	insect
skizo		kiz	2			-	ski
skori	sko		2			-	screw
sli	sli		2			-	sweet
smina		min	2			-	mind
snice		nic	2			-	snow
sorlu	sorgu	sog	2			-	ear
spena	penja	pej	2			-	sponge

srisu						riu	1	1n	serious
stari		(no affixes)						2n	surprise
stuci		stu	2					-	story
sulba			sul	2				-	swelling
supta			sup	1				1f	soup
surla	surdi		sur	2				-	south
tcaku			cak	2				-	shock
testi		(no affixes)						2f	gonad
tirca			tic	2				-	wire
tirku	hirti		hir	2				-	hear
tomti	tomki		tok	2				-	automatic
totnu			tot	2				-	thick
trana			tan	2				-	rotate
treci		(no affixes)						1n 1f	interesting
trelu			rel	1		reu	1	-	rail
tubli			tub	2				-	tube
vapra	vapro					vao	2	-	gas
zavno			zan	2				-	oven

2 :	120	17	(20)	10	20	79	139	15	20	22	35	104	179
2+:	559	104	(34)	108	1189	410	1731	199	1403	46	145	717	4323
	80%	14%	17%	2		1.8		1.3		24%		88%	93%

Notice how much more frequent the assignment of CVC-affixes has now become: 79 vs. 10 & 15 for the other two types. This is partly because the CCV- and CVV-affix spaces are now being rapidly used up, and partly because the new, more infrequently used components of metaphor or more likely to be in non-final positions than the more common components supplied by more powerful primes.

Both loss-rates are, at 17% and 24%, still substantial; but they are no longer climbing quite so rapidly. In the 1's both rates will reach 31%. Note that, at 93%, we have only 2% of our ultimate 95% coverage left to achieve. But we still have 22% of our primes left with which to achieve it! Clearly, there are going to be some big gaps in the coverage supplied by this last and weakest group of primes.

1	badlo			bad	1			-	bundle
	banse		(no affix)					1n	basket
	barda		(no affix)					1f	reward
	batra		(no affix)					1n	butter
	bekli			bel	1			-	bell
	bisli			bis	1			-	ice
	blice	bitce	(no affix)					1n	whip
	bludi		blu	1				-	blood
	borku			bor	1			-	bow
	botni		(no affix)					1n	button
	breko			rek	1			-	brake
	briku			rik	1			-	brick
	brute					rue	1	-	breathe
	bunbo			bun	1			-	fool(ish)
	cartu			cat	1			-	map
	cirzo					cio	1	-	scissors
	cliffe			lif	1			-	leaf
	colri	clori	clo	1				-	chlorine
	colku			col	1			-	silk
	crano		cra	1				-	smile

POWER LISTING

cundo				cuo	1	-	window
cupri		cup	1			-	copper
danri	(no affix)					1n	ordinary
darto				dao	1	-	door
dertu				deu	1	-	dirt
ditcu	citlu	cil	1			-	detail
djale		jal	1			-	ring
djiri	hijra			hia	1	-	here
drara	(no affix)					1n	drawer
dzeli	dze	1				-	jelly
dzozo	hozda	(no affix)				1f	hose
ferci				fei	1	-	affair
festi		fes	1			-	waste
fildi				fii	1	-	field
flami	fla	1				-	flame
flofu	flo	1				-	float
fremi		rem	1			-	friend
fulri	(no affix)					1f	rich
ganli		gal	1			-	organize
garti		gat	1			-	grateful
gasno		gas	1			-	anus
gasti	(no affix)					1n	steel
ginru		gin	1			-	root
gliso	(no affix)					1f	glass
gokru		gok	1			-	hook
gomni		gom	1			-	sticky
grasa				raa	1	-	grass
gusti	kusti	(no affix)				1f	costly
jurna	(no affix)					1f	earn
kamti	(no affix)					1f	committee
kanra	(no affix)					1f	cane
kanse	perti	(no affix)				1n	concern
kanta	celna	cel	1			-	shelf
kanti	(no affix)					1n	bill
kanto	trolu	tol	1			-	control
kerfa	herfa	her	1			-	hair
ketli		ket	1			-	kettle
kinku		kik	1			-	sharp
klada	(no affix)					1n	cloud
komcu		kom	1			-	comb
konsu		kos	1			-	consul
korka	(no affix)					1n	cork
krinu	(no affix)					1f	nut
kuspo	(no affix)					1n	spread
laksu	sluko n slu	1				-	lock
lasti		las	1			-	elastic
ledri		led	1			-	lightning
ledzo		lez	1			-	left
lidro	hidro	hid	1			-	hydrogen
likro				lio	1	-	liquor
linco		lic	1			-	thin
lokto				loi	1	-	local
lunli		lul	1			-	wool
malna		man	1			-	milk
mensa				mea	1	-	month
najda		naj	1			-	knife
nanta	nanda	(no affix)				1n	knot
natri	nadri	(no affix)				1n	sodium
nigro		nig	1			-	black
nikri		nik	1			-	cheese

nilca		(no affix)			1n	below	
nirda		(no affix)			1f	bird	
nitci			nit	1	-	neat	
nrile	ridle		rid	1	-	read	
packo	packe	(no affix)			1n	pocket	
pafko		(no affix)			1f	dig	
pante	patpe		pat	1	-	pot	
penbi		(no affix)			1n	pen	
pendi			ped	1	-	hang	
petri		(no affix)			1f	distribute	
pinca			pic	1	-	urine	
pinda			pid	1	-	pin	
pisku					piu	1	piece
pismu	smupi	smu	1		-	smooth	
plado			lad	1	-	plow	
pozbu	bufpo		buf	1	-	opposite	
prizi			riz	1	-	private	
proza		(no affix)			1n	prose	
prutu					ruu	1	protest
publi			pub	1	-	public	
pubmi	pubmu		pum	1	-	lead	
pulso			pul	1	-	impelled	
punfo		(no affix)			1n	pure	
ranjo		(no affix)			1n	range	
rasto			ras	1	-	brass	
ratcu					rau	1	rat
redro			red	1	-	red	
resra		(no affix)			1f	restaurant	
resto			ret	1	-	recline/rest	
ritco			ric	1	-	right	
sapla			sap	1	-	simple	
satro			sat	1	-	rub	
sidza			siz	1	-	seed	
simba			sib	1	-	lion	
sinta	snatu	(no affix)			1n	tin	
slopu		slo	1		-	steep	
sneku		sne	1		-	neck	
solte			sot	1	-	salt	
sonli					soi	1	sleep
spana	hospa		hos	1	-	hospital	
stana		(no affix)			1f	station	
stane	staga	(no affix)			1f	stem	
studa	ctuda	ctu	1		-	feces	
stuli					tui	1	adjust
sucmi		(no affix)			1f	swim	
suksi		sku	1		-	succeed	
tcela		(no affix)			1n	wing	
tcena		(no affix)			1n	chain	
teori		(no affix)			1n	authority	
tenri			ten	1	-	increase	
tinmo			tin	1	-	ink	
tokri		(no affix)			1n	chalk	
trani	trali	(no affix)			1n	tray	
trida		(no affix)			1n	street	
trili			til	1	-	attract(ive)	
trufa			ruf	1	-	roof	
truke		tru	1		-	structure	
tsufi		tsu	1		-	enough	
valda			vad	1	-	develop	
vetfa		(no affix)			1n	invent	

POWER LISTING

virsa		vis	1	-	poetry
visra	(no affix)			1f	viscera
vlako	vla	1		-	lake

	Wds	Rmd	NoAfs	CCV	n	CVC	n	CVV	n	Loss	Afs	Covg
1 :	143	25	(45)	15	15	66	66	17	17	28 17	98	98
		17%	31%	1		1		1		31%		

Totals and Rates for the Whole List:

702	129	(79)	123	1204	476	1797	216	1420	74 162	815	4421
100%	18%	11%	9.8		3.8		6.6		5%	100%	95%

Notice that, for the first time, losses involving non-final terms (28) outnumber losses of final terms (17). Recall that non-final losses did not even appear until the 4's. But now, in this weakest group, they are quite common.

Let us now summarize our findings for the entire list. 702 primitives have been assigned 815 affixes, or only a little more than one affix each. The typical assignment is evidently one; but for a powerful prim it is typically 2 and sometimes 3. This large set of affixes collectively covers 4421 terms of a pool of metaphors composed of 4657 terms: 4421 plus the total coverage loss of 74 + 162 = 236 terms. That coverage rate, at 95%, compares very favorably with the 97% coverage achieved in the 1975 dictionary with undecipherable affixes... indeed, in which most CPX words were not even recognizable as CPXs and so invited no decipherment!

It is worth noting also that the coverage lapses of this affix set are mostly benign: 69% of the terms uncovered by it (162/236) will leave unreduced final terms, a form which, in the 2-termers at least, the loglanists evidently find very tasty: e.g., nensucmi, to take one of the last cases on the list. More over, long non-final affixes will be virtually confined to the rarer words...or at least to words made with the rarer affixes. Thus the 74 non-final lapses do not even begin to appear until the 4's.

Of the three types of affixes, by far the most numerous are, of course, the CVCs. (The CVC-space is about 3 times the size of the CVV-space and about 7.5 times the size available for CCVs.) So, of the 815 affixes, fully 58% of them, or 476, are CVCs. CVVs are next most numerous, getting 27% of the assignments (216). CCVs receive only 15% of the assignments (123).

The productivity of the 3 affix types is neatly inversed. A CCV is used, on the average, 9.8 times; the CVVs cover a mean 6.6 terms; and the CVCs have only slightly lower average coverage at 5.4 terms each. But it should be noted that the high overall productivity of the CVVs--indeed, of the affixes generally--is chiefly due to their extraordinarily high employment when assigned to one of the 18 or 20 most powerful prims. Elsewhere, the CVCs are in fact slightly more likely than the CVVs to find multiple employment.

What the power listing shows is that each type of affix has its own special role to play in the new morphological system, and that the three forms together make possible a system of affixes that are not only decipherable, but will collectively provide a far higher total coverage than was once thought possible with decipherable affixes.

JCB

REMADE PRIMITIVES

REMADE, CORRECTED & ADDED PRIMITIVES

Last Update: 28 Jul 82

These are all the primitive predicates that have been remade, corrected or added during the course of the morphological revision. The list is in five parts:-

- Part 1. The Composite Prims (C-Prims) that have been remade to incorporate H, to "unpack" them from other prims, or to provide better-fitting affixes, i.e., to "tune" an affix set.
- Part 2. A Short List of C-Prims whose Etymologies were found faulty and corrected, but which have not been changed.
- Part 3. The Native and International Prims (N- and I-Prims) that have been changed, either to unpack them from other prims or to regularize the final vowels of the nationality and language prims.
- Part 4. A Short List of New Prefix-Yielding S-Prims that have been added to make Loglan versions of 'centimeter', 'kilogram' and 'nanosecond' possible.
- Part 5. The Entire List of Element-Words (S-prims). Most have been remade either (i) to incorporate H, (ii) to use the new 1 mod 3 forms, or (iii) to reconcile the predicate forms with the chemical acronyms.

PART 1. THE REMADE C-PRIMS

These are the composite primitives that were remade during the execution of the A, B & D strategies of affix assignment. The H-words (coded 'h') were added just before the B-Set was assigned, and the unpacking (coded 'u') task was accomplished just before the D-Set was assigned. Some few words have been remade (or re-remade) since TT5 in the interests of "fine-tuning" the D-Set, but not more than a half dozen.

Entries in parentheses are words that were remade but not actually used. I've kept them in the list as options worth keeping open.

Sets of words were "unpacked"--that is, all but one remade--if they differed only in their final V's (tcale/tcali), or only in a s/c, c/j, j/z or z/s contrast in their 3rd C (kanse/kance). Thus, language/nationality words (e.g., spani/spana) are now the only packed prims left in the language; see Part 3.

The decision to remake a word to get better affix assignment during the "tuning" of an affix set was often fairly involved. My notes after such entries--the uncoded ones--may only faintly suggest the reasoning that led to the adoption of that particular remade word. Moreover, such decisions interact strongly with discoveries made during the word-remaking process itself, as well as with whatever may have been the then-current state of the affix-assignment tables. Neither of these factors can be easily summarized.

In the Etymology Corrections, the order of the entries reflects the (possibly) new order of the etymology for the remade word. A solitary language letter means that the same word, and fraction of that word, found in the old etymology for that language will serve for the new one. A letter preceded by a fraction means that the old fraction must be corrected, but that the old word is still ok. A complete new entry for a language--a fraction, a letter, and a lower-case word--means that everything must be changed for that language. A letter preceded by a minus sign, e.g., -R, means that the entry for that language is to be removed but that the rest of the old etymology is still ok.

