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PHONETIC SIMULTANEITY

"There is nothing sacred about the phonetic value of a symbol." (Ladefoged 1975:36)

A. INTRODUCTION

It is a fundamental principle of IPA phonetics that one symbol is to stand for only one sound. On the other hand, two sounds are also said to be simultaneous. *Simultaneity*, however, equivocates between a number of different meanings, which can easily produce category-mistakes, and we are often not clear in every particular case as to whether or not there is one sound or two. A clarification of its meaning and use in phonetics will be given.

It is shown that and how simultaneity may be used to obtain greater phonetic precision and narrow transcription. Phonetic literature is cited to show where and how this is done. Types of simultaneity discussed are: 1) simultaneity of articulation, 2) physical acoustic simultaneity, 3) pseudo-simultaneity, 4) phenomenal coalescence, 5) sequential, 6) symbolic, 7) reflexive, 8) tautology or equivalence, 9) prosodic. Specific examples of simultaneity transcription are given for fifty different languages, and examples are cited from the literature.

The symbols used are first presented, followed by an expanded IPA vowel chart to provide a standard reference source for the specific placement and understanding of vowel symbols (Shibles 1993a; for a standard articulation diagram and descriptions, see Shibles 1993bc).

B. SYMBOLS AND ABBREVIATIONS (Compare with IPA/1989 Kiel Chart for additional diacritical marks.)

additional information (or a variation)	( )	equals or tautology	=
advanced tongue root	C	even (not diphtong)	pure, even
alveolar	alv.	final	-C, -V
American pronounciation	AP	glide: a. offglide	$C^{V \text{ or } c}$, $V^{V \text{ or } C}$
apical	C	b. onglide	$^{V \text{ or } c}V$, $^{V \text{ or } c}C$
articulation	artic.	c. offglide	$[^{V}]$, $[^{C}]$
aspiration/(un-)aspirated	asp. [h] $[^{h}]$/ $[^{-h}]$	initial	C-, V-
author's artic. chart	= C+no. (e.g. [d] 7-25)	intonation	$^{1\text{-}5}$ = low-high. [ ]$^{=232}$, [ ]$^{=323}$
authors's V chart	V+no. (e.g. [Y] II 9.5)	**Bold** $^{1\text{-}12}$ = low to high tones (if $[^{3}]$ shown, other intonations are usually $[^{2}]$)	
becomes	>	IPA-S	IPA transcription by W. Shibles
(British) Received Pronounciation	RP	labialized (c.f., rounded)	[^{w} W V]
centralized V	(eg., ü) (V)	laminal	C
consonant	cons., C or $[^{C}]$	language discussed is usually in italic	
dental	C		

laryngealized		C
lateral release (c.F., stress symbol)		C^{l}
length (V or C)	half long	$V^{\backprime}$
	long	v: or $V^{\acute{}}$
	half extra long	$V^{\acute{}\backprime}$
	extra long	v:: or $V^{\acute{}\acute{}}$
	short	[V] (Compare C})
	extra short	V
	regular length	(no symbol)
linking		CV
lip(s)		L
lip protrusin		L pr.
loud-soft or soft-loud (Swedish)		
medial		-C-, -V-
nasalized		V
omitted	(Use strikethrough), e.g., (d) (-)	
palatization		pal., [^{j}], [^{i}]
pause		[.] to [.....]
pharyngealized (upper, lower) ($^{\prime}$ = ?)		phg.[$^{?}$]
phoneme or non-IPA symbol		/ /
prevoiced		C
r untrilled		r^{-tr}
raised V, C		V
range (cf., variation)		
release		V} C}
retracted T-root		C
rhoticity (Should be replaced, e.g., ã > Pˠ)		±
(less) rounded		V
(more) rounded (cf. labialited)		V
similarity		≈
simultaneity		CV
slash sign		(e.g., a/o = a or o)
spread lips		spr. L.
stress (primary)		[ˈV]
stress (secondary) (cf., syllabic)		[V]
syllabic (cf., stress)		(e.g., n) [V]
(no) syllabic break		V
syllabic break (cf., pause)		(e.g., pa.sa) [.]
tongue		T
unacceptable form (or footnote)		*
uncertainty, unintelligibility		?
usually		usu.
variation (cf., "range")		var.
velarized or phg		(e.g. d) [•]
velarization (CV preferred ^{V} = V)		vel, or [^{V}]
voiced		C
voiceless		C
vowel		V or [^{V}]

C. EXTENDED IPA-S VOWEL CHART

KEY WORDS FOR THE EXTENDED VOWEL CHART

The following key words are taken from actual transcription, as a guide for each vowel symbol. One may select one's own words suitable to one's language and dialect. Languages other than English are used for front rounded vowels because they tend not to occur in English except in dialect, emotional or dramtic usage. The schwa «, ä, ¸, Œ, è, é are not indicated because they are redundant and may be more precisely represented by centralizing other vowels as follows. Furthermore, any additional vowel can be centralized, e.g., ¿, Ï, ¿, U, etc. (See discussion of schwa below.) (For a Standard Articulation Diagram see Shibles 1993, 1993-1994.)

