

## PROPH Profile

Filename: AG  
02-15-2004  
Word List: C:\CP\CP10\HAPP-3.WDL Hodson Assessment of Phonological Patterns-T

## Diacritics

`	aspirated	<	fronted	(	rounded
>	backed	+	junction	=	unaspirated
\$	denasalized	-	lateralized	!	uncertain
^	dentalized	:	lengthened		unreleased
-	derhotacized	*	nasal emission	)	unrounded
.	devoiced	~	nasalized	/	voiced
#	frictionalized	'	palatalized	&	weakened
°	word-final sound produced only when next word has initial vowel				

	Gloss	Target	Transcription	Code
1	basket	bæskIt	baIgå	
2	boats	boUts	boUt	
3	candle	kændəl	aIgå	
4	chair	tʃɛr	[ɛɔ	
5	clouds	klaUdz	aU	
6	cowboy hat	kaUboIhæt	aUohæt	
8	feather	fɛðɔr	faIjɔ	
9	fish	fIʃ	fIʃ	
10	flower	flaUwɔr	faUwä	
11	fork	fɔrk	fok	
12	glasses	glæsIz	daIjä	
13	glove	glɒv	dɒf	
14	gum	gʌm	dä	
15	hanger	hæɔr	hegä	
16	horse	hɔrs	hos	
17	ice cubes	aIskjubz	aIsu	
18	jumping	dʒɒmpIɪŋ	[a	
19	leaf	lif	i	
20	mask	mæsk	mäs	
21	music box	mju:zIkbäks	mIjobä	
23	page	peIdʒ	beI:	
24	plane	pleIn	beI	
25	queen	kwIn	i	
26	rock	ræk	wäk	
27	screwdriver	skru:draIvɔr	udaIɔ	
29	shoe	ʃu	[u	
30	slide	slaId	sä	
31	smoke	smoUk	oU	
32	snake	sneIk	eI	
33	soap	soUp	soUp	
34	spoon	spun	u	
35	square	skwɛr	ɛɔ	
36	star	stär	ö	
37	string	strIɪŋ	[I	
38	swimming	swImIɪŋ	ImI	
39	television	tɛlɒvIzən	äjovijɔ	
42	toothbrush	tuθbrʌʃ	ubä	
43	truck	trʌk	[ɒk	
44	vase	veIs	feIs	

45	watch	wätʃ	wö
46	yoyo	joUjoU	joUjoU
47	zip	zIp	sIp
48	crayons	kreɔnz	ä
49	black	blæk	bäk
50	green	grIn	di
51	yellow	jeləU	äjä
52	three	θri	i
53	thumb	θʌm	fö
54	nose	noUz	noU
55	mouth	maUθ	maU

Total Word Types 50  
Total Word Tokens 50  
Type-Token Ratio 1.00

## Variability Analysis

Number of repeated words, showing same error	0
Number of repeated words, all produced correctly	0
Number of repeated words, showing different errors	0
Number of repeated words, one or more produced correctly	0
Number of repeated words	0
Variability index	-----

## Homonymy Analysis

Number of homonymous forms	1
Number of phonetic forms	48
Ratio of homonymous forms	47.0
Proportion of homonymous forms	0.02

Number of homonymous types	3
Number of lexical types	50
Ratio of homonymous types	15.7
Proportion of homonymous types	0.06

## Independent Analyses

## Inventory of Word Shapes

C	0	0.0%	
V	10	20.0%	Syllable Structure Level
CV	12	24.0%	(Paul & Jennings, 1992)
VC	0	0.0%	Level 1 = 11
CVC	13	26.0%	Level 2 = 18
CnV	0	0.0%	Level 3 = 21
CnVC	0	0.0%	SSL = 2.20
VCn	0	0.0%	
C(n)VCn	0	0.0%	
2-syllable	11	22.0%	
3-syllable	3	6.0%	
4-syllable	1	2.0%	
5-syllable	0	0.0%	
6+-syllable	0	0.0%	

Inventory of Stress Patterns		
S	35	70.0%
Ss	9	18.0%
Sss	1	2.0%
Ssw	1	2.0%
Sw	2	4.0%
Sws	1	2.0%
Ssws	1	2.0%
Stress Pattern Types 7		Stress Pattern Tokens 50