REMADE PRIMITIVES

Old	New	English	Etymology Correction	R-Score: Was	Is +/-
betpu	bedpu	bed	3/3E C 2/3G 2/4J DP no longer proscribed, and bed makes better CPXs.	58	59 +1
(bilca	milbi	military	C 4/7S 4/7F 4/8G 2/6E Made to free bil for bilti, but not used.	36	33)
bisti	pasko	past	3/4F passe 2/3C kou 4/6S pasado 2/4E past Yields better affixes, namely pas and pao.	38	42 +4
blabo	bulbi	bulb	S E F H 3/7R G Unpacks blabi.	43	u45 +2
bleci	blicu	possible	3/4C 3/7E possibly 2/7S F Frees ble for bleka and uses bli.	30	36 +6
blice	bitce	whip	4/4R C 3/6G peitsche 2/5E switch 2/4J muchi Unpacks new blicu<-bleci.	46	45 -1
botcu	botsu	boat	E G S J 2/5C Unpacks botci.	60	u54 -6
brani	brona	brown	E G H F S Unpacks brana.	49	u43 -6
bradi	brudi	brother	4/5G 2/4H 2/4R 2/5E 2/6C Frees bra for brana and uses bru.	38	34 -4
brano	breba	bread	3/4E 2/4R hleb 2/4G C Unpacks brana.	39	u40 +1
carta	curtu	shirt	E H J Unpacks cartu.	46	u39 -7
cidjo	cibra	bridge	(same) Unpacks cidja.	29	u29 0
cidza	cedzu	shade	3/4E C Unpacks cidja; final V open but given u to get ceu, which was free.	41	u37 -4
cirzi	cersi	chair	3/4E 2/3F chaise 3/5H 2/4S silla Unpacks cirzo.	35	u37 +2
ckemi	kemdi	chemical	-R Unpacks ckemo.	45	u43 -2
claso	clesi	without	3/3E 2/3S sin 2/4H siwa Frees cla for clado and uses cle.	44	40 -4
(clina	cline	line	(same) Remade to free lia for clika; but cli used everywhere so not used.	57	57)
(clivi	livci	live	3/4E 2/3R 2/3S 2/6C 2/7H clivi could be remade as livci with 7 R-loss, but it gets the same affixes--liv/lii--anyway; so not used.	56	49)

REMADE PRIMITIVES

65

clivu	cluva	love	-G	40 u37	-3
Unpacked from clivi...a sad but necessary move.					
cnire	snire	near	E F 3/5S circa 2/7C	43 44	+1
Frees cni for cnida and uses sni.					
condu	hanco	hand	3/4G hand 2/3C 2/3H hath E	39 h42	+3
Uses H.					
(cutse	sedcu	say	3/3E said C	36 45)	
Not used despite the 9 R-gain; cus/cue became free and worked much better than sed/seu.					
dampu	pudja	thumb	2/3F pouce 3/5C mu jr 3/6S pulgar	27 u24	-3
Unpacks dampu.					
detri	detra	daughter	E 2/4H R G	36 34	-2
Frees dei for denli and uses dea.					
dirci	dirco	direction	H 3/5S 3/5F 3/7E	c40 29	-11
This very large R-loss accepted to get dio, a better suffix than dii and essential.					
ditcu	citlu	detail	C E R	45 u41	-4
Unpacks ditca.					
ditlu	targo	argue	3/4S argu-ir 3/4F argu-er 3/5E argue 3/6C tao lun	48 42	-6
Too close in meaning and sound to dislu, and just a better word. But targo is suboptimal in R-score. targu (4/4S 4/5E 3/4F 3/6C) at 49 is better. But tarmu has tau and tao was free.					
djadi	djudi	judge	3/6C E 3/4R 2/8H	35 41	+6
Frees dja for djano and uses dju.					
djeto	dedjo	finger	4/4S 2/3C ji 3/6E	43 u40	-3
Unpacks djeta.					
djimi	jmite	meet	3/3E H J 3/7C	42 49	+7
Thins out the dji-pack: djimi/ne/no/po/ri/tu.					
djino	vinjo	wine	4/4R 4/4S 3/4F vigne 3/4G E 2/4C	57 u55	-2
Unpacks djine and more thinning of the dji-pack.					
djiri	hijra	here	3/3E 2/3C jer 2/3G hier	44 h48	+4
Uses H and thins the dji-pack even more; only djine/po/tu are left. hijra is an odd word, but it scores well. Its final V is free; I've used A to give it hia, which was free.					
djora	jorta	hour	(same)	39 u39	0
Unpacks djori.					
dumni	humni	human	3/4S human-o 4/6E 3/6F humaniz-er J	30 h31	+1
Uses H.					
duvra	duvri	discover	-R	30 26	-4
Frees dua for durna and uses dui.					
dzozo	hozda	hose	3/3E C 3/4H	43 h49	+6
Uses H.					

REMADE PRIMITIVES

fanpo	pozfa	oppose	3/4E 3/4F 2/3C 2/4S	49	48	-1
Thins the fan-pack: fanpo/ra/ri and now fando=end.						
(fanra	fanma	farm	(same)	46	46)	
Became unnecessary when fanri->fanve; uses fan just as fanra would, but if we like the sound of fanma better, we can use it; same R.						
fanri	fanve	reverse	C 3/6S invers-o 2/5E inverse 2/5F inverse	36	u43	+7
Unpacks fanra and uses fav.						
fekti	purfe	perfect	4/5F 3/4H pura 4/6E S	32	u37	+5
Unpacks fekto and uses pue.						
ferlu	felda	fall	E G 2/3C dau	50	50	0
Thins the ferri/lu/no/ti-pack.						
forli	fotli	strong	C 3/4E 2/3F 2/3G	60	53	-7
Thins the fordi/ka/li/ma-pack. Moreover, for is preempted by fo; so fot is the best we can do with tolerable R-loss.						
(frezi	frizi	free	-S	46	42)	
Unused because, while it uses a free CCV, it gains no coverage and crowds prizi and brize.						
gacpi	hapci	happy	3/4E 3/7C	28	h32	+4
Uses H and gets hai.						
garko	harko	shelter	J 3/4F havre 3/5E 3/6C S	41	h44	+3
Uses H.						
girsa	gresa	grease	4/4F S E	44	34	-10
Remade to give it a CCV. A big R-loss, but worth it.						
gorma	hatro	hot	3/3E hot 2/2C ro 2/4G heiss 2/5J atsui	36	h58	+22
Uses H.						
grani	drani	dry	4/4E 2/3C J	48	47	-1
Thins the gra-pack and increases coverage at no R-loss and little F-loss (familiarity loss, a dubious cost parameter that was studied but not tabled here). Also, a much better English clue-word.						
gruni	rulni	rule	3/3E 3/6C H G	48	u47	-1
Unpacks grunu.						
gusta	tasgu	disgusted	2/4F 3/7S 2/6C 2/7E	29	u25	-4
gusti	kusti	costly	3/4F couteu-x 4/6E 3/6S	36	u29	-7
Remaking both unpacks gusto.						
kalpi	kopca	copy	4/5S R J F G 2/4E 2/4C chao	59	56	-3
Frees kal for kapli and uses kop.						
kamfu	komfu	comfortable	3/4E comfy 3/5F confort 4/7G 2/4C	37	41	+4
Thins the kamda/fu/ki/la/pe/po/ti/tu-pack.						
kampe	kambi	compare	2/2C bi 2/5F 2/6E 2/6S	29	39	+10
Unpacks kampo.						
(kance	konce	conscious	4/7F 3/6E S H	c29	u25)	
Unpacks kanse; but koc/kou are busy and kac/kae are free; so not used and kanse->perti instead.						

REMADE PRIMITIVES

kamtu	kumtu	common	3/5C S F 2/5E	36	35	-1
Thins the kam-pack and unpacks kamti.						
kanci	kunci	kin	E C 3/6J	43	u39	-4
Unpacks kance, frees kai for katli, and thins the big kan-pack.						
kanli	canli	quantity	3/6C 3/8E 3/8S 2/6F 3/9G J 2/11R	37	u35	-2
kanlo	klogu	close	(same)	36	u36	0
These two unpack kanla, thin the kan-pack, and use cai and klo.						
kanse	perti	relevant	5/7F pertinent 3/5E pertain 5/10S pertinente 3/10R prinadlej-at	36	u29	-7
Unpacks kance; kance->konce scores better but perti goes into a less crowded region; more thinning of the kan-pack.						
kanta	celna	shelf	3/4E shelf 2/4H J R 2/6S	39	u37	-2
kante	konte	count	4/4S 3/3F compte E J	45	u40	-5
kanto	trolu	control	4/6F controle E R G 2/6C guan li 3/5J	46	u41	-5
These 3 unpack kanti, and thin the kan-pack even further.						
kanvi	vizka	see	S 3/3F vis-ion 2/3E vis-ion 2/3C R	63	57	-6
More thinning of the kan-pack; only kance/gu/la/ti are left.						
kerfa	herfa	hair	3/3E C 2/3G haar	35	h56	+21
Uses H.						
klira	kalra	collar	4/4E 4/4J 2/3F col 3/5G	42	u41	-1
Unpacks kliri.						
koldu	holdu	hole	3/3E C 2/4G hoehle	41	h48	+7
Uses H.						
korci	korce	cord	E F 2/3C sheng 4/6S	44	u49	+5
Unpacks korji and frees koi for korji.						
korma	horma	horse	C 3/4E H J	58	h58	0
Uses H.						
krali	kroli	current	-H	37	31	-6
kro was free; and it gave the last power-5 word full coverage.						
krena	kurti	curtain	5/6F courtine E 5/7G S	39	u35	-4
Unpacks kreni.						
kunti	kenti	question	(same)	41	41	0
Frees kun for kurni whence kurfa, neither of which remakes as well as kunti; and ken was free.						
kusfa	hasfa	house	3/4E S 3/4G C	37	h40	+3
Uses H.						
laksu	sluko	lock	3/3E C 2/3E	53	u44	-9
Unpacks lakse, 'wax', a word that resists remaking.						
lenri	nenri	in	3/3C nei S E 2/3G inner 3/7F	43	59	+16
A sad move; everyone likes lenri. But lengu needs len and lerci needs ler; and besides, nenri is very high-scoring.						
likti	flidu	liquid	3/3C liu 4/5F fluide 4/6S fluido 3/5E fluid 2/4G fluss-ig 2/6R	49	u59	+10
Unpacks likta.						

lilpa	porli	powerful	2/2C li 3/4E 3/5S poder	39	51	+12
Frees lil for lilfa and gets por/poi, both necessary.						
litri	cisti	history	2/2C shi 4/6F S 4/7R E	40	54	+14
Trying to find an H-word uncovered this missed beauty: a big R-increase. It also thins a small lit-pack.						
mandi	mendi	male	3/3E men 2/3G 3/5C	51	u46	-5
mandu	dupma	deceive	3/3E 3/4J 2/3C 2/3F dup-er 2/5R	58	u58	0
Both unpack mande.						
manta	monca	mountain	2/2F monte C E S	48	u45	-3
Unpacks manti. If monca/monza is held to be still packed, monte (5/5S 2/2F monte 4/5E = 37) is available at the loss of C shan and 8 pts. But c/z differ in 2 binary features; probably enough.						
marke	marto	market	4/4E mart G F J S H	44	u49	+5
Unpacks marka.						
matca	metca	match	5/5S mecha E 3/5J 3/6H C R	50	u55	+5
Unpacks matci.						
metlo	cetlo	wet	3/3C E J	43	u46	+3
Unpacks metli.						
metri	sorme	sister	2/3C 2/3F soeur 3/7E sororal 2/6S hermana	45	u36	-9
Unpacks metro.						
nanta	nanda	knot	2/3E 2/4C go da 2/4H 2/4R	46	43	-3
Unpacks the new metrical prefix word nanti; see Part 4. Remaking nanta wouldn't be necessary if the regularizing suffix -ti were not thought best for all these new words. natli gets nat anyway.						
(nidla	nadla	needle	4/4G 3/4E 2/4R	43	31)	
Remade to unpack nidle<-nrile; but then nidle not used.						
nitru	fatru	trouble	R F C E G	42	u38	-4
Unpacks nitro.						
norsa	notbi	other	3/4R inoi 2/3C bie 2/3S otr-o 2/3F autre	-	35	-
Again, nor is preempted and nos has bad phonotactics; so norsa remade to get not. norsa was an L-Prim; notbi will be a C-Prim.						
nreti	netre	net	(same)	48	48	0
nrile	ridle	read	(same)	50	50	0
To make Hyphen R work, NR may no longer be a permissible initial. nreti and nrile are the only NR-words, and so the only words that had to be remade...and at 0 R-loss, the cost of Hyphen R.						
packo	packe	pocket	4/5E F H J G	42	39	-3
Unpacks the new pasko<-bisti.						
palna	nable	problem	4/7E 4/8R 3/7F probleme C S	42	37	-5
This word was remade solely to avoid an extremely ugly CPX, namely palnretpi = problem-answer (solution), which can now be nabretpi.						
panta	herba	plant	3/3E herb 3/3F herbe 4/5S hierba	38	h41	+3
Thins the pan-pack, uses H, and moves into an unused region.						
pante	patpe	pot	(same)	52	u52	0

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Originally remade to unpack panta, but then kept for pat.		46	45	-1
parte	parti part	E 5/5F	4/5S	R
Remade just to get the monosyllabic suffix pai.		36	u56	+20
penti	petci pay	3/3E	pay 2/2F	paye 2/3C
Unpacks pento->penta & thins the pen-pack. Another missed beauty.		42	39	-3
pento	penta point	-R		
Frees peo for penso and uses pea.		33	u47	+14
pidra	hompí drink	2/2C	ho H R	2/3J nom-u
Unpacks pidri and installs H. A big R-increase from a word with all the Asiatic languages and no European ones except Russian! We have mighty few of these; so I welcomed this one.		44	u38	-6
pismu	smupi smooth	E 2/3C		
Unpacks pismi.		39	41	+2
plici	pleci play	4/4E	2/4C	
plizo gets pli; so plici remade to get ple.		57	52	-5
podju	proju produce	E 2/3C	S 4/6F	4/7R
ponsu gets pou; so podju was remade to get a usable suffix.		28	h40	+12
potri	hutri destroy	3/3C	hui E	S
Inclusion of H.		38	36	-2
pozbu	bufpo opposite	3/4C	2/4E	2/4F
Unpacks the new pozfa<-fanpo, and puts buf in an unused region.		43	30	-13
puctu	pucto push	-C		
This large R-loss is paid to get the monosyllable puo for pucto.		42	42	0
randi	rande round	(same)		
Remade to get rae; trati has rai.		45	u56	+11
rando	fando end	E C 2/3H	ant 2/3S	fin 2/3F
Unpacks randi; final V in fandV is open.		45	u37	-8
ratci	patce device	2/3C	R G S	E
Unpacks ratcu; but patce has bad affixes. But see putci.		45	25)	
(ratci	putci device	3/3C	chi	
Built to get pui. But the R-loss of 20 plus the fact that only one language contributes to this word (nothing works here) caused me finally to accept pae for patce<-ratci.		37	u	-
resta	zbuma explode	(will be an I-Prim?)		
Unpacks resto with the 1st onomatopoeic word in the language.		44	45	+1
ridji	lidji religious	C 5/8S	E 4/8F	G R J
ridji didn't really have to be remade; but it gives rid to trida and lid works better than rij. And there's no R-loss.		27	u34	+7
rispa	daspa responsible	2/3C	dan 3/7E	2/6F 2/7S
Unpacks rispe.		44	h45	+1
rorno	horno horn	4/4E	4/4G	3/4F S J
Uses H.				