D. TYPES OF SIMULTANEITY

1. SIMULTANEITY IN ARTICULATION OR COARTICULATION

Two or more different types of articulation are combined at the same time. But every sound is produced by a coordination of different parts of the vocal tract. All sounds are coarticulated. By definition, voiced consonants are coarticulated, because of the addition of voice. The meaning here can be rather that a gesture is added to the one typical for a certain sound. For an account of coarticulation, see Hammarberg (1982), although it is mentalistic.

In terms of articulation, [ts] and other affricates may be considered as two consecutive gestures. Stops such as p, may be considered a p plus aspiration. Lip rounding or protrusion for vowels or consonants may be a second articulation without being a combination of two sounds. For detailed diagrams of coarticulation, see Canepari (1983).

2. PHYSICAL ACOUSTIC SIMULTANEITY

In experimental phonetics, a combination of different formants (F_1, F_2, F_3) produces one sound. From the point of view of acoustics, every wavelength may be regarded as sequential, rather than as simultaneous. Voice onset time (VOT) may be measured, though it is not heard as a voicing. On the other hand, the sound can be thought of as the simultaneity of the formants. When Turner (1973:246) says that Gullah [•] is acoustically between [s] and [S],

this can confuse articulation with acoustic meaning. It is a category-mistake to say, *We hear acoustically*. We do not hear wavelengths.

3. Pseudo Simultaneity

Two or more different sounds are heard as if they are one. Chinese and Japanese [ɻ] may be heard as [l], and these speakers tend to confuse these sounds in English. Because Japanese *r* = [ɺ], it is predictable that they also will confuse English ɻ and l. This phenomenon involves what in the philosophy of science is called *hearing-as*, hearing one sound as if it were another (cf., Hanson 1958, Shibles 1974: 445-467). We tend to actually hear the sounds of other languages in terms of our own. Our hearing is not veridical, but a metaphorization of the form, x is y.

4. Phenomenal Coalescence

This is the perceived fusion or merging of two or more sounds into one. Rather, characteristic aspects of each sound may be mixed, as in the following: (Swiss) *Land* lAnd; *dick* dIkh, *Kind* kxInt. The combination kx is often a gargle-like kX as in *lokaal* lo^{3}.kXAːl. Holmer (1962:16) says b in the Gaelic of Kintyre can be made by saying *bp* [bp], so that the b deaspirates the p, and the p devoices the b.

Whenever two sounds are mixed, we may represent them by two or more consonants (CC), or vowels (VV), or vowels and consonants (CV). Pullum & Ladusaw (1986:137) discuss È as a sound between d and l. The richness of phonetic transcription is extended in this way. This may be compared to the type of metaphor called *parataxis*, whereby an object or symbol is juxtaposed with another to reveal relationships, as is in the case with the Chinese written character. It is also like metonymy, whereby the connotations of one object or symbol are related to those of another. Analysis of metaphor and its various forms helps to explain what synonymy can mean (cf. Shibles 1971ac).

In fast speech, sounds are abbreviated or fused to represent other sounds. Conwell & Juilland (1963:34) describe different vowels *merging* into Louisiana French, *ça doit être* = sa.dwEɪ̯t. In the Wallis dialect, *Man hat Euch gesehen* is blended as /mu hedjew gsee/ (Dieth 1986:44). Difficult to pronounce sounds often coalesce (Ger. *verschmelzen*, blend or fuse), as in the Hessian dialect, *chs* > [s]; Bavarian *bm* becomes one sound in *abmagern* (Merkle 1975:10). Marti (1975:49) says that dialect has a strong tendency to sound-fusion (*Zusammenschmelzen*). Zlotchew (1974:83) shows how Puerto Rico [R] becomes h|, becomes one single consonant x: R > h| > x.