Inventory of Vowel Phones										
Back Series	u	5	o	3	ô	3	ä	17		
Front Series	i	5	I	6	e	1				
Central Series	a	1	α	5	ŋ	2				
Diphthongs	aI	6	aU	4	eI	3	eI:	1	εα	2
	oU	6								
Rhotic Series										
Vowel Types 16		Vowel Tokens 70								

Inventory of Consonant Phones									
Initial									
Singletons (listed by place of articulation)									
Stops	b	6	d	5	g	1			
Vibrants									
Nasals	m	4	n	1					
Fricatives	f	6	s	3	ʃ	5	h	2	
Affricates									
Glides	w	2	j	3					
Liquids									
Clusters									
Medial									
Singletons (listed by place of articulation)									
Stops	b	1	g	3					
Vibrants									
Nasals									
Fricatives	v	1	s	1	h	1			
Affricates									
Glides	w	1	j	5					
Liquids									
Clusters									
Final									
Singletons (listed by place of articulation)									
Stops	p	2	t	2	k	4			
Vibrants									

Nasals						
Fricatives	f	1	s	3	ʃ	1
Affricates						
Glides						
Liquids						
Clusters						
	Consonant Types		Consonant Tokens			
Initial						
singletons		8				31
clusters		3				7
Medial						
singletons		4				6
clusters		3				7
Final						
singletons		6				13
clusters		0				0
All Positions						
singletons		15				50
clusters		0				14
all phones		15				64

## Relational Analyses

Word Shape Target Analysis			
Matches	46.0%	23	
Monosyllabic	16.0%	8	23.5% of all monosyllabic shapes
CV		1	
CVC		7	
Multisyllabic	30.0%	15	93.8% of all multisyllabic shapes
2-syllable		11	
3-syllable		3	
4-syllable		1	
Mismatches	54.0%	27	
Monosyllabic	52.0%	26	76.5% of all monosyllabic shapes
CVC-->CV		7	
CVC-->V		1	
CnV-->V		1	
CnVC-->CV		4	
CnVC-->CVC		3	
CnVC-->V		6	
C(n)VCn-->CVC		2	
C(n)VCn-->V		2	
Multisyllabic	2.0%	1	6.3% of all multisyllabic shapes
2-syllable-->CVC		1	

Stress Pattern Target Analysis			
Matches	88.0%	44	62.5% of all multisyllabic words
S		34	
Ss		4	
Sss		1	
Ssw		1	
Sw		2	
Sws		1	

Sws		1	
Mismatches	12.0%	6	37.5% of all multisyllabic words
Sw-->S		1	
Sw-->Ss		5	

Vowel Target Analysis

Back Series			
u (+)	5		
u->I	1		
U	-		
o	-		
ô	-		
@	-		
ä (+)	2		
ä->ô	2		
Front Series			
i (+)	4		
I (+)	5		
I->ø	1		
I->i	1		
I->ä	2		
I->α	1		
e	-		
ε->aI	1		
ε->ä	2		
ε->εα	2		
æ->aI	3		
æ->e	1		
æ->ä	3		
Central Series			
a	-		
}	-		
α (+)	4		
α->ä	3		
∅ (+)	2		
∅->a	1		
∅->ä	2		
∅->ô	1		
Diphthongs			
aI (+)	2		
aI->ä	1		
oI->o	1		
aU (+)	4		
eI (+)	3		
eI->eI:	1		
eα->ä	1		
oU (+)	6		
oU->ä	1		
Rhotic Series			
3	-		
σ	-		
ôr->o	2		

Percentage of Vowels Correct: 37/71 = 52.1%  
 Percentage of Vowels Correct Ignoring Diacritics: 38/71 = 53.5%