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sedji	selji	self	3/4E 2/5C 2/5H R 2/6J 2/6G	selbst	44	44	0
Not necessary now because sed is free again; but sel works better.							
selba	helba	help	3/4E 3/4G	C	39	h42	+3
Uses H.							
setco	sekta	insect	(insecta - a new S-Prim)		49	u -	-
Unpacks setci. This word will be reclassified as an S- or I-Prim, and so will have no composite etymology.							
sitmo	sisto	system	F E C S R G 3/6J		51	52	+1
sitfa has sit and simci has sim; so sisto gets sis and keeps sio.							
skiti	begco	request	3/3E beg 2/3G	bett-elN 2/5C chiou	33	u41	+8
Unpacks skitu.							
sonta	sunho	son	E R 2/3S	hijo 3/6J musuko	35	35	0
sonda has both son and soa, and sot is not sufficient; sunho gets both sun & suo, which work fine.							
sorlu	sorgu	ear	3/3C 2/2G 2/3E 2/4F 2/5S		65	55	-10
sor is preempted by so; soc has bad PTs so socli needs sol; therefore sorlu was remade to get sog.							
spada	ponda	respond	2/2C da 4/6F	repond-re 4/7S 3/7E	45	u47	+2
Unpacks spadi.							
spana	hospa	hospital	5/8G 4/7S 3/6F	hopital 3/7E H	38	u28	-10
Unpacks spana/i and uses H.							
spena	penja	sponge	E 2/5H 2/4F	eponge 3/7S J C	37	u40	+3
Unpacks speni, which has been restored; speni->jendu was made but not used; see below.							
(speni	jendu	experience	4/5E endure 3/8C 2/6J		25	33)	
This word was tried but not used; instead spena was remade.							
spila	cpula	pull	(same)		44	44	0
Not really necessary because pia is free; but it gives cpu and no R-loss.							
sputu	spetu	spit	C E H 3/6S		62	u58	-4
Unpacks sputa; but now competes with speni for spe.							
stane	staga	stem	3/4H C 2/4E S G R		56	u51	-5
Unpacks stana.							
stisi	steti	sentence	4/5E state 2/3C S R		49	u47	-2
Unpacks stise.							
studa	ctuda	feces	C 3/4G 2/4E 2/4R J S		63	u54	-9
Unpacks stude...and the punsters will howl.							
tardu	hardu	hard	4/4E 3/4G S 2/6R		41	h41	0
Uses H.							
tarmo	harmo	harmony	5/7E 5/7G 4/6F 4/7S 4/8R		45	h38	-7
Uses H.							

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tcate	langa	long	3/3G lang 2/3E long 2/3F longue			
	Unpacks tcali.		3/5H lamba 3/5S largo 3/5J nagai	33	u44	+11
tcari	karti	cart	4/4E H 3/4S 3/4G 3/5F 4/7R	62	u57	-5
	Unpacks tcaro.					
tcura	curca	safe	E 4/7H suraksha 3/6C bau shan S	47	u51	+4
	Unpacks tcure.					
tirku	hirti	hear	3/3E C 2/3G hoer-en 2/3S oir	47	h54	+7
	Uses H.					
trani	trali	tray	4/4H E J 3/6G tablett 3/7S salvilla	46	u42	-4
	Unpacks trana; trali is similar to troli<-kanto; but policy says that a difference in the stressed vowel only does not pack.					
tomti	tomki	automatic	E 4/8H 4/8F 4/9G 4/10S J 2/7R	40	u35	-5
	Unpacks tomto (which cannot be well-remade).					
tosku	hedto	head	3/3E head 2/3C J	41	h47	+6
	Uses H; but let's keep tosku for 'skull'.					
vapra	vapro	gas	(same)	41	41	0
	Gets vao with no R-loss and minimal F-loss.					
vedji	mutce	much	4/4S much-o 3/4E much 2/3C shen 3/5R ochen	48	53	+5
	vetci gets vei, vedma gets ved, and vej is nearly useless; so mutce is better with muc & mue in a less crowded region.					
verti	vreti	vertical	4/8R 4/8S 4/8F 4/8G E	33	30	-3
	ve preempts ver; and vre is free with small R-loss.					

RECOGNITION COST

Net R-loss from the 49 C-primis remade for tuning was -37; from the 60 remade for unpacking, -30. That was more than regained, however, by the 19 C-primis remade (exclusively) for H-inclusion, which yielded a net R-gain of +99. Net R-gain from all 3 activities was therefore +32 for the 128 remade C-primis, or +0.25 points per word. Just how negligible an "improvement" in the recognizability of the language this is, however, can be seen from the following calculation. There were 830 C-primis in the 1975 language. Say their average R-score was 40. There was thus a pool of (approximately) 33,200 "R-units" in the language at the time GMR began. GMR has therefore wrought a 0.1% "improvement" in the recognizability of the language, that is to say, has scarcely changed it at all! So the recognition cost of our decipherable affixes appears to be substantially zero. This was certainly unexpected, and encourages me to think that if we want to remake a few more primis we can continue to do so virtually without cost.

PART 2. UNCHANGED C-PRIMS WITH CORRECTED R-SCORES

				Wrong	Right	
botci	boy	E 4/6J bochan R C S		41	46	+5
cninu	new	E 3/3C H S 2/4F nouveau		62	71	+9
dislu	discuss	S 3/4C i lun F 2/6E		33	37	+4
kance	conscious	E F H 3/9S		31	29	-2
kusmo	custom	4/4S uso J E C F		41	43	+2

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lengu	language	S 3/4F	langu	C E	29	34	+5	
sange	suggest	G 2/4C	an shi	H 3/6F	sugger-er	J 3/8E	suggest 47 39 -8	
							Net Error:	+15

PART 3. REMADE N- & I-PRIMS

Two things are happening here. C-Prims are being unpacked by changing one of these words with arbitrary etymologies; and language and nationality words are being regularized. In the 1975 dictionary the endings of these words reflected the native language as closely as possible. But this led to a riotous assortment of endings which were difficult to remember. Taking logla<-Loglan as our model for language words, I've used -a as the regular ending for all language words, and -i for the nationality word because it was most commonly used. This causes the final vowel on most such words to be changed; but, for completeness, I have also included the few that have not been changed.

Old	New	English	Reason for Change
bakco	bakci	tobacco	Unpacks bakso.
broci	bruci	brooch	Unpacks brocu.
dansa	danse	dance	Unpacks danza.
dotca	dotci	G. person	Regularizes ending.
dotco	dotca	G. language	Regularizes ending.
frani	fraki	F. franc	frani now francium; see S-Prims.
frase	frasi	F. person	Regularizes ending.
fraso	frasa	F. language	Regularizes ending.
gleca	gleci	E. person	Regularizes ending.
gleco	gleca	E. language	Regularizes ending.
gonju	gonja	C. language	Regularizes ending.
jungo	jungi	C. person	Regularizes ending.
karto	(out)	cardboard	Dropped.

Unpacking tcari/o produced tcari->karti, eliminating karto. Cardboard can easily be CPX: e.g., prebarta = paper-board.

kotli	hotle	hotel	Uses H.
lenze	lenzo	lens	Better affix.
lindi	hinda	H. language	Regularizes ending and uses H.
lindu	hindi	H. person	Regularizes ending and uses H.
lunla	lunra	moon	Unpacks lunli.
marki	marci	G. mark	Unpacks marka.
merka	merki	Amer. person	Regularizes ending.
nervo	narvo	nervous	Unpacks nervi.
norla	nordi	north (Nordic?)	Better affix.

nor is preempted by no, and nol will not work with lusta and lesta. So norla was remade as nordi to get nod.

pando	pundo	pound (wt)	Unpacks pandi (currency).
perna	perli	pear	Unpacks pernu.
pongo	ponga	J. language	Regularizes ending.
ponji	-	J. person	Ending ok.

It is a question whether, in the case of J & C, the first four letters of the language and person predas ought to remain different (now gonja & jungi for C, and ponga & ponji for J), or be given a common 1st four letters as

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in the case of the other language/culture-words. At the moment I favor retaining the difference...probably a real one in these cultures.

rindi	-	Amerind. person	Ending ok.
romno	romni	Roman person	Regularizes ending.
ruski	-	R. person	Ending ok.
rusko	ruska	R. language	Regularizes ending.
senta	(out)	cent	Packs with new senti.
senti	(out)	centimeter	Replaced by new senti.

centimeter will now be the CPX senmetro; see Part 4. senta goes out not only because it packs with new senti, but because senti now means a 1/100th part of anything, including dollars, and so can do its work.

sigro	sagro	cigar	Unpacks sigre.
skafe	ckafe	cafe	Unpacks skafi.
skata	skaci	Scottish person	Regularizes ending & unpacks skati.
spani	-	S. person	Ending ok.
spano	spana	S. language	Regularizes ending.
talna	talni	It. person	Regularizes ending.

PART 4. THE NEW PREFIX-YIELDING METRICAL PRIMS

gigdo	1,000,000,000x	E.g, gigmetro	gigsekmi	gigrgramo
megdo	1,000,000x	megmetro	megsekmi	megrgramo
mirdo	10,000x	mirmetro	mirsekmi	mirgramo
kilto	1,000x	kilmetro	kilsekmi	kilgramo
hekto	100x	hekmetro	heksekmi	hekgramo
dekto	10x	dekmetro	deksekmi	dekgramo
desti	x/10	desmetro	desrsekmi	desgramo
senti*	x/100	senmetro	sensekmi	sengramo
milti**	x/1,000	milmetro	milsekmi	milgramo
mikti***	x/1,000,000	mikmetro	miksekmi	mikrgramo
nanti	x/1,000,000,000	nanmetro	nansekmi	nangramo
pikti	x/1,000,000,000,000	pikmetro	piksekmi	pikrgramo

*centi would steal cen from cenja leaving the awkward cej; senti steals sen from sensi, but ses (as in sesmao) works much better than cej.

**milti steals mil from milfa but leaves mif and the more important mia.

***mikti steals mik from miksa but leaves mis.

Variant forms: kilrgramo, sentrmetro, milrmetro, nanrsekmi, etc. Any metrical predicate may of course be extended by any of these prefixes. E.g., Da megdalri = 'It's worth \$1,000,000'.

PART 5. THE ELEMENT WORDS, MANY REMADE

A Study of 1 Mod 3 Borrowings & Short Acronyms

The remaking of element words was occasioned (1) by the inclusion of H, (2) by the occasional necessity of unpacking an adjacent C-prim, (3) by the availability of the new 1 mod 3 borrowing forms, but mostly (4) by the new system for speaking acronyms, which brought into focus the fact that the Loglan element word, to be

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thoroughly consistent with the spoken symbol, must contain its sounds in early positions. This is the project that led to the following revisions and, incidentally, to a study of how the new acronyms and the 1 mod 3 borrowings work together in a demanding case.