5. Sequential Simultaneity

This is an apparent oxymoron explained as two successive sounds heard to be closer in time than usual, as is the case with diphthongs, triphthongs, fast speech, onglides and offglides,

nonsyllabic sounds, e.g., [ai], and affricates. They may have begun to merge. Thus, there is a controversy as to whether or not affricates, e.g., tS, are simultaneous or successive.

The 1989 IPA-Kiel Chart states, *Affricates and double articulations can be represented by two symbols joined by a tie bar if necessary.* They give the examples: kp, ts. This equivocates between succession and simultaneity. We would be able to use the same symbol for successive sounds, e.g., diphthongs, as well as for single sounds. On that account, a diphthong could be represented as : ai, ai, ai, or ai. In my usage, the upper tie bar [ ] excludes sequential similarity. Zehetner (1970) uses [ ] rather than [ ] for simultaneous. The former is also used for sequences, e.g., dn. The symbol [ ] is often used for diphthongs which blend, as in ao, but not so much as to form one sound ao.

OED (1989) uses a hyphen to distinguish tS from t-S. tS is usually considered to represent one sound, as the *ch* in English (AP) *chair*. If tS were simultaneous, it would sound like [c]. The symbol c for tS, and jfor dZ encourage one to regard them as one sound, rather than as two. Affricates and stops were earlier considered to be sequential in terms of gesture. But they may be considered as simultaneous in terms of sound. In *I am not sure,* the sandhi *ts* may be rendered as an unaspirated t with a syllable break [t-h.S]. It is distinguished from the *ch* [tS] of *churn*. The issue of whether or not affricates are simultaneous or sequential may be resolved in this way. In terms of acoustics, the wave patterns of affricates are consecutive. Collins & Mees (1981:184) argue for sequential tj, others give simultaneous [c]. The issue of whether or not affricates are sequential is thus based on equivocation. One question is better phrased, *In what sense of 'simultaneous' can affricates be said to be simultaneous?* And one answer is that they are both simultaneous and sequential.

The rhotic ã is sometimes better represented as a sequence, for example, E¨. It may be actually a single sound ¨ as in Chinese êrh (Wade romanization) [¨], rather than ¿¨ or A¨. In addition, « being often a generic reduction of all vowels, it may not refer to an actual sound at all. If E± is a simultaneous sound, it is better represented as E¨.

German *pf* in *Pfad*, is transcribed by Duden (1974) as pfa‡t, but it may also be rendered as simultaneous pfa‡t.

6. SYMBOLIC SIMULTANEITY

Two or more phonetic symbols are combined to represent the characteristics of a single sound. Also, one symbol may be used to represent two, as in the case with retroflexes: ÿ • d¨. There are readily available methods of sound mixing other than in the experimental laboratory. For example, the MacRecorder and Sound Edit Pro software for the Macintosh computer allow sounds to be combined and altered in a great number of ways. For instance, the acoustics of the words *chair, rain, fame* and *tree* can be mixed together. These may then be compared to see what is meant by simultaneous sounds.

Long double consonants without a pause are often represented by two symbols; e.g., ss for a single sound. More appropriate is, C:, e.g., sː. Long consonants are often confused with double sounds separated by a pause. Duden (1974) gives for *essen* ˈEsn, whereas it may be Es}.sn, or Esːn. Note also: Danish *pærer* peːå.å, Norwegian p Ï ːːr.r or English (AP) *bunny* b¿n.ni.

Aspiration is symbolically represented by a superscript, e.g., pî. Is this two sounds or one? [p] is often aspirated and so left unmarked unless extra aspiration is desired. Einarsson (1945) uses [î] as if it were aspiration, whereas it is in Icelandic a separate syllabic consonant [.h.], [h], or like the aspiration in Hindi. For Icelandic *bratt*, he gives braît instead of bra.h.ᵗ. In *holl* huːdl, dl could also be represented by dÂ. In *einn* eiː.nh, nh has no nasal sound, just aspiration through the nose. In *eigir*, *r* = untrilled rS. Gaelic *cuin* may be regarded as almost one sound kvin. Aspiration can also be separate in Japanese: *kappu* kap-h.h. The h may be whispered.