Consonant Target Analysis

	C-	-C-	-C		C-	-C-	-C
Stops				Affricates			
p (+)	0	0	2	tf->f	1	0	0
p->b	1	0	0	tf->ø	0	0	1
b (+)	2	0	0	dʒ->f	1	0	0
b->ø	0	1	0	dʒ->ø	0	0	1
t (+)	0	0	1	Glides			
t->ø	2	0	1	w (+)	1	1	0
d->ø	0	0	1	j (+)	1	1	0
k (+)	0	0	4	j->ø	1	0	0
k->ø	2	0	2	Liquids			
g->d	1	0	0	l->ø	1	0	1
Vibrants				l->j	0	2	0
ʀ	-	-	-	r->ø	0	0	7
π	-	-	-	r->w	1	0	0
R	-	-	-	Clusters			
Nasals				tr->f	1	0	0
m (+)	2	1	0	dr->d	0	1	0
m->ø	0	0	2	kr->ø	1	0	0
n (+)	1	0	0	gr->d	1	0	0
n->ø	0	0	5	θr->ø	1	0	0
ñ	-	-	-	pl->b	1	0	0
n->g	0	1	0	bl->b	1	0	0
n->ø	0	0	3	kl->ø	1	0	0
Fricatives				gl->d	2	0	0
φ	-	-	-	fl->f	1	0	0
β	-	-	-	sp->ø	1	0	0
f (+)	3	0	0	st->ø	1	0	0
f->ø	0	0	1	sk->g	0	1	0
v (+)	0	1	0	sk->s	0	0	1
v->f	1	0	1	sm->ø	1	0	0
v->g	0	1	0	sn->ø	1	0	0
θ->f	1	0	0	sw->ø	1	0	0
θ->ø	0	0	1	sl->s	1	0	0
ð->j	0	1	0	kw->ø	1	0	0
s (+)	1	0	2	mj->m	1	0	0
s->j	0	1	0	str->f	1	0	0
z->ø	0	0	2	skr->ø	1	0	0
z->j	0	1	0	skw->ø	1	0	0
z->s	1	0	0	ts->t	0	0	1
ʃ (+)	1	0	1	ks->ø	0	0	1
ʃ->ø	0	0	1	dz->ø	0	0	1
Z->j	0	1	0	bz->ø	0	0	1
x	-	-	-	mp->ø	0	1	0
t	-	-	-	nd->g	0	1	0
h (+)	2	1	0	nz->ø	0	0	1
				skj->s	0	1	0
				kb->b	0	1	0
				θbr->b	0	1	0

Percentage Consonants Correct

	Correct	Total	% Occurrence	% Correct
Stops	9	20	17.2%	45.0%
Vibrants	0	0	0.0%	----
Nasals	4	15	12.9%	26.7%
Fricatives	12	26	22.4%	46.2%
Affricates	0	4	3.4%	0.0%
Glides	4	5	4.3%	80.0%

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Liquids	0	12	10.3%	0.0%
[Clusters	0	34	29.3%	0.0%]
Cluster Elements	10	73	----	13.7%
PCC	39	155		25.2%
Early 8	20	46		43.5%
Middle 8	11	48		22.9%
Late 8	8	61		13.1%
PCC-Revised	39	155		25.2%
PCC-Adjusted	39	155		25.2%
Severity Adjective (Shriberg & Kwiatkowski, 1982)				Severe
Articulation Competence Index (Shriberg, 1993)				12.6
Phonological Mean Length of Utterance (Ingram & Ingram, 2001)				3.80
Maximum possible PMLU				7.62
Proportion of Whole Word Proximity (Ingram & Ingram, 2001)				49.87

Error Breakdown				
Substitutions	17		19.5%	
Omissions				
singletons	36		41.4%	
entire cluster	16		18.4%	
cluster element	18		20.7%	
Distortions	0		0.0%	
Additions	0		0.0%	
Total Errors	87			

Phonological Process Analysis				
Process Description	Gloss	Transcription		
# Reduplication (A multi-syllable production different from the target where the syllables are phonetically identical, e.g., [baba] for «bottle», [nʌnʌ] for «tummy». The target form must be multisyllabic.)				
—Total—				
Occ	0	Opp	21	0% Process Usage 86% Other Errors 14% Correct
# Velar Assimilation (The substitution of a velar consonant in a word containing a velar target sound, e.g., [gʌk] for «duck», [gæɡʌn] for «wagon», [gæjʌm] for «vacuum».)				
nd→g	3			candle aIɡä
—Total—				
Occ	1	Opp	25	4% Process Usage 92% Other Errors 4% Correct
# Nasal Assimilation (The substitution of a nasal consonant in a word containing another nasal, whether correctly produced or substituted for another phone, e.g., [nʌn] for «sun», [mæmiz] for «matches», [neʌ] for «snake».)				
—Total—				
Occ	0	Opp	19	0% Process Usage 100% Other Errors 0% Correct
* Consonant Sequences/Clusters Omission Omission of a consonant cluster/sequence or replacement by a consonant singleton or by a cluster/sequence containing fewer consonants, e.g., bl→b, sw→s, spl→p.				
—Initial—				