Loglan Prim		International		Loglan Acronym	
Old	New	Word	Symbol	Spelling	Pronunciation

barmi	barni	barium	Ba	Baia/Baica	/BAI(c)a/
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barni unpacks barma. For resolvable pronunciation of the symbol Ba, the hyphen c may or may not be necessary. If the resolver can distinguish between diphthongal and non-diphthongal pairs in pauseless strings of vowels, -c- is not necessary; if it can't, it is. I've given both alternatives because this is an unsettled phonological question. Don't make up your own mind too quickly. We may need a TT6. To my own ear, utterances like /BAIa/ are definitely distinguishable from those like /BAia/ in noise-free contexts. In high noise conditions, however, a careful speaker might wish to use c.

berki	berkeli	berkelium	Bk	Baikei	/BAIkei/
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berkeli is Raknida-form; *bekreli is not. So the k of the symbol comes as early as possible in the Loglan word. I have followed the spelling of the international word, not the vagueries of local pronunciation. Thus, berkeli is an exact reproduction of the 1st 6 letters of berkelium...which a loglanist would sight-read as /berKELium/, not as /BRKliym/ (letting 'y' be schwa) as the Berkeley physicists no doubt pronounced it.

berli	berlili	beryllium	Be	Baie/Baice	/BAI(c)e/
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y will always get i in our transliteration; so berli is fine unless beryllium deserves a longer word, in which case either of the Raknida-forms berlimu or berlili would be fine. I feel it does deserve a longer word.

bismu	-	bismuth	Bi	Baii/Baici	/BAI(c)i/
bormi	bromi	bromine	Br	Bairei	/BAIrei/
borno	-	boron	B	Bai	/bai/
cadmi	-	cadmium	Cd	Caidei	/CAIdei/
calfo	calfori	californium	Cf	Caifei	/CAIfei/

Another Raknida-form...unless you prefer the longer and possibly more imitative californi'mu. (It is easy to see the legitimacy of these long words if you stroke them off by 3's from the right, thus: c/alf/orn/i'mu. The obvious test in this case, however, is to note that its post-stress segment is only 2 letters long.) I will follow the rule that the 2nd C in the symbol must be as early as possible in the word. Also, the earliest letters in the international word are used first unless doing so demotes a stressed vowel. So it's calfori, not calfiro; and not *caflori (to promote the f of the symbol), which would break up in the most obvious way.

calsi	calci	calcium	Ca	Caia/Caica	/CAI(c)a/
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I'm following spelling here, not sound. It's the reading eye we're appealing

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to. And we loglanists can presumably pronounce what we read in a Loglan way after we've made the visual association with symbol and I-word.

carbo	-	carbon	C	Cai	/cai/
cermi	-	cerium	Ce	Caie/Caice	/CAI(c)e/
cesmi	-	cesium	Cs	Caisei	/CAIsei/
colri	clori	chlorine	Cl	Cailei	/CAIlei/.
cormi	cromi	chromium	Cr	Cairei	/CAIrei/.
cumri	cmuri	curium	Cm	Caimei	/CAImei/.

clori, cromi and cmuri put the letters of the chemical symbols at the head of the words. This is a preferred move whenever the symbol is a permissible initial, as these three are.

cupri	-	cuprium (copper)	Cu	Caiu/Caicu	/CAI(c)u/
dispo	disprosmiu	dysprosium	Dy->Di	Daii/Daici	/DAI(c)i/

A virtual anagram of the original, once the Y->I change is made. We know this "10" is good by the simple test that it does not commence VC...so long as it meets the other requirements of a predicate, of course.

farni	frani	francium	Fr	Fairei	/FAIrei/.
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If frani is too close to the other "French" words, franici would do. There is a temptation, here, to use the 6-letter word *franci on the grounds that it cannot be CPX because of the unbridged medial CC. Quite true; but what *franci could be is part of ofranci, a legitimate "7".

fermi	-	fermium	Fm	Faimei	/FAImei/
ferno	-	ferrum (iron)	Fe	Faie/Faice	/FAI(c)e/

The rules call for fermu; but that would pack fermi...which could, of course, be the anagram fermimu. But I like ferno; don't you?

fulro	fluri	fluorine	F	Fai	/fai/.
gadlo	gadlini	gadolinium	Gd	Gaidei	/GAIdei/

DL was once a permissible initial; it is no longer. gadlini has i and not o in the stressed syllable because the i-syllable is stressed in the original.

galmi	-	gallium	Ga	Gaia/Gaica	/GAI(c)a/
galru	armu	aurium (gold)	Au	Acu	/ACu/.

If both letters in the symbol are V's, as in Au and Eu, then they are spoken as simple vowels joined by hyphen -c-. Thus 'Au' and 'Eu' are spoken as /ACu/ and /ECu/. Since eks may not precede sheks grammatically in Loglan, such constructions are safe from being heard by the Resolver as an ek + a shek. (On the other hand, an I-initial acro with a vowel in second place may not be abbreviated in this way; thus the ica is still /ICa/.) By the international convention governing chemical symbols, the 1st V in such pairs is assumed to be written in upper case, and the 2nd, in lower. In hearing

non-chemical acronyms, the listener's default assumption is that all vowels are to be written as Latin capitals. Thus /aCaca/ is to be written 'AAA'. (The speaker may make this explicit by saying /amacamaCama/, of course. But he is not very likely to, given the default convention.) Note that armu is an anagram of the 1st 3 letters of Aurium plus its only other consonant, the ubiquitous m.

germa	germani	germanium	Ge	Gaie/Gaice	/GAI(c)e/
kirpo	kripo	krypton	Kr	Kairei	/KAirei/
kotsa	kalmi	kalium (potassium)	K	Kai	/kai/

I've given priority to the usually Latin word that is the source of the symbol, no matter how widely known some other word (like potassium) is. This move appears to be necessary in order to join the Loglan prim firmly to its now-pronounceable symbol. Still, in this case, kotsa may be the better word. I apparently "derived" it (in '74) from the imaginary word "kotassium", which may still be the sensible thing to do. But I've not done it. I've now taken the symbol to be primary. Once its dues are paid, this case by the initial K, I've gone back to the symbol-producing word for the rest of the letters of the new S-Prim.

lacti	actinmu	actinium	Ac	Acei	/ACei/.
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acti seems to be too short for this rare word. Note that *actiniu, a better mimic, won't work. We need the non-affix nmu here precisely because cti is an affix. Recall that if the second letter in a V-initial acronym is a C, then that C is, as usual, spoken as a full letter-word in reading the symbol aloud. So the pronunciation of Ac is /ACei/. Generalizing an old stress rule assures that the phrase 'a Cei' will be heard either as /ACEI/ or as /acei/ but never /ACei/. So the resolver will know to break up the first two but not the third.

lafni	hafni	hafnium	Hf	Haifei	/HAIfei/.
lalmi	alminiu	alumin(i)um	Al	Alei	/ALei/.

almuniu is also possible; but i is the stressed vowel in more languages that have this word than u is.

lamri	amre	americium	Am	Amei	/AMEi/.
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The best "7", amrimci, is a poor imitation. *amricmi and *amriciu won't work. amriaciumi works but it's a jaw-breaker. So I've opted for the short word in this case.

lanta	lantanu	lanthanum	La	Laia/Laica	/LAI(c)a/
largo	argo	argon	A	Ama	/AMa/
larse	arsenia	arsenic	As	Asei	/ASei/.
lasta	atsatni	astatine	At	Atei	/ATEi/.

For arsenic, *asrenia (which promotes the s of the symbol) won't work. For astatine, both atsatni and astatni will work, but only atsatni puts the t of the symbol in the right place. We'll not have this sort of double criterion to meet in making most other kinds of scientific words.

REMADE PRIMITIVES

lelmi	helmi	helium	He	Haie/Haice	/HAI(c)e/.
lerbi	erbi	erbium	Er	Erei	/ERei/.
lerpu	euorpiu	europium	Eu	Ecu	/ECu/.

VVV'CCvv is a rare form; but it works. Hard (for us) to say. But erpu seems too short to make a good borrowing. And euo'rpi is obviously close kin to Euro'p, the continent's Loglan name.

lidro	hidro	hydrogen	H	Hai	/hai/
lindo	indi	indium	In	Inei	/INEi/.

The pronunciation of the acronym works because the phrase 'I nei' would be spoken /INEI/ or /inei/. But if there were a chemical symbol composed of I + vowel, that second vowel would have to be spoken as a full letter-word: e.g., 'Ia' as /iCAfi/. For /ICa/ would of course be the familiar CPD ica. Happily, there are no such chemical symbols.

lirdi	irdi	iridium	Ir	Irei	/IREi/.
litmi	lithi	lithium	Li	Lai/Laici	/LAI(c)i/

If we follow the spelling, we get a prim that reproduces the first 5 letters of the I-word exactly, although of course with a very different pronunciation. If we are to comfort the learned eye, this is what we must do.

loksi	oksi	oxygen	O	Oma	/OMa/
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Or do you prefer oksigne? For a common element, the short word is probably better...although it is a poorer imitation. In any case, its solitary symbol O is, of course, pronounced like a letter-word. But O2, for molecular oxygen, comes out simply /OTo/. For again, the phrase 'o to' comes out /oto/ or /oto/.

lolmi	holmi	holmium	Ho	Haio/Haico	/HAI(c)o/
losmi	osmi	osmium	Os	Osei	/OSEi/.
lutme	lumteti	lutetium	Lu	Laiu/Laicu	/LAI(c)u/

Not a good imitation. But the requirement of an early CC promotes the meaningless m.

magne	magnesi	magnesium	Mg	Maigei	/MAIgei/
manga	mangane	manganese	Mn	Mainei	/MAInei/
megru	higdari	hydrargyrum (mercury)	Hg	Haigei	/HAIGEi/.

Or do you prefer the longer higdargiru? Again the symbol forces the early h-g on us, as well as its Latin source.

molbi	molbide	molybdenum	Mo	Maio/Maico	/MAI(c)o/
natri	nadri	natrium (sodium)	Na	Naia/Naica	/NAI(c)a/

natri packs with natra...which is nice, because it allows us to pick up the d of sodium.

REMADE PRIMITIVES

nedmi	neodmiu	neodymium	Nd	Naidei	/NAIdei/
nenlo	-	neon	Ne	Naie/Naice	/NAI(c)e/

There aren't enough sounds in this I-word, and L is probably as good a dummy consonant as any; so nenlo is left unchanged.

neptu	neptuni	neptunium	Np	Naipei	/NAIpei/
nikle	-	nickel	Ni	Naii/Naici	/NAI(c)i/

If the German word nickel is everywhere pronounced /NIKl/, /NIKle/ or /NIKlei/--with variations on the i as well, of course--then that would be a good reason for abandoning the spelling, which gives nicke.

nitro	-	nitrogen	N	Nai	/nai/
nobmi	niobmiu	niobium	Nb	Naibei	/NAIbei/
pacti	protactini	protactinium	Pa	Paia/Paica	/PAI(c)a/

Practically a perfect mimic. I can't resist using it...although its rather strange symbol would call for partoctini, or the like.

padla	padlami	palladium	Pd	Paidei	/PAIdei/
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Again we run out of meaningful C's and must promote the m. Or is padladi better with its double use of d?

parse	praseodimi	praseodymium	Pr	Pairei	/PAIrei/.
patni	platinu	platinum	Pt	Paitei	/PAItei/

Again, the symbol calls for patlinu; but I resist in favor of the good mimic.

polno	polnoni	polonium	Po	Paio/Paico	/PAI(c)o/
pomte	prometeumi	prometheum	Pm	Paimei	/PAImei/.

Or pomreteumi to promote the symbol.

posfo	posforu	phosphorus	P	Pai	/pai/
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SF was once a permissible initial but isn't now.

pubmi	pubmu	plumbum (lead)	Pb	Paibei	/PAIbei/
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*plumbiu won't work; it coalesces with leading CV;; and publu packs.

pulto	plutoni	plutonium	Pu	Paiu/Paicu	/PAI(c)u/
renmi	renhi	rhenium	Re	Raie/Raice	/RAI(c)e/
ribte	ibteriu	ytterbium	(Yb=) Ib	Ibei	/IBei/.
ridno	iodnina	iodine	I	Ima	/IMa/
ritri	itri	yttrium	(Yt=) It	Itei	/ITei/

rodmi	rodhimu	rhodium	Rh	Raihei	/RAIhei/
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This is a difficult symbol to satisfy. rohdi is impossible for us voiceless-H users to say; so rodhi or rhodhimu (or -humi) is forced.

rubdi	rubdimu	rubidium	Rb	Raibei	/RAIbei/
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Obviously one or the other of these -VCV endings ought to be standardized, as -ium is standardized now. Provisionally, let's use -imu.

rurna	urna	uranium	U	Uma	/UMa/
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The symbol U is spoken Uma when alone; but U234, for example, may be shortened to Utotefo if any but the 2nd syllable is stressed, e.g., /utoteFO/. For then it cannot be the phrase 'u totefo', which will always be /uTotefo/.

rutna	rutheni	ruthenium	Ru	Raiu/Raicu	/RAI(c)u/
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sacni	sacnadiumi	scandium	Sc	Saicei	/SAIcei/
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Even if the symbol were Sk, *skandiu wouldn't work, and we'd have to go to the vowel-rich skandaiumi, for example. With Sc, this is the best long word that promotes the c.

sagla	agrentu	argentum (silver)	Ag	Agei	/AGEi/
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Or argentu if we preferred the better mimic to the promoted g.

samra	smarami	samarium	Sm	Saimei	/SAImei/
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sibmo	sibtimu	stibium (antimony)	Sb	Saibei	/SAIbei/
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Or antimoi if we could ignore the symbol altogether (as we can't).

silko	silco	silicon	Si	Saii/Saici	/SAI(c)i/
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sinta	-	stannum (tin)	Sn	Sainei	/SAInei/.
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We can't use sant-, which packs with santi, and either sinta or sintu gets the -in- of English 'tin'.

sorni	stronti	strontium	Sr	Sairei	/SAIrei/.
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sulfa	sulfuro	sulfur	S	Sai	/sai/
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On the other hand, sulfa is already a well-established international affix.