One sound may be rendered by the combination of two symbols. The qualities of each may be blended to characterize one sound, as in Swedish *söndag* s { ¿n3.d0g. Resnick (1975:24-35) says that in Spanish fP is a *mixed consonant*, hr is a coarticulation, lr contains elements of both consonants which is represented by his special symbol wherein the r is printed over the l, as in *soltero* solrtero. Canfield (1981:76) reports that in Puerto Rican, l • r, but that in Venezuela, there is a *mixed* sound lr, e.g., *puerta* pwelrta, instead of the typical dictionary rendering pwer.ta. (Often Puerto Rican *r* = R.) Unrounded vowels may be combined with rounded vowels: { ¿, ¿0. Adjacent vowels can be rendered as simultaneous, but they are definitionally equivalent to diacritically modified vowels: il • i or I

Combining symbols for two sounds is not the same as combining wave patterns or two actual sounds. It is only a way of characterizing a sound. Theoretically, any symbol may be combined with any other phonetic symbol to represent a sound. IPA symbolizes palatization as Cː, e.g., tː. This is not necessarily a combination of two sounds. The symbol equivocates between palatization and the offglide Cː. Irish *ser* sE¨ː involves an ¨ which is closer to the palate than IPA ¨.

Palatization is itself vague. It seems to mean: closer than usual to the palate. Thus, we find it symbolically rendered as (C = consonant) Cⁱ, Cʸ, Cː, C (Irish), C' (Russian), etc. It is actually Ci or Cj, a simultaneous sound. The exact place and type of palatization may be symbolically specified as pˡ, pʸ, etc. Spanish [l] is said to be [i] colored because the tongue is high and concave (= [li]) (Hadlich, Holton & Montes 1968:32). The high front vowels are by definition palatized, as are consonants such as •. If they are especially close, even *close* may be said to be palatized, or may become fricative. The same remarks apply to velarization [Cˣ] or C, which may phonetically be [C¬] or [C¬]. The case is similar with

pharyngealization [C$^{?}$] or C. (IPA (1989) [ ]refers ambiguously to either velarization or pharyngealization.) Ladefoged (1971) characterizes velarization as C^{u}, and pharyngealization as C$^{A.}$ Velarization may be represented as p¬, p^{u}, p^{u}, etc. In velar vowel constrictions an *open* vowel may not be open. Open, back [A] may be close constricted, as in Irish *glasraí* [glAs.|i]. Pharyngealization is rendered, for example, as t$^{?}$, or t?. If, as for Arabic emphatics, there is both pharyngealization and velarization, we may have tV? or t$^{x?}$, although some argue that there is neither (Ferguson 1956:451-452). Collins & Mees (1981:162) argue for a single glottal and pharyngeal *h* in Dutch, therefore [h©].

7. Reflexive Simultaneity

The 1989 IPA chart states, Í = *simultaneous* S *and* x. Regarding Swedish phonetics, Í is a controversial symbol. Lindblad (1980:200) claims that it should be used to describe a sound which is on a continuum between S and x, but that there is much confusion about the sound (Witting 1954:44). Nevertheless, the sound appears to be one sound represented by two different symbols Sx. Similarly, when any sound is between two vowels, we may represent it as, for example, il.

The Swedish reflexives §, ÿ, etc., are assumed to be simultaneous combinations of the consonant plus ¨, e.g., ÿ • ¨d. In fact, these sounds are often separate, as in *snart* sno¨ʈ. The upper Swedish dialect has a sound between l and r which we may represent as lr. Viberg, Ballardini & Stjärnöf (1991:59) state, however, *The letter r combined with certain other letters is pronounced as one sound,* but notes that in some parts of the country, they are pronounced as two. Nevertheless, ¨t may differ from ʈ. If we try to say ¨ as we say a retracted t, the result is different than ¨t. They are only somewhat similar.

S^{w} does not refer to offglide [^{w}], but to the simultaneous rounding of the lips for S. *tj* and *sj* are each said to be one sound (Viberg, et al.:51). Retracted S becomes §, and if simultaneous with j, would bring it back to the position of • which is exactly how Swedish *sj* is sometimes rendered. *Sj* is rendered also as Sx. According to (Lindblad 1980:98), phoneticians are not agreed about Sx (Ibid.:98). Witting (1959:44) states, *Swedish phoneticians do not agree in their opinions of [Sx], and the subject awaits experimental investigation.* Lindblad (1980:60, 86, 98) describes it as a non-harsh, non-sibilant, voiceless, fricative, dorsovelar, S-like sound. It is like x without roughness. The tongue is raised to the rear of the palate, lips are rounded. He places Sx on the continuum [§,- §^{w}-*u* -Sx].