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kl→ø	5	clouds	aU	
fl→f	10	flower	faUwä	
gl→d	12	glasses	daIjä	
	13	glove	dʌf	
mj→m	21	music box	mIjobä	
pl→b	24	plane	beI	
kw→ø	25	queen	i	
skr→ø	27	screwdriver	udaIɡʌ	
sl→s	30	slide	sä	
sm→ø	31	smoke	oU	
sn→ø	32	snake	eI	
sp→ø	34	spoon	u	
skw→ø	35	square	εα	
st→ø	36	star	ô	
str→[	37	string	[I	
sw→ø	38	swimming	ImI	
tr→[	43	truck	[ʌk	
kr→ø	48	crayons	ä	
bl→b	49	black	bäk	
gr→d	50	green	di	
θr→ø	52	three	i	
Occ	35	Opp	24	146% Process Usage 0% Other Errors 0% Correct
—Medial—				
sk→g	1	basket	baIɡä	
nd→g	3	candle	aIɡä	
skj→s	17	ice cubes	aIsu	
mp→ø	18	jumping	[a	
kb→b	21	music box	mIjobä	
dr→d	27	screwdriver	udaIɡʌ	
θbr→b	42	toothbrush	ubä	
Occ	10	Opp	9	111% Process Usage 0% Other Errors 0% Correct
—Final—				
ts→t	2	boats	boUt	
dz→ø	5	clouds	aU	
bz→ø	17	ice cubes	aIsu	
sk→s	20	mask	mäs	
ks→ø	21	music box	mIjobä	
nz→ø	48	crayons	ä	
Occ	10	Opp	6	167% Process Usage 0% Other Errors 0% Correct
—Total—				
* Strident	33/22	Nonstrident	22/17	
Occ	55	Opp	39	141% Process Usage 0% Other Errors 0% Correct
* Prevocalic Singleton Consonant Omission (I)				
—Initial—				
j→ø	51	yellow	äjä	
k→ø	3	candle	aIɡä	
	6	cowboy hat	aUohät	
l→ø	19	leaf	i	
t→ø	39	television	äjʌvIjə	
	42	toothbrush	ubä	
Occ	6	Opp	28	21% Process Usage 29% Other Errors 50% Correct
—Total—				
Occ	6	Opp	28	21% Process Usage 29% Other Errors 50% Correct
* Intervocalic Singleton Consonant Omission (M)				
—Medial—				
b→ø	6	cowboy hat	aUohät	
Occ	1	Opp	14	7% Process Usage 57% Other Errors 36% Correct
—Total—				
Occ	1	Opp	14	7% Process Usage 57% Other Errors 36% Correct

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* Postvocalic Singleton Consonant Omission (F)						
Final						
d <sub>1</sub> →∅	23	page	beI:			
d→∅	30	slide	sä			
f→∅	19	leaf	i			
k→∅	31	smoke	oU			
	32	snake	eI			
m→∅	14	gum	dä			
	53	thumb	fô			
n→∅	24	plane	beI			
	25	queen	i			
	34	spoon	u			
	39	television	äjavija			
	50	green	di			
tf→∅	45	watch	wô			
t→∅	1	basket	baIgå			
z→∅	12	glasses	daIjä			
	54	nose	noU			
θ→∅	55	mouth	maU			
f→∅	42	toothbrush	ubä			
n→∅	18	jumping	{a			
	37	string	{I			
	38	swimming	ImI			
Occ 21	Opp 32	66% Process Usage	3% Other Errors	31% Correct		
Occ 21	Opp 32	66% Process Usage	3% Other Errors	31% Correct		

≡ Liquid (l) Class Deficiencies (I) (M)						
Initial						
bl→>b	49	black	bäk			
fl→>f	10	flower	faUwä			
gl→>d	12	glasses	daIjä			
	13	glove	dɒf			
kl→>∅	5	clouds	aU			
l→>∅	19	leaf	i			
pl→>b	24	plane	beI			
sl→>s	30	slide	sä			
Occ 8	Opp 8	100% Process Usage	0% Other Errors	0% Correct		
Medial						
l→>j	39	television	äjavija			
	51	yellow	äjä			
Occ 2	Opp 2	100% Process Usage	0% Other Errors	0% Correct		
Occ 10	Opp 10	100% Process Usage	0% Other Errors	0% Correct		