talmi	talhi	thallium	Tl	Tailei	/TAIlei/
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Or talhimu if it should be longer.

tanta	tantalu	tantalum	Ta	Taia/Taica	/TAI(c)a/
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tecne	techenetiu	technetium	Tc	Taicei	/TAIcei/
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Or should this, after all, be tekneti? Abandoning the spelling?

telru	telrumi	tellurium	Te	Taie/Taice	/TAI(c)e/
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REMADE PRIMITIVES

terbi	tebri	terbium	Tb	Taibei	/TAIbei/.
titna	titnani	titanium	Ti	Taii/Taici	/TAI(c)i/

Or is the short word better? It would lead to fine doggeral for the robotic 21st Century.

tormi	torhi	thorium	Th	Taihei	/TAIhei/
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The rodmi->rodhi problem again. tohri is impossible with voiceless H.

tulmi	tumli	thulium	Tm	Taimei	/TAImei/.
tunse	ulfu	wolfram (tungsten) (W=)	Uu	Ucu	/UCu/
	vovla	(or W=)	Vv	Vaivei	/VAIvei/
	volfrai	(or W=)	Vo	Vaio/Vaico	/VAI(c)o/

Tungsten is unique in that its symbol, W, is the only chemical symbol that does not readily transliterate into Loglan. I'm proposing three alternatives: Uu ("double-U"), Vv ("double-V") and Vo. All are unique and yield reasonable primis. Vo is probably best. It reflects the German pronunciation of the German word behind the symbol, and it produces what is probably the most memorable prim. But let's present all three and let the loglandic chemists choose. Or invent another.

vanda	vandami	vanadium	V	Vai	/vai/
zenlo	-	xenon	(Xe=) Ze	Zaie/Zaice	/ZAI(c)e/

I'm transliterating X as Z. But again, as for neon, there are not enough usable sounds; so L is used again as the filler consonant.

zinko	-	zink (zinc)	Zn	Zainei	/ZAInei/
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The final -o is free.

zirko	zirconi	zirconium	Zr	Zairei	/ZAIrei/
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In sum, the 1 mod 3 form gives a good variety of words to choose from, with lengths appropriate to their frequency of use. Adding the Raknida- and Oksigne-forms lends just the flexibility to the 7's that was needed. The chemical acronyms are apparently simple, regular, and surprisingly quickly spoken, although stress patterns and other features of the longer formulas have not as yet been exhaustively explored.

These words are not, however, being proposed for the dictionary. Building them was an exercise designed to explore the system and to instruct potential word-makers. Any such lists of technical words must first be submitted to the scrutiny of experts, preferably a international panel of such experts.

The work of the loglanists will be to prepare all the available, or likely, options for each borrowing to be made, and then let the experts choose among the preferred options. To give their choices a final polish, we could then attempt to regularize whatever irregularities still existed, and resubmit our work for final approval by them. Only then would scientific borrowings, at least, be acceptable for incorporation in the language.

REMADE COMPLEXES

THE L4 COMPLEX PREDICATES AS REMADE WITH C-SET AFFIXES (ON THE LEFT)
AND THE TUNED D-SET AFFIXES (ON THE RIGHT) IN THE
ALPHABETICAL ORDER OF THE OLD METAPHOR

Last Update: 29 Jul 82

Only the G- and J-entries have full pronunciation guides. Remade primitives are followed by the new primitive in parentheses. Thus **podju** has become **proju**. The primitives used by the D-Set word are shown in boldface, as is the D-word. Scores (e.g., '55') and word-formulas (e.g., '2 0') are from the Tuning Tables. Operators are not shown in the English version of the metaphors. Numerical increments and decrements to the left of some D-words are residues of the 4 tuning passes, later passes having partially obliterated earlier ones. No mark on the +/- sign means Pass #1; ' ' is #2, ' ' ' #3, and ' * ' #4.

- B -

badjo podju(proju)	(batpo)		
branch-produce			
bad pro	55 2 0	baj' pro	55 2 0
	(badma)		
badlo madzo			
bundle-make			
badlo mdzo	16 8m1	bad' mao	54 2 4
	(baska)		
bakso kanli(canli)			
box-quantity			
bak cnu	52 2 1	add cna; +'21 bao' cna	46 4 1
	(bastu)		
bakso durzo			
box-do			
bak dru	52 2 1	bao' dru	46 4 1
	(batka)		
bakto kanli(canli)			
bucket-quantity			
-		bak' cai	(54 2 4)
bakto durzo	(baktu)		
bucket-do		bak' dru	(52 2 1)
-			
balci mubre	(balmu)		
build(ing)-wood			
bal mubre	33 2 8	give mue to mutce	
	(balmursi)	- "28	bac mub're
balci mubre sitfa			33 2 8
build(ing)-wood-position			
bal mub sti	81 2 2 1	bac mub' sia	78 2 2 4
	(bacli)		
balma clika			
ball-like		bam' cli	(55 2 0)
-			
balma forma	(balfo)		
ball-form(al)		bam' fro	52 2 1
balma nfro	16 8n1		
	(bapma)		
balpi madzo		bal' mao	54 2 4
balance-make			
balpi mdzo	16 8m1		
	(balra)		
balpi ratci(patce)			
balance-device			
balpi nratci	00 8n8	use bal; +"12 bal pa'e	50 2 3
	(bancu)		
banci cutri			
bath-water		ban' cui	54 2 4
ban cutri	33 2 8		
	(bando)		
banci donsü		ban do'u	50 2 3
bath-give			
ban donsü (NDZ bad)	33 2 8		

REMADE COMPLEXES

banko durzo	(bandu)			
bank-do				
bankondru	16 8n1		bank' r dru	16 6r1
banse kanli(canli)	(banka)			
basket-quantity				
bansencnu	16 8n1		bans' r cai	19 6r4
barma djine	(badji)			
arm-join(t)				
bar dji	55 2 0		bar' dji	55 2 0
barma durna	(bamdu)			
arm-adorn				
bar durna	33 2 8		bar' dua	54 2 4
barma tetcu	(barte)			
arm-stretch				
bar tetcu	33 2 8		bar te'u	50 2 3
basni parte(parti)	(baspa)			
basis/ic-part/ial				
bas pra	52 2 1	ok if 4; +12	bas' pai	54 2 4
batmi mursi garko(harko)	(batmurga)			
trade-sea-shelter				
batminmus harko	26 8n2 8	use bat; +"12	bat mur' hao	78 2 2 4
batpi durzo	(baptu)			
bottle-do				
batpindru	16 8n1	use bap; +"12	bap' dru	52 2 1
batpi kanli(canli)	(bapka)			
bottle-quantity		use bap;		
bat cnu	52 2 1	ok if 4; +12	bap' cai	54 2 4
batra durzo	(bardu)			
butter-do				
batrandru	16 8n1		bat'r n dru	16 6n1
bekli durzo	(bektu)			
bell-do				
beklindru	16 8n1		bel' dru	52 2 1
bekti clina	(becli)			
thing-line		use lia;		
bek cla	52 2 1	ok if 4; +12	bek' lia	54 2 4
bekti rando(fando)	(bekra)			
thing-end				
bek fando	33 2 8		bek' fao	54 2 4
bekti sanse	(beksa)			
thing-sense				
bek sanse	33 2 8		bek sa'e	50 2 3
bendu muzgi	(benmu)			
band-music				
ben muzgi	33 2 8		ben' mui	54 2 4
bendu muzgi madzo	(benmuzma)			
band-music-make				
ben muz dzo	81 2 2 1		ben muz' mao	78 2 2 4
berti tcaro	(bertcaro)			
carry-car				
bre tca	52 1 0		ber' tca	55 2 0
berti tcaro durzo	(bertcadu)			
carry-car-do				
bre tca dru	76 1 0 1		ber tca' dru	81 2 0 1
betcu cenja	(betce)			
bent-change (to)				
bet cna	52 2 1	TC init & 3.	bet r ce'a	38 2r3
betcu madzo	(betma)			
bent-make				
bet madzo	33 2 8		bet' mao	54 2 4

betpu(bedpu) gotso	(bedgo)			
bed-go				
bed tso (D/TS bad)	52 2 1		bed go'o	50 2 3
betpu(bedpu) klabu	(bekla)			
bed-cloth				
bed kla	55 2 0		bed' kla	55 2 0
betpu(bedpu) kruma	(bekru)			
bed-room				
bed kru	55 2 0		bed' kru	55 2 0
bilca (milbi) fosli korji	(bilfosko)			
military-force-command(er)				
mil fos korji	53 2 2 8		bic fos' koi	78 2 2 4
bilca (milbi) frena gotso	(bilfrego)			
military-(in) front-go				
mil fre tso	81 2 0 1		bic fre go'o	76 2 0 3
bilca (milbi) kompi	(bilko)			
military-company				
mil kompi	33 2 8		bic kom'pi	33 2 8
bilca (milbi) krido	(bilkrido)			
military-believe				
mil kri	55 2 0		bic' kri	55 2 0
bilca (milbi) krido sitmo(sisto)	(bilkrisi)			
military-believe-system				
mil kri smo	81 2 0 1		bic kri' sio	78 2 4
bilca (milbi) kurni katca	(bilkunka)			
military-warn-watch	Bad met: kunkatca sufficient.			
mil kurninkatca	26 2 8n8	use bic.	bic kun kat'ca	53 2 2 8
bilti grada	(bigra)			
beautiful-great				
bil gra	55 2 0		bil' gra	55 2 0
bilti gudbi	(bilgu)			
beautiful-good				
bil gudbi	33 2 8		bil gud'bi	33 2 8
bilti madzo	(bilma)			
beautiful-make				
bil dzo	52 2 1		bil' mao	54 2 4
bilti muvdo	(bilmu)			
beautiful-move				
bil muvdo	33 2 8	or /bilMUo/	bil' muo	54 2 4
bilti pluci	(biplu)			
beautiful-please				
bil plu	55 2 0		bil' plu	55 2 0
bisli kuvga	(bisku)			
ice-cover(ed)				
bislinkuvga	00 8n8	SK ok if 4; +12	bis' kua	54 2 4
bisti(pasko) clina kanci(kunci)	(bislinka)			
before-line-relation				
bistincla kanci	25 8n1 8		pas lin' kui	78 2 2 4
bisti(pasko) cutse	(bitcu)			
before-say				
bistinctu	16 8n1	use cue; +*4	pak' cue	54 2 4
bisti(pasko) denli	(bizde)			
before-day				
-			pas' dei	54 2 4
bisti(pasko) djano	(bidja)			
before-know(ledge)				
bis dja	55 2 0	or paodja.	pas' dja	55 2 0
bisti(pasko) gotso	(bizgo)			
before-go				
bis tso	52 2 1		pas go'o	50 2 3

bisti(pasko) gotso dirci(dirco) (bizgozdi)					
before-go-direction					
bis tso dri	78 2 1 1	use dio; + ²	pas gos' dio	78 2 2 4	
bisti(pasko) jupni	(bidju)				
before-opinion					
bistinjupni	00 8n8	K/J & S/J bad.	pas' r jui	42 2r4	
bisti(pasko) kakto	(bitka)				
before-act(ion)					
bistinkakto	00 8n8		pas' kao	54 2 4	
bisti(pasko) nadzo denli	(bisnazde)				
before-now-day					
bis nadzondenli	26 2 8n8	or pasnaodei.	pas naz' dei	78 2 2 4	
bisti(pasko) nadzo natli	(bisnadna)				
before-now-night					
bis nad natli	53 2 2 8	or pasnaonai.	pas naz' nai	78 2 2 4	
bisti(pasko) natli	(bisna)				
before-night					
bistimnatli	00 8m8		pas' nai	54 2 4	
bisti(pasko) srite	(bisri)				
before-write/ing					
bistinsri	20 8n0	use pak.	pak' sri	55 2 0	
bisti(pasko) stise madzo	(bistisma)				
before-stop-make					
bis tiz dzo	81 2 2 1		pak sti' mao	74 2 4	
bisti(pasko) vidju	(bizvi)				
before-view					
bis vidju	33 2 8		pas' viu	54 2 4	
bitsa skapi	(biska)				
between-surface					
bit skapi	33 2 7		bit ska'pi	33 2 7	
bitsa spasi	(bispa)				
between-space					
bit spa	55 2 0		bit' spa	55 2 0	
bivdu cenja	(bifce)				
behave/ior-change (to)					
biv cna	52 2 1		biv ce'a	50 2 3	
bivdu ditca	(bivdi)				
behave/ior-teach					
biv ditca	33 2 8		biv' dia	54 2 4	
bivdu forma	(bitfo)				
behave/ior-form(al)					
biv fro	52 2 1		biv' fro	52 2 1	
bivdu sanpa	(bifsa)				
behave/ior-sign					
biv sanpa	33 2 8	restore saa; - ²	biv sa'a	50 2 3	
bivdu sensi	(bifsensi)				
behave/ior-science					
biv sne	52 2 1		biv sen'si	33 2 8	
bivdu sensi madzo	(bifsenma)				
behave/ior-science-make		sen to senti;			
biv sne dzo	78 2 1 1	use ses.	biv ses' mao	78 2 2 4	
bivdu vetfa	(bidve)				
behave/ior-invent					
bivdunvetfa	00 8n8		bid vet'fa	33 2 8	
blabi clika	(labli)				
white-like					
blabincli	20 7n0		lab' cli	55 2 0	
blabi madzo	(blama)				
white-make					
blabimdzo	16 7m1		lab' mao	54 2 4	