Following *r,— d, n, l,* and *s* become retroflex, that is, they are retracted and generally symbolized as ÿ, ʈ, =, ð, § (Lindén & Petti 1989:7, M:10-11). This is to say that the /r/ disappears as a separate sound to become simultaneous. [rd] > [ÿ] or [ɾd]. Sweet (1897:470) reports that the upper Swedish dialect thick /l/ and also *rd,* sound like an intermediate between [l] and [r], i.e., [lr], as in *flicka, gård.* (Compare Japanese [ɭɭ], and also

Chinese ¨l.) The IPA-S transcription, however, shows that these theoretically simultaneous retroflex sounds are, in fact, separate: *kort* kUÉrt\ⁿ, *lördag* l{É¨3.dOg. However, according to Sweet (1897:470), the retroflex is not used in southern Sweden. Similar considerations apply to reflexives in other languages, e.g., Norwegian.

8. TAUTOLOGY OR EQUIVALENCE

Definitional simultaneity is tautology or equivalence. We may define: - • nj, ´ • lj, wÊ•Êuo, I • i, § • S k • q, ¬ • u, · • hw. However, Kenyon & Knott (1949:xxi) report that linguists disagree about whether or not · is one sound or two. Virtually every consonant can be defined in terms of every other consonant, and any vowel can be defined in terms of any other vowel.

The definitions above are also descriptive. I is more open than i, § is more retracted than S. ¬ is the unrounded counterpart of u and may be produced in that way. Unrounded vowels may be defined as equivalent to their unrounded round counterparts, and rounded vowels are equivalent to their rounded unround counterparts: e • P O • ¿, etc. (See earlier discussion of the extended vowel chart.)

Additionally, we can see that y may vary from ito ¬. The explication of definitional equivalence reveals new relationships between symbols. If the symbols have a descriptive basis, the relationships between sounds can be clarified as well. If a phonemic description is too broad, or ideal, it becomes stipulative or arbitrary, rather than descriptive. The symbol, /r/, is used generally to include any kind of r, such as: R, r, ¨, å, Õ, È, |, Ç, etc. so as to lose its phonetic value. In this sense, /r/ does not stand for any sound at all.

9. PROSODIC SIMULTANEITY

According to the dynamic, nonsegmental *prosodic method* (Griffin 1991:182), consonants are not separate from vowels, but modifications of them. Consonants, for example, *d* may not usually be pronounced alone. Vowels affect consonants and so they are said to be coarticulated. The concept of the *regressive* (anticipatory), *progressive* (backward) and *coalescent* (reciprocal) influence or fusion of two or more sounds gives some support to the nonsegmental viewpoint (cf. Crystal 1987:164, 277). (He gives the example, *don't you* [d«UntSU].) The prosodic method is the *Ganzwortmethode*, which includes the full intonation and emotions as essential to the understanding of how words are pronounced. It is this more comprehensive cognitive-emotive aspect which is missing from phonetic transcription. Each word may be pronounced so as to render an infinite number of emotions. According to this method, to exclude the prosodic and emotive is to miss the meaning which is, after all, the point of phonetics. (For a definition and analysis of emotion see Shibles 1989a-d, 1990a-b, 1992, 1974.)

E. APPLICATION: SIMULTANEITY IN TRANSCRIPTION

1. THE LITERATURE

The following is a sampling of the usage of simultaneity in the transcription of various languages:

Bini: There is a sound between l and |, thus l| or l¨ (Ladefoged 1968:29).

Ewe: kp and gb are begun and released simultaneously (Berry 1963:12).

Ga: kp, gb, mN (Maddieson 1984:292).

German (Plausen dial.): *mal* = moal (Riemann 1961).

Gullah: tw, mp, gb, mp (Turner 1973:29).

Igbo: kp, and gb are simultaneous articulations (Ikekeonwu 1991:99).

Irish: tS and dZ are *intimate combinations*, but not single; rS and rZ are each single articulations (Henry 1957:62).

Italian: [s] has an [S] quality; [z] has a [Z] quality (Chapallaz 1979:122).

Manx: t is a single unit containing t and S (Broderick 1986).

Romanian: *ka* is between a and ¿ • a¿ (Agard & Petrescu-Dimitriu 1976).

Spanish: Nm, fP, hr, lr (Resnick 1975:29).

Swedish: The retroflex ʈ, ÿ, =, ð, § are coalescents tr, dr, etc. (Lindén & Petti 1989, Pt. 2: 7).

Vietnamese: *ông* [OmN] (Canepari 1983:95). Thompson (1965:12, 23) gives Nm, pk.

West African Languages: pt,mn, Nm, gb, kp (Ladefoged 1968). The last two are also found in Yoruba and Ewe.