≡ Liquid (r) Class Deficiencies (I) (M)						
Initial						
gr→>d	50	green	di			
kr→>∅	48	crayons	ä			
r→>w	26	rock	wäk			
skr→>∅	27	screwdriver	udaIgå			
str→>	37	string	{I			
tr→>	43	truck	{ɒk			
θr→>∅	52	three	i			
Occ 7	Opp 7	100% Process Usage	0% Other Errors	0% Correct		
Medial						
dr→>d	27	screwdriver	udaIgå			
θbr→>b	42	toothbrush	ubä			
Occ 2	Opp 2	100% Process Usage	0% Other Errors	0% Correct		
Occ 9	Opp 9	100% Process Usage	0% Other Errors	0% Correct		

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≡ Nasal Class Deficiencies						
Initial						
sm→>∅	31	smoke	oU			
sn→>∅	32	snake	eI			
Occ 2	Opp 6	33% Process Usage	17% Other Errors	50% Correct		
Medial						
mp→>∅	18	jumping	{a			
nd→>g	3	candle	aIgå			
n→>g	15	hanger	hegä			
Occ 3	Opp 4	75% Process Usage	0% Other Errors	25% Correct		
Final						
m→>∅	14	gum	dä			
	53	thumb	fô			
nz→>∅	48	crayons	ä			
n→>∅	24	plane	beI			
	25	queen	i			
	34	spoon	u			
	39	television	äjavija			
	50	green	di			
n→>∅	18	jumping	{a			
	37	string	{I			
	38	swimming	ImI			
Occ 11	Opp 11	100% Process Usage	0% Other Errors	0% Correct		
Occ 16	Opp 21	76% Process Usage	5% Other Errors	19% Correct		

≡ Glide Class Deficiencies						
Initial						
j→>∅	51	yellow	äjä			
kw→>∅	25	queen	i			
mj→>∅	21	music box	mIjobä			
skw→>∅	35	square	ɛə			
sw→>∅	38	swimming	ImI			
Occ 5	Opp 7	71% Process Usage	0% Other Errors	29% Correct		
Medial						
skj→>s	17	ice cubes	aIsu			
Occ 1	Opp 3	33% Process Usage	0% Other Errors	67% Correct		
Final						
Occ 0	Opp 0	---- Process Usage	---- Other Errors	---- Correct		
Occ 6	Opp 10	60% Process Usage	0% Other Errors	40% Correct		

≡ Anterior Strident Class Deficiencies						
Initial						
skr→>∅	27	screwdriver	udaIgå			
skw→>∅	35	square	ɛə			
sm→>∅	31	smoke	oU			
sn→>∅	32	snake	eI			
sp→>∅	34	spoon	u			
st→>∅	36	star	ô			
sw→>∅	38	swimming	ImI			
Occ 7	Opp 16	44% Process Usage	31% Other Errors	25% Correct		
Medial						
sk→>g	1	basket	baIgå			
s→>j	12	glasses	daIjä			
v→>g	27	screwdriver	udaIgå			
z→>j	21	music box	mIjobä			
Occ 4	Opp 6	67% Process Usage	17% Other Errors	17% Correct		
Final						
bz→>∅	17	ice cubes	aIsu			
dz→>∅	5	clouds	aU			
f→>∅	19	leaf	i			