blabo(bulbi) clika	(blali)			
bulb-like				
bulbincli	20 8n0	or buicli.	bub' cli	55 2 0
blada mroza	(lamro)			
blade-hammer		lose mro;		
bla mro	56 0 0	use roa; -*9	bla ro'a	47 0 3
blada tarmu	(blata)			
blade-weapon				
bla tru	52 0 1		bla ta'u	47 0 3
bleci(blicu) fekto	(blefe)			
possible-fact				
bli fekto	32 0 8		bli fe'o	47 0 3
bleci(blicu) kliri madzo	(bleklima)			
possible-clear-make				
bli kli dzo	79 0 0 1		bli kli' mao	75 0 0 4
bleci(blicu) lilfa	(bleli)			
possible-law/legal				
bli lilfa	32 0 8		bli lil'fa	32 0 8
bleci(blicu) madzo	(blema)			
possible-make				
bli dzo	52 0 1		bli' mao	50 0 4
bleci(blicu) penso	(blepe)			
possible-think				
bli penso	32 0 8		bli pe'o	47 0 3
bleci(blicu) speni	(blespeni)			
possible-experience		recover spe;		
bli spe	56 0 0	+ '9	bli' spe	56 0 0
bleka forma	(blefo)			
look-form(al)				
ble fro	52 0 1		ble' fro	52 0 1
bleka sitfa	(blesi)			
look-position				
ble sti	52 0 1		ble' sia	50 0 4
blice(bitce) durzo	(blidu)			
whip-do				
blicendru	16 7n1	- "26	bite' r dru	16 6r1
bloda falba	(blofa)			
hit-fail				
blo falba	32 0 8		blo fa'a	47 0 3
bloda kutla	(bloku)			
hit-cut				
blo klu	52 0 1		blo' klu	52 0 1
bludi kuvga	(bluku)			
blood-cover(ed)				
blu kuvga	32 0 8		blu' kua	50 0 4
bongu folma	(bonfo)			
bone-full				
bon flo	52 2 1		bon fo'a	50 2 3
borku tarmu	(borta)			
bow-weapon				
bor tru	52 2 1		bor ta'u	50 2 3
botci clika	(botli)			
boy-like				
botcincli	20 8n0		boi' cli	50 4 0
botcu(botsu) grupa	(bogru)			
boat-group				
bot gru	55 2 0		bot' gru	55 2 0
botcu(botsu) korji	(botko)			
boat-command(er)				
bot korji	33 2 8		bot' koi	54 2 4

botni durzo	(bondu)		
button-do			
botnindru	16 8n1	bot'n r dru	16 6r1
bradi(brudi) clika	(brali)		
brother-like			
bru cli	56 0 0	bru' cli	56 0 0
bradi(brudi) detri(detra)	(bradetri)		
brother-daughter			
bru detri	32 0 8	bru de'a	47 0 3
bradi(brudi) metri(sorme)	(brame)		
brother-sister			
bru metri	32 0 8	bru so'e	47 0 3
bradi(brudi) sonta(sunho)	(braso)		
brother-son			
bru sno	52 0 1	bru' suo	50 0 4
brana denli	(brade)		
born-day			
bra denli	32 0 8	bra' dei	50 0 4
brana garni	(braga)		
born-rule/r/d			
bra garni	32 0 8	bra' gai	50 0 4
brana garni clika	(bragarli)		
born-rule/r/d-like			
bra gar cli	81 0 2 0	bra gar' cli	81 0 2 0
brana garni detri(detra)	(bragarde)		
born-rule/r/d-daughter			
bra gar detri	52 0 2 8	bra gar de'a	75 0 2 3
brana garni grada	(bragagra)		
born-rule/r/d-great			
bra gar gra	81 0 2 0	bra gar' gra	81 0 2 0
brana garni grupa	(bragagru)		
born-rule/r/d-group			
bra gar gru	81 0 2 0	bra gar' gru	81 0 2 0
brana garni kusfa(hasfa)	(bragarku)		
born-rule/r/d-house			
bra gar hasfa	52 0 2 8	bra gar ha'a	75 0 2 3
brana garni sonta(sunho)	(bragarso)		
born-rule/r/d-son			
bra gar sno	78 0 2 1	bra gar' suo	77 0 2 4
brana setci	(brase)		
born-set			
bra ste	52 0 1	bra' sei	50 0 4
brano(breba) durzo	(bradu)		
bread-do			
branondru	16 7n1	reb' dru	52 2 1
brano(breba) forma	(brafo)		
bread-form(al)			
branonfro	16 7n1	reb' fro	52 2 1
brato durzo	(bratu)		
ratio-do			
bratondru	16 7n1	rao' dru	46 4 1
brato mordu	(bramo)		
ratio-more	Bad met; use many-cut = rorklu		
bratonmro	16 7n1	rao' mro	46 4 1
bre di cenja	(brece)		
ready-change (to)			
bre cna	52 0 1	bre ce'a	47 0 3
bre di madzo	(brema)		
ready-make			
bre dzo	52 0 1	bre' mao	50 0 4

breko durzo	(bredu)			
brake-do				
brekondru	16 7n1		rek' dru	52 2 1
briku durzo	(bridu)			
brick-do				
brikundru	16 7n1		rik' dru	52 2 1
brili cenja	(brice)			
bright-change (to)				
ril cna	52 2 1	use ril; +*26	ril ce'a	50 2 3
brili madzo	(brima)			
bright-make				
ril dzo	52 2 1	+*29	ril' mao	54 2 4
brili takna	(brita)			
bright-talk				
ril takna	33 2 8	+*26	ril ta'a	50 2 3
brize folma	(brifo)			
wind-full				
bri flo	52 0 1		bri fo'a	47 0 3
brize tetri	(brite)			
wind-weather				
bri tetri	32 0 8		bri tet'ri	32 0 8
brize tetri clika	(britetli)			
wind-weather-like				
bri tet cli	81 0 2 0		bri tet' cli	81 0 2 0
brocu durzo	(brodu)			
brush-do				
brocundru	16 7n1	boc also free.	roc' dru	52 2 1
brocu kuvga durzo	(brokuvdu)			
brush-cover(ed)-do				
brocunkuv dru	52 7n2 1		roc kuv' dru	81 2 2 1
broda cenja	(broce)			
broken-change (to)				
bod cna	52 2 1		rod ce'a	50 2 3
broda madzo	(broma)			
broken-make				
bod madzo	33 2 8		rod' mao	54 2 4
broda manta(monca) bitsa	(bromanbi)			
broken-mountain-between				
bod mon bitsa	53 2 2 8		rod mon' bia	78 2 2 4
broko madzo	(rokma)			
break-make				
bro dzo	52 0 1		bro' mao	50 0 4
broko mordu	(bromo)			
break-more				
bro mro	52 0 1		bro' mro	52 0 1
broko valpu	(brova)			
break-wave				
bro valpu	32 0 8		bro va'u	47 0 3
bukcu sordi	(bukso)			
book-store				
buk sro	52 2 1		buk' sro	52 2 1
bukcu sordi sitfa	(buksorsi)			
book-store-position				
buk sro sti	78 2 1 1		buk sro' sia	74 2 1 4
bukcu vedma	(bugve)			
book-sell				
buk vedma	33 2 8		buk ve'a	50 2 3
bukcu vedma sitfa	(bugvemi)			
book-sell-position				
buk vem sti	81 2 2 1		buk ved' sia	78 2 2 4

bulju madzo	(bulma)		
boil-make			
bul dzo	52 2 1	bul' mao	54 2 4
bulju veslo	(bulve)		
boil-contain(er)			
bul vlo	52 2 1	bul ve'o	50 2 3
bunbo mordu	(bunmo)		
fool(ish)-more			
bun mro	52 2 1	bun' mro	52 2 1
buste merli	(busme)		
step-measure(r)			
bustenmerli	00 8n8	ok if 4; +12	bus' mei 54 2 4
- C -			
cabro madzo	(cabma)		
burn(ing)-make			
cab madzo (BDZ bad)	33 2 8	cab' mao	54 2 4
cabro sitfa	(carsi)		
burn(ing)-position			
cab sti	52 2 1	cab' sia	54 2 4
canse duvra(duvri)	(candu)		
chance-discover			
can duvra	33 2 8	can' dui	54 2 4
canse kakto	(canka)		
chance-act(ion)			
can kakto	33 2 8	can' kao	54 2 4
canse krido	(cakri)		
chance-believe			
can kri	55 2 0	can' kri	55 2 0
canse plici(pleci)	(capli)		
chance-play			
can ple	55 2 0	can' ple	55 2 0
canse spopa	(caspo)		
chance-hope			
can spo	55 2 0	can' spo	55 2 0
capri madzo	(capma)		
print-make			
cap madzo (PDZ bad)	33 2 8	cap' mao	54 2 4
capri matci	(capmatci)		
print-machine			
cap matci	33 2 8	cap' mai	54 2 4
carbo cabro	(carca)		
carbon-burn(ing)			
carboncabro	00 8n8	car' cao	54 2 4
cartu madzo	(carma)		
map-make			
car dzo	52 2 1	cat' mao	54 2 4
caslo trime	(catri)		
whistle-tool			
cas trime	33 2 7	ok if 4; +12	cas' rie 54 2 4
caslo trime durzo	(castridu)		
whistle-tool-do			
cas trimendru	52 2 7n1	tim also free.	cas rim' dru 81 2 2 1
cavle kanli(canli)	(calka)		
shovel-quantity			
cav cnu	52 2 1	cav' cai	54 2 4
cavle durzo	(cavdu)		
shovel-do			
cav dru	52 2 1	cav' dru	52 2 1

cefli pernu	(cefpe)			
chief-person				
cef pernu	33 2 8		cef pe'u	50 2 3
cefli solda	(cefso)			
chief-soldier				
cef solda	33 2 8		cef sol'da	33 2 8
cenja madzo	(cenma)			
change (to)-make				
cna dzo	49 1 1		cen' mao	54 2 4
cidja madzo	(cidma)			
awake-make				
cid madzo	33 2 8		cid' mao	54 2 4
cidja revri	(cidre)			
awake-dream				
cidjanrevri	00 8n8	ok if 4; +12	cid' rei	54 2 4
cidza(cedzu) folma	(citfo)			
shadow-full				
cidzanflo	16 8n1		ced fo'a	50 2 3
cidza(cedzu) madzo	(cizma)			
shadow-make				
cidzamdzo	16 8m1		ced' mao	54 2 4
ciktu cenja	(cikce)			
equal-change (to)				
cik cna	52 2 1		cik ce'a	50 2 3
ciktu madzo	(cikma)			
equal-make				
cik madzo (KDZ bad)	33 2 8		cik' mao	54 2 4
cimra clika	(cimli)			
summer-like				
cim cli	55 2 0		cim' cli	55 2 0
cimra futci	(cimfu)			
summer-after/late				
cim futci	33 2 8		cim' fui	54 2 4
cimra stolo	(cisto)			
summer-remain				
cim sto	55 2 0		cim' sto	55 2 0
cinta betpu(bedpu)	(cinbe)			
infant-bed				
cin bedpu	33 2 8		cin bed'pu	33 2 8
cinta clika	(cinli)			
infant-like				
cin cli	55 2 0		cin' cli	55 2 4
cinta folma	(cinfo)			
infant-full				
cin flo	52 2 1		cin fo'a	50 2 3
cinta folma ckozu	(cinfocko)			
infant-full-cause				
cin flo cko	81 2 1 0		cin fol' cko	85 2 2 0
cinta dumni(humni)	(cindu)			
infant-human		Reverse met: humcinta.		
cin humni	33 2 8	lose hui; -*28	cin hum'ni	33 2 8
cirna folma	(cirfo)			
learn-full				
cir flo	52 2 1		cir fo'a	50 2 3
cirna parte(parti)	(cirpa)			
learn-part/ial				
cir pra	52 2 1		cir' pai	54 2 4
cirzo durzo	(cirdu)			
scissors-do		/CIODru), not /ciODru/.		
cirzondru	16 8n1	add cio; +'20	cio' dru	46 4 1