<huǴ: There is a sound between n and -, presumably n- (Doke 1925:139).
f v

In the area of Speech Correction: s and z, with one letter over the other, represent simultaneous lisps (Ohde & Sharf 1992:337)

2. SIMULTANEITY IN IPA-S TRANSCRIPTION

We find in Swiss: kx, nai, gf, A•. Zawawi (1991: xvi) says that Kiswahili *a* is between [Ï] and [¿]. This may be represented as [Ï ¿]. Hentrich (1912: vi) describes ao(=[ao]) as a dark [a] bordering on [o] (*an der o-Grenze stehender dumpfer a-Laut*). Examples of simultaneity from informants and cassette tapes follow:

<Xu	"long ago"	zDaǴ.ha
Aberdeen (Scot.)	*naethin*	neETIn

Arabic	*daayman*	dE´.im¿an
	mlabbas	mñ Ï .b}. Ï s
	utiil	u.tEl
Basel (Switz.)	*Basel*	bA•zl
British (dial.)	*well*	wEwl
Chinese (Wade)	*ch'ieh*	t,.Ea
	Ju	¨lu
Czech	*brezen*	brE.zEn
	Dvorzhak	rZ
Dutch	*koel*	kXo´l
English	*class.*	kl Ï s
Farsi	*mahi*	ma0.hi
	khorma	Xor.ma0
French	*naine*	nEn´E¿
Ga	*gbe*	gbE
	gboh	gb0
	gmei	gmei
	Kpongnoh	kp0N.N¿
German	*Mutter*	mUt}.tAå
	Tube	tîu´bE¿
	Decke	dE´.ka¿
German Dialects:		
Bavarian	*geworden*	Bvon
	woaß	woas
	Woi	vw0i
	hoam	h0am
Erbstadt (Ger.)	*mein*	maon
0cf. High German	*mein*	main)
Kaiserwald	*vier*	fea
Kirchwerder	*gut*	gaot
Köln	*avjemolt*	Ï f.jl¿.m0lt
Netra (Eschwege)	*Dorf*	doa¨f
München	*geheißen*	k•asn
Penn. Dutch	*Haar*	ho´Aå

	Ohr	oɛ́Aå
	wieder	vwiɛ́da
Schönbach	*Pfalz*	foalts
Schwäbish	*Frage*	faug
	haben	hoan
	Kleider	kload¨
Steigerwald	*iwwer*	iw¿å
Greek (Mod.)	*hérete*	XSE.rE.tE
	ksidhi	ksi.Di
	ksirós	ksi.|Os
	psihrós	psiɛ́X|Os
	psomi	pso.mi
Hungarian	*Jó Napot*	joé.napOUt
	egy	Edgi, Eé.dj
Icelandic	*Gras*	grAos
	vinur	vieé.nr
	vita	vieta
Irish	*faílte*	faO.lt
	EÚireannach	Er.¿.nOaX.ho
	seacláid	SaOk.IItî
Jamaica	*shake*	Seik
Korean	"lemon"	l¨Em.¿n
Krio	*rid*	j¨Id
No. Sotho	*kgogo*	koé.go
Norwegian	*byen*	biyé.En
Portuguese	*dez*	d Ï eé.Is
Scottish	*but*	bE¿t
	glad	glae
(Glasgow)	*nine*	neu
Spanish	*rojo*	Xra.ho
Swedish	*sjuk*	Sxjuk
	söndag	s { ¿n.dOg

Swiss (Jestetten)	*hier*	heir
Swiss (Zürich)	*nei*	nai
	Pfanne	pfOn¿
	tenkt	dANkXt
	Tubak	du.bOkX
	Zweck	tsv Ï kX
Swiss (Basel)	*allewyl*	A•l¿víl
	ander	A•nd¨
	Basel	bA•zl
	Gfunde	gfUndE
Swiss (Bern)	*erwacht*	Er.ÃA•X.Et
	dich	dIkx
	-lich	IX
	kein	kXe
	sieht	gseÉt
Swiss(Bolligen)	*Heimatgfüeu*	hémat.gfýu
	Pflanz	pflants
Tswana	"grateful"	motlo.tlo
Xhosa	"please"	nléÉ.d'a
<Xu	"try"	szá
	"fly in circles"	TDau.i
	([ ]= breathy. Onomatopeic for bees.)	
Zulu	*i-oli*	íÉ.l|i

The clicks in African click languages may also be simultaneous, e.g., ²l, >l, ø/, voiced ø, ⁞k.

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