ks→∅	21 music box	mIjobä				
nz→∅	48 crayons	ä				
ts→t	2 boats	boUt				
z→∅	12 glasses	daIjä				
	54 nose	noU				
Occ 8	Opp 12	67% Process Usage	17% Other Errors	17% Correct		
Total						
Occ 19	Opp 34	56% Process Usage	24% Other Errors	21% Correct		
≡ Palatal Strident Class Deficiencies						
Initial						
Occ 0	Opp 3	0% Process Usage	67% Other Errors	33% Correct		
Medial						
Z→j	39 television	äjavija				
Occ 1	Opp 1	100% Process Usage	0% Other Errors	0% Correct		
Final						
d <sub>1</sub> →∅	23 page	beI:				
tf→∅	45 watch	wô				
f→∅	42 toothbrush	ubä				
Occ 3	Opp 4	75% Process Usage	0% Other Errors	25% Correct		
Total						
Occ 4	Opp 8	50% Process Usage	25% Other Errors	25% Correct		
≡ Velar Class Deficiencies						
Initial						
gl→d	12 glasses	daIjä				
	13 glove	dŋf				
gr→d	50 green	di				
g→d	14 gum	dä				
kl→∅	5 clouds	aU				
kr→∅	48 crayons	ä				
kw→∅	25 queen	i				
k→∅	3 candle	aIgå				
	6 cowboy hat	aUohät				
skr→∅	27 screwdriver	udaIgå				
skw→∅	35 square	ɛɑ				
Occ 11	Opp 11	100% Process Usage	0% Other Errors	0% Correct		
Medial						
kb→b	21 music box	mIjobä				
skj→s	17 ice cubes	aIsu				
Occ 2	Opp 3	67% Process Usage	33% Other Errors	0% Correct		
Final						
ks→∅	21 music box	mIjobä				
k→∅	31 smoke	oU				
	32 snake	eI				
sk→s	20 mask	mäs				
Occ 4	Opp 8	50% Process Usage	0% Other Errors	50% Correct		
Total						
Occ 17	Opp 22	77% Process Usage	5% Other Errors	18% Correct		
≡ Other Class Deficiencies						
Initial						
sp→∅	34 spoon	u				
str→	37 string	I				
st→∅	36 star	ô				
t→∅	39 television	äjavija				
	42 toothbrush	ubä				
θr→∅	52 three	i				
Occ 6	Opp 13	46% Process Usage	38% Other Errors	15% Correct		
Medial						
b→∅	6 cowboy hat	aUohät				
mp→∅	18 jumping	a				

nd→g	3 candle	aIgå				
θbr→b	42 toothbrush	ubä				
Occ 4	Opp 8	50% Process Usage	50% Other Errors	0% Correct		
Final						
bz→∅	17 ice cubes	aIsu				
dz→∅	5 clouds	aU				
d→∅	30 slide	sä				
t→∅	1 basket	baIgå				
θ→∅	55 mouth	maU				
Occ 5	Opp 9	56% Process Usage	11% Other Errors	33% Correct		
Total						
Occ 15	Opp 30	50% Process Usage	33% Other Errors	17% Correct		
# Glottal Stop Replacement						
A glottal stop is substituted for any phoneme.						
Initial						
sp→∅	34 spoon	u				
str→	37 string	I				
st→∅	36 star	ô				
t→∅	39 television	äjavija				
	42 toothbrush	ubä				
θr→∅	52 three	i				
Occ 6	Opp 47	13% Process Usage	62% Other Errors	26% Correct		
Medial						
nd→g	3 candle	aIgå				
θbr→b	42 toothbrush	ubä				
Occ 2	Opp 20	10% Process Usage	70% Other Errors	20% Correct		
Final						
t→∅	1 basket	baIgå				
θ→∅	55 mouth	maU				
Occ 2	Opp 46	4% Process Usage	74% Other Errors	22% Correct		
Total						
Occ 10	Opp 113	9% Process Usage	68% Other Errors	23% Correct		
# Stopping						
A stop consonant is substituted for a continuant consonant. Stopping is not scored for affricates because they already contain a stop.						
Initial						
Occ 0	Opp 20	0% Process Usage	55% Other Errors	45% Correct		
Medial						
n→g	15 hanger	hegä				
v→g	27 screwdriver	udaIgå				
Occ 2	Opp 11	18% Process Usage	55% Other Errors	27% Correct		
Final						
Occ 0	Opp 27	0% Process Usage	89% Other Errors	11% Correct		
Total						
Occ 2	Opp 58	3% Process Usage	71% Other Errors	26% Correct		
# Fronting						
An anterior consonant is substituted for a posterior consonant.						
Initial						
g→d	14 gum	dä				
gl→d	12 glasses	daIjä				
	13 glove	dŋf				
gr→d	50 green	di				
Occ 4	Opp 13	31% Process Usage	54% Other Errors	15% Correct		
Medial						
Occ 0	Opp 3	0% Process Usage	67% Other Errors	33% Correct		
Final						
Occ 0	Opp 11	0% Process Usage	64% Other Errors	36% Correct		
Total						
Occ 4	Opp 27	15% Process Usage	59% Other Errors	26% Correct		