ckano mordu	(ckamo)		
kind-more			
cka mro	52 0 1	cka' mro	52 0 1
ckemi(kemdi) basni	(ckeaba)		
chemical/ly-basis/ic			
kem basni	33 2 8	kem bas'ni	33 2 8
ckemi(kemdi) sensi	(ckesensi)		
chemical/ly-science			
kem sensi	33 2 8	kem sen'si	33 2 8
ckemi(kemdi) sensi madzo	(ckesenma)		
chemical/ly-science-make		sen to senti;	
kem sne dzo	78 2 1 1	use ses.	kem ses' mao
ckemi(kemdi) spada(ponda)	(kespa)		
chemical/ly-respond			
kem ponda	33 2 8	kem po'a	50 2 3
ckemo merli	(ckeme)		
time-measure(r)			
cke merli	32 0 8	cke' mei	50 0 4
ckemo nu potri(hutri)	(ckemnupo)		
time--destroy	Should hu after r be 'wh'?		
cke nur hutri	52 0 2 8	cke nur' hui	77 0 2 4
ckemo pento(penta)	(ckepe)		
time-point(ed)			
cke pento	32 0 8	cke pe'a	47 0 3
ckemo plizo	(kepli)		
time-use			
cke pli	56 0 0	cke' pli	56 0 0
ckemo rando(fando)	(ckera)		
time-end			
cke fando	32 0 8	cke' fao	50 0 4
ckemo sitfa merli	(ckesitme)		
time-position-measure(r)			
cke sti merli	49 0 1 8	cke sit' mei	77 0 2 4
clado cutse	(clacu)		
loud-say			
cal ctu	52 2 1	use cue; +"2	cla' cue
clado folma	(cladorfo)		
loud-full			
cal flo	52 2 1	cla fo'a	47 0 3
clado takna sonda	(clatakso)		
loud-talk-sound			
cal tak sonda	53 2 2 8	cla tak so'a	71 1 2 3
claso(clesi) cenja	(clace)		
without-change (to)			
clo cna	49 1 1	cle ce'a	47 0 3
claso(clesi) durzo	(cladu)		
without-do			
clo dru	49 1 1	cle' dru	52 0 1
claso(clesi) gotso	(clago)		
without-go			
clo tso	49 1 1	cle go'o	47 0 3
cliffe folma	(cliferfo)		
leaf-full			
clifenflo	16 7n1	lif r fo'a	38 2r3
clika rando(fando) sonda	(cliranso)		
like-end-sound			
cli fad sonda	52 0 2 8	cli fad so'a	71 1 2 3
clika simci	(clisi)		
like-seem			
cli simci	32 0 8	cli si'i	47 0 3

clina clika	(linli)		
line-like			
cla cli	49 1 1	lin' cli	52 2 1
clina kalpi(kopca) madzo	(linkapma)		
line-copy-make			
cla kal dzo	74 1 2 1	lin kop' mao	78 2 2 4
clina kanci(kunci)	(linka)		
line-relation			
cla kanci	28 1 8	lin' kui	54 2 4
clina korva	(linko)		
line-curve			
cla korva	28 1 8	lin ko'a	50 2 3
clina resra	(linresra)		
line-restaurant			
cla resra	28 1 8	lin res'ra	33 2 8
clivi cenja	(clice)		
live/life-change (to)			
liv cna	52 2 1	liv ce'a	50 2 3
clivi ckemo	(clike)		
live/life-time			
liv cke	55 2 0	liv' cke	55 2 0
clivi cnida	(cicni)		
live/life-need			
liv cni	55 2 0	liv' cni	55 2 0
clivi danci	(clida)		
live/life-plan			
liv danci	33 2 8	liv' dai	54 2 4
clivi danci kanci(kunci)	(clidanka)		
live/life-plan-relation			
clivindancinkanci	00 7n8n8 or livdaikui.	liv dan' kui	78 2 2 4
clivi danci setci	(clidanse)		
live/life-plan-set			
liv dan setci	53 2 2 8 or livdaisei.	liv dan' sei	78 2 2 4
clivi danci tisra	(clidanti)		
live/life-plan-select			
livdantisra	53 2 2 8 or livdaitia.	liv dan' tia	78 2 2 4
clivi folma	(clifo)		
live/life-full			
liv flo	52 2 1	liv fo'a	50 2 3
clivi garko(harko)	(cliga)		
live/life-shelter			
liv harko	33 2 8	liv' hao	54 2 4
clivi kanmo	(clikanmo)		
live/life-able			
liv kanmo	33 2 8	liv kan'mo	33 2 8
clivi ratci(patce)	(clira)		
live/life-device			
clivinratci	00 7n8	liv pa'e	50 2 3
clivi satci madzo	(clisatma)		
live/life-start-make			
liv sat madzo	53 2 2 8	liv sac' mao	78 2 2 4
clivi sensi	(clisensi)		
live/life-science			
liv sensi	33 2 8	liv sen'si	33 2 8
clivi sensi madzo	(clisenma)		
live/life-science-make			
liv sne dzo	78 2 1 1	liv ses' mao	78 2 2 4
clivi turka	(clitu)		
live/life-work			
liv turka	33 2 8	liv' tua	54 2 4

clivi turka stise	(clitusti)		
live/life-work-stop			
liv tur stise	53 2 2 7	or livtuasti.	liv tur' sti 85 2 2 0
clivu(cluva) bivdu	(clibi)		
love-behave/ior			
clu bivdu	32 0 8		clu' biu 50 0 4
clivu(cluva) djimi(jmite)	(cliji)		
love-meet			
clu jmi	56 0 0		clu' jmi 56 0 0
clivu(cluva) mildo	(climi)		
love-mild			
clu mildo	32 0 8		clu mil'do 32 0 8
clivu(cluva) tifru	(cliti)		
love-offer			
clu tifru	32 0 8		clu tif'ru 32 0 8
clivu(cluva) to puctu(pucto)	(clitorpu)		
love--push			
clu tor puctu	52 0 2 8		clu tor' puo 77 0 2 4
clivu(cluva) totco	(clito)		
love-touch			
clu totco	32 0 8		clu' tco 52 0 1
cmalo bendu	(cmabe)		
small-band			
cma bendu	32 0 8		cma be'u 47 0 3
cmalo bilti	(cmabi)		
small-beautiful			
cma bilti	32 0 8		cma bi'i 47 0 3
cmalo cenja	(cmace)		
small-change (to)			
cma cna	52 0 1		cma ce'a 47 0 3
cmalo kanli(canli)	(cmaka)		
small-quantity			
cma cnu	52 0 1		cma' cai 50 0 4
cmalo dampa	(cmada)		
small-pump			
cma dampa	32 0 8		cma dam'pa 32 0 8
cmalo fruta	(mafru)		
small-fruit			
cma fru	56 0 0		cma' fru 56 0 0
cmalo kusfa(hasfa)	(cmaku)		
small-house			
cma hasfa	32 0 8		cma ha'a 47 0 3
cmalo korma(horma)	(cmako)		
small-horse			
cma horma	32 0 8		cma ho'a 47 0 3
cmalo madzo	(cmama)		
small-make			
cma dzo	52 0 1		cma' mao 50 0 4
cmalo naldi	(cmana)		
small-nail			
cma naldi	32 0 8		cma nal'di 32 0 8
cmalo naldi durzo	(cmanaldu)		
small-nail-do			
cma nal dru	78 0 2 1		cma nal' dru 78 0 2 1
cmalo nu renro	(cmanunre)		
small--throw			
cma num renro	52 0 2 8	use nun; +12	cma nun re' o 75 0 2 3
cmalo sitci	(cmasi)		
small-city			
cma sitci	32 0 8	no suffix.	cma sit'ci 32 0 8

cmalo takna	(cmata)		
small-talk			
cmata takna	32 0 8	cmata ta'a	47 0 3
cmalo troku	(cmaro)		
small-rock			
cmata tro	56 0 0	cmata' tro	56 0 0
cmalo vrici	(cmari)		
small-river			
cmata vri	56 0 0	cmata' vri	56 0 0
cmeni djadi(djudi)	(medja)		
money-judge			
cme djudi	32 0 7	cme' dju	56 0 0
cmeni kerju	(cmeke)		
money-care			
cme kerju	32 0 8	cme ke'u	47 0 3
cmeni plizo	(mepli)		
money-use			
cme pli	56 0 0	cme' pli	56 0 0
cmeni veslo	(cmeve)		
money-contain(er)			
cme vlo	52 0 1	cme ve'o	47 0 3
cmiza ckemo	(cmike)		
fun-time			
cmizancke	20 7n0	cmi' cke	56 0 0
cmiza donsu	(cmido)		
fun-give			
miz dzu	52 2 1	cmi do'u	47 0 3
cmiza madzo	(cmima)		
fun-make			
miz dzo	52 2 1	cmi' mao	50 0 4
cnida cmalo madzo	(cnicmama)		
need-small-make			
cni cma dzo	79 0 0 1	cni cma' mao	75 0 0 4
cnida filmo	(cnifi)		
need-feel			
cni filmo	32 0 8	cni' fio	50 0 4
cnida folma	(cnifo)		
need-full			
cni flo	52 0 1	cni fo'a	47 0 3
cninu madzo	(cnima)		
new-make			
cfi dzo	52 0 1	cnu' mao	46 1 4
cninu merji fumna	(cnimerfu)		
new-marry/ied-woman			
cfi mer fumna	52 0 2 8	cnu mer' fua	73 1 2 4
cninu nu madzo	(cninurma)		
new--make			
cfi nur dzo	78 0 2 1	cnu nur' mao	73 1 2 4
cninu plizo madzo	(cniplima)		
new-use-make			
cfi pli dzo	79 0 0 1	cnu pli 'mao	72 1 0 4
cninu pluma	(niplu)		
new-feather			
cfi pluma	32 0 7 or /cnuLUa/	cnu' lua	46 1 4
cnire(snire) bleka	(nible)		
near-look			
sni ble	56 0 0	sni' ble	56 0 0
cnire(snire) clivi	(nirci)		
near-live/life			
sni clivi	28 1 7	sni li'i	44 1 3

cnire(snire) kamla	(nirka)		
near-come			
sni kamla	32 0 8	sni ka'a	47 0 3
cnire(snire) kanli(canli)	(cnika)		
near-quantity			
sni cnu	52 0 1	sni' cai	50 0 4
colku clika	(cokli)		
silk-like			
colkuncli	20 8n0	col' cli	55 2 0
comtu claso(clesi)	(comla)		
(a)shame(d)-without			
com clo	52 2 1	com' cle	55 2 0
comtu madzo	(cotma)		
(a)shame(d)-make			
com dzo	52 2 1	cot' mao	54 2 4
	or comrmao.		
condi cutri rutma	(concutru)		
deep-water-route			
con cut rutma	53 2 2 8	con cut' rua	78 2 2 4
	or concuirua.		
condi madzo	(conma)		
deep-make			
con madzo (NDZ bad)	33 2 8	con' mao	54 2 4
condi parte(parti)	(conpa)		
deep-part/ial			
con pra	52 2 1	con' pai	54 2 4
condi penso	(conpe)		
deep-think			
con penso	33 2 8	con pe'o	50 2 3
condi plata	(copla)		
deep-plate			
con pla	55 2 0	con' pla	55 2 0
condi plata kanli(canli)	(conplaka)		
deep-plate-quantity			
con pla cnu	81 2 0 1	con pla' cai	78 2 0 4
	(coblo)		
condu(hanco) bloda			
hand-hit			
han blo	55 2 0	han' blo	55 2 0
condu(hanco) cavle	(conca)		
hand-shovel			
han cavle	33 2 8	han cav'le	33 2 8
condu(hanco) donsu	(condo)		
hand-give			
han donsu (NDZ bad)	33 2 8	han do'u	50 2 3
condu(hanco) durzo	(hancorzo)		
hand-do			
han dru	52 2 1	han' dru	52 2 1
condu(hanco) jokla	(conjo)		
hand-clock			
han jokla	33 2 8	han jok'la	33 2 8
condu(hanco) kanli(canli)	(conka)		
hand-quantity			
han cnu	52 2 1	han' cai	54 2 4
condu(hanco) larte	(conla)		
hand-art			
han larte	33 2 8	han la'e	50 2 3
condu(hanco) siltu	(consi)		
hand-shake			
han sli	52 2 1	han' siu	54 2 4
condu(hanco) to puctu(pucto)	(contorpu)		
hand--push			
han tor puctu	53 2 2 8	han tor' puo	78 2 2 4

corta cenja	(corce)			
short-change (to)				
cor cna	52 2 1		cor ce'a	50 2 3
corta ckemo	(corke)			
short-time				
cor cke	55 2 0		cor' cke	55 2 0
corta cutse	(corcu)			
short-say				
cor ctu	52 2 1	use cue; + ⁿ 4	cor' cue	54 2 4
corta dzozo(hozda)	(codzo)			
short-hose				
cor hozda	33 2 8		cor hoz'da	33 2 8
corta lerci	(corle)			
short-letter				
cor lerci	33 2 8		cor ler'ci	33 2 8
corta madzo	(corma)			
short-make				
cor dzo	52 2 1		cor' mao	54 2 4
corta vetci	(corve)			
short-event				
cor vetci	33 2 8		cor' vei	54 2 4
corta kanvi(vizka)	(corka)			
short-see				
cor vizka	33 2 8		cor' via	54 2 4
corta resta(zbuma) tarmu	(cotzbuma)			
short-explode-weapon				
cor zbu tru	81 2 0 1		cor zbu ta'u	76 2 0 3
crano forma	(crafo)			
smile-form(al)				
cra fro	52 0 1		cra' fro	52 0 1
crina folma	(crifo)			
rain-full				
cri flo	52 0 1		cri fo'a	47 0 3
cteki papre	(ctepa)			
tax-paper				
cte papre	32 0 8		cte' pre	52 0 1
ctifu donsu	(ctido)			
material-give				
cti dzu	52 0 1		cti do'u	47 0 3
ctifu ganta manta(monca)	(ctiganma)			
material-high-mountain				
cti gan monca	52 0 2 8		cti gan mo'a	75 0 2 3
ctifu katli	(ctika)			
material-quality				
cti kla	52 0 1		cti' kai	50 0 4
ctifu manta(monca)	(ctima)			
material-mountain				
cti Monca	32 0 8		cti mo'a	47 0 3
cupri clika	(cupli)			
copper-like				
cup cli	55 2 0		cup' cli	55 2 0
cutci durzo	(cuctu)			
shoe-do				
cuc dru	52 2 1		cuc' dru	52 2 1
cutci lakse	(cutla)			
shoe-wax				
cutcinlakse	00 8n8	KS non-init; +6	cuc lak'se	33 2 8
cutci madzo	(cutma)			
shoe-make				
cuc madzo (CDZ bad)	33 2 8	CM ok if 4; +12	cuc' mao	54 2 4

cutci stadi	(custa)			
shoe-stage				
cutcinsta	20 8n0	C/S bad.	cuc' r sta	43 2r0
cutri clika	(cutli)			
water-like				
cut cli	55 2 0		cut' cli	55 2 0
cutri clika madzo	(cutlikma)			
water-like-make				
cut cli dzo	81 2 0 1		cut cli' mao	78 2 0 4
cutri durzo	(curdu)			
water-do				
cutrindru	16 8n1		cui' dru	46 4 1
cutri folma	(cutfo)			
water-full				
cut flo	52 2 1		cut fo'a	50 2 3
cutri koldu(holdu)	(cutko)			
water-hole				
cut holdu	33 2 8		cut ho'u	50 2 3
cutri kuvga	(cutku)			
water-cover(ed)				
cut kuvga	33 2 8		cut' kua	54 2 4
cutri rutma	(cutru)			
water-route				
cutrinrutma	00 8n8		cut' rua	54 2 4
cutri satci	(cutsa)			
water-start				
cutrinsatci	00 8n8	TS & TC init.	cut r sat'ci	20 2r8
cutri vapra(vapro)	(cudva)			
water-gas				
cut vapra	33 2 8		cut' vao	54 2 4
cutse papre	(cutpa)			
say-paper				
ctu papre	28 1 8	use cus.	cus' pre	52 2 1
cutse tradu	(cutra)			
say-true				
ctu tra	52 1 0		cus' tra	55 2 0