# Backing						
A posterior consonant is substituted for a strident or nonstrident anterior consonant.						
Initial						
Occ	0	Opp	23	0%	Process Usage	61% Other Errors 39% Correct
Medial						
v→g				27	screwdriver	udaIɣɑ
nd→g				3	candle	aIɣä
Occ	2	Opp	14	14%	Process Usage	71% Other Errors 14% Correct
Final						
Occ	0	Opp	23	0%	Process Usage	78% Other Errors 22% Correct
Total						
Occ	2	Opp	60	3%	Process Usage	70% Other Errors 27% Correct
# Gliding						
A glide is substituted for any other consonant.						
Initial						
r→w				26	rock	wäk
Occ	1	Opp	43	2%	Process Usage	74% Other Errors 23% Correct
Medial						
l→j				39	television	äjavijɑ
				51	yellow	äjä
δ→j				8	feather	faijɑ
s→j				12	glasses	daijɑ
z→j				21	music box	mIjɔbä
Z→j				39	television	äjavijɑ
Occ	6	Opp	14	43%	Process Usage	43% Other Errors 14% Correct
Final						
Occ	0	Opp	41	0%	Process Usage	76% Other Errors 24% Correct
Total						
Occ	7	Opp	98	7%	Process Usage	70% Other Errors 22% Correct
# Liquid Deletion (Vowelization) (F)						
A vowel is substituted for a vocalic liquid in dialects that include that liquid.						
Final						
r→ø				4	chair	{εɑ
				8	feather	faijɑ
				10	flower	faUwä
				15	hanger	hegä
				27	screwdriver	udaIɣɑ
				35	square	εɑ
				36	star	ö
l→ø				3	candle	aIɣä
Occ	8	Opp	8	100%	Process Usage	0% Other Errors 0% Correct
Total						
Occ	8	Opp	8	100%	Process Usage	0% Other Errors 0% Correct
# Metathesis						
Consonants or whole syllables are transposed.						
Initial						
Occ	0	Opp	0	----	Process Usage	---- Other Errors ---- Correct
Medial						
Occ	0	Opp	1	0%	Process Usage	100% Other Errors 0% Correct
Final						
Occ	0	Opp	1	0%	Process Usage	100% Other Errors 0% Correct
Total						
Occ	0	Opp	2	0%	Process Usage	100% Other Errors 0% Correct
# Migration						
Initial						

Occ	0	Opp	2	0%	Process Usage	100% Other Errors	0% Correct
Medial							
Occ	0	Opp	0	----	Process Usage	---- Other Errors	---- Correct
Final							
Occ	0	Opp	6	0%	Process Usage	33% Other Errors	67% Correct
Total							
Occ	0	Opp	8	0%	Process Usage	50% Other Errors	50% Correct
# Affrication							
Initial							
Occ	0	Opp	5	0%	Process Usage	60% Other Errors	40% Correct
Medial							
Occ	0	Opp	3	0%	Process Usage	100% Other Errors	0% Correct
Final							
Occ	0	Opp	9	0%	Process Usage	56% Other Errors	44% Correct
Total							
Occ	0	Opp	17	0%	Process Usage	65% Other Errors	35% Correct
# Deaffrication							
Initial							
tʃ→{				4	chair	{εɑ	
dʒ→{				18	jumping	{a	
Occ	2	Opp	2	100%	Process Usage	0% Other Errors	0% Correct
Medial							
Occ	0	Opp	0	----	Process Usage	---- Other Errors	---- Correct
Final							
Occ	0	Opp	2	0%	Process Usage	100% Other Errors	0% Correct
Total							
Occ	2	Opp	4	50%	Process Usage	50% Other Errors	0% Correct
# Palatalization							
Initial							
Occ	0	Opp	2	0%	Process Usage	50% Other Errors	50% Correct
Medial							
Occ	0	Opp	2	0%	Process Usage	100% Other Errors	0% Correct
Final							
Occ	0	Opp	4	0%	Process Usage	50% Other Errors	50% Correct
Total							
Occ	0	Opp	8	0%	Process Usage	63% Other Errors	38% Correct
# Depalatalization							
Initial							
r→w				26	rock	wäk	
Occ	1	Opp	6	17%	Process Usage	50% Other Errors	33% Correct
Medial							
Occ	0	Opp	2	0%	Process Usage	50% Other Errors	50% Correct
Final							
Occ	0	Opp	11	0%	Process Usage	91% Other Errors	9% Correct
Total							
Occ	1	Opp	19	5%	Process Usage	74% Other Errors	21% Correct
# Prevocalic Voicing (I)							
Initial							
p→b				23	page	beI:	
pl→b				24	plane	beI	
Occ	2	Opp	28	7%	Process Usage	75% Other Errors	18% Correct
Total							
Occ	2	Opp	28	7%	Process Usage	75% Other Errors	18% Correct
# Prevocalic Devoicing (I)							
Initial							
v→f				44	vase	feIs	

z-->s	47 zip		sIp				
Occ 2	Opp 13	15% Process Usage	46% Other Errors	38% Correct			
Total							
Occ 2	Opp 13	15% Process Usage	46% Other Errors	38% Correct			
# Postvocalic Devoicing (F)							
Final	13 glove		dOf				
v-->f	Occ 1	Opp 18	6% Process Usage	94% Other Errors	0% Correct		
Total							
Occ 1	Opp 18	6% Process Usage	94% Other Errors	0% Correct			
# Epenthesis							
Initial							
Occ 0	Opp 19	0% Process Usage	100% Other Errors	0% Correct			
Medial							
Occ 0	Opp 2	0% Process Usage	100% Other Errors	0% Correct			
Final							
Occ 0	Opp 1	0% Process Usage	100% Other Errors	0% Correct			
Total							
Occ 0	Opp 22	0% Process Usage	100% Other Errors	0% Correct			
# Additions							
Initial							
Occ 0	Opp 0	---- Process Usage	---- Other Errors	---- Correct			
Medial							
Occ 0	Opp 0	---- Process Usage	---- Other Errors	---- Correct			
Final							
Occ 0	Opp 0	---- Process Usage	---- Other Errors	---- Correct			
Total							
Occ 0	Opp 0	---- Process Usage	---- Other Errors	---- Correct			
# Frontal Lisp							
Initial							
Occ 0	Opp 11	0% Process Usage	91% Other Errors	9% Correct			
Medial							
Occ 0	Opp 4	0% Process Usage	100% Other Errors	0% Correct			
Final							
Occ 0	Opp 10	0% Process Usage	80% Other Errors	20% Correct			
Total							
Occ 0	Opp 25	0% Process Usage	88% Other Errors	12% Correct			
# Lateral Lisp							
Initial							
Occ 0	Opp 14	0% Process Usage	86% Other Errors	14% Correct			
Medial							
Occ 0	Opp 5	0% Process Usage	100% Other Errors	0% Correct			
Final							
Occ 0	Opp 14	0% Process Usage	79% Other Errors	21% Correct			
Total							
Occ 0	Opp 33	0% Process Usage	85% Other Errors	15% Correct			
# Other Sibilant Distortions							
Initial							
Occ 0	Opp 5	0% Process Usage	60% Other Errors	40% Correct			
Medial							
Occ 0	Opp 3	0% Process Usage	100% Other Errors	0% Correct			
Final							
Occ 0	Opp 8	0% Process Usage	63% Other Errors	38% Correct			
Total							
Occ 0	Opp 16	0% Process Usage	69% Other Errors	31% Correct			

# Fricative place shifts							
Initial							
ø-->f	53 thumb		fô				
Occ 1	Opp 1	100% Process Usage	0% Other Errors	0% Correct			
Medial							
Occ 0	Opp 1	0% Process Usage	100% Other Errors	0% Correct			
Final							
Occ 0	Opp 1	0% Process Usage	100% Other Errors	0% Correct			
Total							
Occ 1	Opp 3	33% Process Usage	67% Other Errors	0% Correct			
# Other Substitutions & Distortions							
Initial							
Medial							
Final							
Total							
Occ 0	Opp --	---- Process Usage	---- Other Errors	---- Correct			
# Other Deletions							
Initial							
Medial							
Final							
Total							
Occ 0	Opp --	---- Process Usage	---- Other Errors	---- Correct			
• Syllable Structure Changes - Deletions							
Sw-->S	17 jumping		{aeV				
Occ 1	Multisyllabic Opp 16	Monosyllabic Opp 34	6% Usage				
# Syllable Structure Changes - Additions							
Occ 0	Multisyllabic Opp 16	Monosyllabic Opp 34	0% Usage				