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dakli bivdu	(dalbi)			
probable-behave/ior				
dak bivdu	33 2 8		dak' biu	54 2 4
dakli numcu	(dalnu)			
probable-number				
dak numcu	33 2 8		dak nu'u	50 2 3
dakli tisra	(dalti)			
probable-select				
dak tsi	52 2 1		dak' tia	54 2 4
damni dirci(dirco)	(damdi)			
down-direction				
dam dri	52 2 1	use dio; + ⁴	dam' dio	54 2 4
damni gotso	(damgo)			
down-go				
dam tso	52 2 1		dam go'o	50 2 3
damni madzo	(danma)			
down-make				
dam dzo	52 2 1		dam' r mao	60 2r4
damni parte(parti)	(danpa)			
down-part/ial				
dam pra	52 2 1		dam' pai	54 2 4

dampa durzo	(damdu)			
pump-do				
dampandru	16 8n1	lose dap; -*26	damp' r dru	16 6r1
danci grupa	(dagru)			
plan-group				
dan gru	55 2 0	or daigru.	dan' gru	55 2 0
danci madzo	(dacma)			
plan-make				
dan madzo (NDZ bad)	33 2 8		dan' mao	54 2 4
danci tcure	(datcu)			
plan-picture				
dan tcu	55 2 0	or daitcu.	dan' tcu	55 2 0
danci tcure madzo	(dantcuma)			
plan-picture-make				
dan tcu dzo	81 2 0 1		dan tcu' mao	78 2 0 4
danri ro pernu	(danrorpe)			
ordinary-many-person:	Bad met: danrnpeu or rordanrnpeu.			
danrinror pernu	26 8n2 8		danr n ror pe'u	49 6n2 3
dante blada	(dabla)			
tooth-blade				
dat bla	55 2 0		dat' bla	55 2 0
dante folma	(danfo)			
tooth-full				
dat flo	52 2 1		dat fo'a	50 2 3
dante klini madzo	(danklina)			
tooth-clean-make				
dat klinimdz	52 2 7m1		dat klin' r mao	50 2 5r4
darli gotso	(dargo)			
away-go				
dar tso	52 2 1		dar go'o	50 2 3
darli prano	(dapra)			
away-run				
dar prano	33 2 7		dar pra'no	33 2 7
darli stolo	(dasto)			
away-remain				
dar sto	55 2 0		dar' sto	55 2 0
denli natli	(delna)			
day-night				
denlimnatli	00 8m8		del' nai	54 2 4
denli sanpa	(densa)			
day-sign				
den sanpa	33 2 8	restore saa; -"2	del sa'a	50 2 3
denli sanpa srite	(densanri)			
day-sign-write/ing				
den san srite	53 2 2 8	& san; +"4	del san' sri	85 2 2 0
denro frezi madzo	(denfrema)			
danger(ous)-free-make				
denronrez dzo	52 8n2 1		den rez' mao	78 2 2 4
denro mordu	(denmo)			
danger(ous)-more				
denromro	16 8n1		den' mro	52 2 1
detri(detra) detri(detra)	(derde)			
daughter-daughter				
detrindetri	00 8n8	use der; +12	der de'a	50 2 3
detri(detra) sonta(sunho)	(detso)			
daughter-son				
det sno	52 2 1	use suo; +*2	der' suo	54 2 4
dipri filmo	(dipfi)			
precious-feel				
dip filmo	33 2 8		dip' fio	54 2 4

dipri mordu	(dipmo)			
precious-more				
dip mro	52 2 1		dip' mro	52 2 1
dirci(dirco) donsu	(dirdo)			
direction-give				
dri dzu	49 1 1		dir do'u	50 2 3
dirci(dirco) gotso	(dirgo)			
direction-go				
dri tso	49 1 1		dir go'o	50 2 3
dirci(dirco) jaglo	(dirja)			
direction-angle				
dri jaglo	28 1 8		dir' jao	54 2 4
ditcu(citlu) folma	(dicfo)			
detail-full				
cit flo	52 2 1		cil fo'a	50 2 3
ditka sitfa	(ditsi)			
bite-position				
ditkansti	16 8n1	ok if 4; +12	dit' sia	54 2 4
ditlu(targo) folma	(ditfo)			
argue-full				
dit flo	52 2 1		tag fo'a	50 2 3
ditlu(targo) stise	(disti)			
argue-stop				
dit stise	33 2 7	or taosti.	tag' sti	55 2 0
ditlu(targo) stise madzo	(distisma)			
argue-stop-make				
dit stisemdzo	52 2 7m1		tag sti' mao	78 2 0 4
djadi(djudi) grupa	(jagru)			
judge-group				
jud gru	55 2 0		dju' gru	56 0 0
djadi(djudi) spasi	(djadispa)			
judge-space				
jud spa	55 2 0		dju' spa	56 0 0
djale durzo	(djadu)			
ring-do				
djalendru	16 7n1	use jal; +*26	jal' dru	52 2 1
djano cutse	(djacu)			
know(ledge)-say				
dja ctu	52 0 1	use cue; +"3	dja' cue	50 0 4
djano damni	(djadamni)			
know(ledge)-down				
dja damni	32 0 8		dja dam'ni	32 0 8
djano donsu	(djado)			
know(ledge)-give				
dja dzu	52 0 1		dja do'u	47 0 3
djano fildi	(djafi)			
know(ledge)-field				
dja fildi	32 0 8	use fii; +*21	dja fi'i	47 0 3
djela forli(fotli)	(djefo)			
healthy-strong				
djelanfotli	00 7n8	use jel.	jel' foi	54 2 4
djela bilti	(djebi)			
healthy-beautiful				
djelanbilti	00 7n8		jel bi'i	50 2 3
djeta prali	(djera)			
owe-profit				
jet prali	33 2 7	use jet.	jet pra'li	33 2 7
djeta letci	(djele)			
owe-let/permit				
jet letci	33 2 8	+*4	jet' lei	54 2 4

djeta prali brato	(djepraba)			
owe-profit-ratio				
jet pal brato	53 2 2 7	+*1	jet ral' rao	78 2 2 4
djeta madzo	(djema)			
owe-make				
jet madzo	33 2 8	+*4	jet' mao	54 2 4
djeto(dedjo) durna	(djedu)			
finger-adorn				
dje durna	32 0 8	use dej.	dej' dua	54 2 4
djeto(dedjo) janto	(djeja)			
finger-hunt				
dje janto	32 0 8	NT non-init; +6	ded jan'to	33 2 8
djeto(dedjo) sanpa durzo	(djesandu)			
finger-sign-do		restore san;		
dje san dru	78 0 2 1	+*3	ded san' dru	81 2 2 1
djeto(dedjo) to puctu(pucto)	(djetorpu)			
finger--push		dejtorpuo has weak PTs;		
dje tor puctu	52 0 2 8	use ded.	ded tor' puo	78 2 2 4
djeto(dedjo) totco	(djetotco)			
finger-touch				
dje totco	32 0 8		ded' tco	52 2 1
djimi(jmite) ckozu	(jimko)			
meet-cause				
jmi cko	56 0 0		jmi' cko	56 0 0
djimi(jmite) cutse	(jimcu)			
meet-say				
jmi ctu	52 0 1	use cue; +*3	jmi' cue	50 0 4
djimi(jmite) gotso	(djigo)			
meet-go				
jmi tso	52 0 1		jmi go'o	47 0 3
djimi(jmite) takna	(jimta)			
meet-talk				
jmi takna	32 0 8		jmi ta'a	47 0 3
djine forma	(djifo)			
join(t)-form(al)				
dji fro	52 0 1		dji' fro	52 0 1
djine grupa	(djigrupa)			
join(t)-group				
dji gru	56 0 0		dji' gru	56 0 0
djine kakto	(djika)			
join(t)-act(ion)				
dji kakto	32 0 8		dji' kao	50 0 4
djine kakto setci	(djikakse)			
join(t)-act(ion)-set				
dji kak ste	78 0 2 1	or djikaosei.	dji kak' sei	77 0 2 4
djine madzo	(djima)			
join(t)-make				
dji dzo	52 0 1		dji' mao	50 0 4
djine parte(parti)	(djipa)			
join(t)-part/ial				
dji pra	52 0 1		dji' pai	50 0 4
djine setci	(djise)			
join(t)-set				
dji ste	52 0 1		dji' sei	50 0 4
djine setci cenja	(djisetce)			
join(t)-set-change (to)				
dji ste cna	75 0 1 1	or djiseicea.	dji set ce'a	75 0 2 3
djine setci madzo	(djisetma)			
join(t)-set-make				
dji ste dzo	75 0 1 1	or djiseimao.	dji set' mao	77 0 2 4

djine sitfa	(djisi)		
join(t)-position			
dji sti	52 0 1	dji' sia	50 0 4
djino(vinjo) clika	(jinli)		
wine-like			
vin cli	55 2 0	vin' cli	55 2 0
djino(vinjo) ctifu	(jinti)		
wine-material			
vin cti	55 2 0	vin' cti	55 2 0
	or vintiu.		
djino(vinjo) ctifu madzo	(jintifma)		
wine-material-make			
vin cti dzo	81 2 0 1	vin cti' mao	78 2 0 4
	or vintiumao.		
djino(vinjo) ctifu podju(proju)	(jintifpo)		
wine-material-produce			
vin cti pro	85 2 0 0	vin cti' pro	85 2 0 0
	or vintiupro.		
djino(vinjo) ctifu veslo	(jinctive)		
wine-material-contain(er)			
vin cti vlo	81 2 0 1	vin cti ve'o	76 2 0 3
	or vintiuveo.		
djino(vinjo) madzo	(jinma)		
wine-make			
vin madzo (NDZ bad)	33 2 8	vin' mao	54 2 4
djino(vinjo) nu djela	(djnudje)		
wine--healthy	Bad met.; use vinjo malbi ->	vinmalbi	
vinjomnur djela	26 8m2 7	vin r nur je'a	64 2r2 3
djipo mordu	(jipmo)		
important-more			
jip mro	52 2 1	jip' mro	52 2 1
djipo simci	(jipsi)		
important-seem			
jip simci	33 2 8	jip si'i	50 2 3
djipo simci mordu	(djisicmo)		
important-seem-more			
jip simcinmro	52 2 8n1	jip sii' mro	72 2 3 1
	use sii; +*3		
djitu folma madzo	(djifolna)		
tight-full-make			
jit flo dzo	78 2 1 1	jit fol' mao	78 2 2 4
	(djiturma)		
djitu madzo			
tight-make			
jit madzo	33 2 8	jit' mao	54 2 4
	(djito)		
djitu torni			
tight-twist			
djituntorni	00 7n8	jit r tor'ni	20 2r8
	(djosa)		
djora(jorta) sanpa			
hour-sign			
jor sanpa	33 2 8	jor sa'a	50 2 3
	restore saa; -"2		
djori cenja	(djoce)		
member-change (to)			
djo cna	52 0 1	djo ce'a	47 0 3
	(djoka)		
djori kakto			
member-act(ion)			
djo kakto	32 0 8	djo' kao	50 0 4
	(djoma)		
djori madzo			
member-make			
djo dzo	52 0 1	djo' mao	50 0 4
	(josma)		
djoso madzo			
sew-make			
djosomdzo	16 7m1	jos' mao	54 2 4
	ok if 4; +12		
	(josmatci)		
djoso matci			
sew-machine			
djosonmatci	00 7n8	jos' mai	54 2 4
	ok if 4; +12		