WPLC

Working Papers of the Linguistics Circle of the University of Victoria

volume 4 number 1 March 1984

WPLC

volume 4 number 1

March 1984

Working Papers
of the Linguistics Circle
UNIVERSITY OF VICTORIA

WORKING PAPERS OF THE LINGUISTICS CIRCLE
(WPLC)

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FORWARD

The Linguistic Circle of Victoria is pleased to present the latest issue of Working Papers representative of current research on language and linguistics. The Circle, under the auspices of the Department of Linguistics of the University of Victoria, includes not only members of the department, but interested scholars from other departments, from other institutions in the area, and from the community at large. An attempt it made to include in the content of each issue papers both by graduate students and by established scholars.

Because the articles published in this volume are working papers, they represent to varying degrees the authors' final views on the matter under discussion, and inclusion in WPLC does not preclude subsequent publication elsewhere. Submissions are invited from any interested reader, on the understanding that the final decision as to publication rests with the editorial board; manuscripts should adhere to the style sheet of the Canadian Journal of Linguistics.

We would like to extend to the Department of Linguistics and to the Graduate Students' Society our sincere thanks for their financial support, and to Susan Nelson our great appreciation for the hours spent in producing the final copy for this issue of WPLC.

The Editors

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George Orwell on Language

Joseph F. Kess

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Who can resist writing on George Orwell now that the year has finally come? Next year will be too late, just as last year was too early. And besides, most of what one sees about language matters in the popular press reflects some of the same concerns about public language that Orwell had. Notice I said "some of the same concerns", because Orwell knew that the real culprit in the linguistic doublespeak was insincerity and purposeful deceit, not faulty language structure. And here Orwell was streets ahead of the trivial journalese about the nature of language and public speech. The problem is not the imprecision of language, nor is it slovenly thinking because of slovenly language. In "Politics and the English Language" (in "Shooting an Elephant" and Other Essays, 1945), Orwell put the blame squarely where it belongs. Very simply, the

> great enemy of clear language is insincerity. When there is a gap between one's real and one's declared aims, one turns as it were instinctively to long words and exhausted idioms, like cuttlefish squirting out ink.

It is the purposeful manipulation of language and the malicious attempt at disinterested innocence that needs our criticism, not the inherent imprecision of words.

After all, the words are there, and they are there to be used. They are often inherently ambiguous, and difficult of definition in either their quantity or their quality. The use of old words in new contexts is the most common way the language grows in its vocabulary development. Words are like sand dunes, constantly shifting. The dune keeps shifting its position, so that one never really finds it in the same place; words do much the same thing, appearing with this nuance here and with that connotation there. And there are advantages to this system of vocabulary growth. For example, Newtonian

physics works well on the level of physical observation, but does not answer the problem presented by particle physics. The macrophysics of the universe offered by quantum mechanics and Newtonian physics stand in contradiction to one another, and so we purposely change the vocabulary of science to deal with these new developments, or to deal with two concurrently competing theories of this one aspect of human knowledge. We do this either by making up new words ('quark'), or by pressing old ones into new service ('radiation belt', 'solar storm').

Language obviously need not and often does not match up to reality in any direct fashion. For example, a sentence like 'The Russians have discovered an element lighter than hydrogen' could be something to worry about. Assuming that it is true, the entire macrophysics of the world we know could be changed, chemical valences would have to be shifted about, and so on. While those technical aspects of our lives would change dramatically, the language does not register apoplexy, nor do we. The sentence stands as as utterance whether or not it has any truth value. Even trying to rid ourselves of sentences which are not seen as true is not necessarily a laudable exercise, for how else are new hypotheses to be tried on for size without linguistically constructing the models? The elasticity of language allows us an immediate testing ground to try out all manner of new ideas in either new meanings or new words in a no-win/no-loss situation.

Indeed, this must be what the editors of the OED call our attention to when writing their introductory remarks:

> The vocabulary of a widely-diffused and highly cultivated living language is not a fixed quantity circumscribed by definite limits. That vast aggregate of words and phrases which constitutes the vocabulary of English-speaking men presents, to the mind that endeavors to grasp it as a definite whole, the aspects of one of those nebulous masses familiar to the astronomer, in which a clear and unmistakable nucleus shades off on all sides, through zones of decreasing brightness, to a dim marginal film that seems to end nowhere, but to lose itself imperceptibly in the surrounding darkness (General Explanations, Volume I, p. xxvii).

Of course, the more blatant misapplications of words we may term mistakes; when they occur off the mark in the style of Sheridan's Mrs. Malaprop or of the modern Archie Bunker, we may ridicule them as malapropisms. But other instances that are more subtle we may simply fail to register, and the words slowly shift their positions. Such linguistic misdemeanors in other circumstances, if purposefully produced and not uttered naively, might even be considered exceptionally clever. Indeed, some strive for just such linguistic effect in punning, and admirers of the Ogden Nash style would note these as creative or even clever.

The problem arises when there is a conscious attempt to use language to turn our perceptions to specific social and political ends. In such a purposefully imprecise semantic world, words can mean anything, and all too often they are twisted around to have their opposite meaning. We may look with some amusement at 1984 sloganeering like 'War is Peace', 'Freedom is Slavery', and 'Ignorance is Strength', but these paradoxical koan are not that far from the public prose that some sources now turn out at an alarming rate. And the conviction with which they are promoted makes Humpty Dumpty's ex cathedra pronouncements look mild.

> "When I use a word," Humpty Dumpty said in rather a scornful tone, "it means just what I choose it to mean -- neither more nor less."
> "The question is," said Alice, "whether you can make words mean so many different things."
> "The question is," said Humpty Dumpty, "which is to be the master -- that's all." (from Lewis Caroll, "Through the Looking Glass and What Alice Found There", London: MacMillan, 1872, p. 118)

The world boasts of 'people's republics', 'people's democracies', 'liberation movements', and a host of other 1984 semantic doubletalk niceties. Reality has itself managed to improve an Orwell's topsy-turvy tongue-in-cheek terminology; even our own society accepts an endless list of self-serving euphemisms like 'surgical strikes', 'clean bombs', 'sanction without extreme prejudice', 'dropping of ordinance on target', not to mention some well-meaning

euphemisms like 'exceptional children'. We even hire salaried professionals whose main task it is to treat language as if they were Super Bowl quarterbacks -- take the verbal ball and run with it as far as possible without being pinned down. To use Orwell's term, we have an abundance of 'doubleplus-good duckspeakers', public or institutional orators whose abilities lie solely in being able to 'make articulate speech issue from the larynx without involving the brain centers at all.'

Forty years has done little to diminish the work force in this growth industry, and the following observations from Orwell's 1945 essay on "Politics and the English Language" (in "Shooting an Elephant" and Other Essays, 1945), could just as easily have been penned as a description of world events in some quarters of the globe four days, four weeks, or four months ago.

> In our time, political speech and writing are largely the defence of the indefensible ... but only by arguments which are too brutal for most people to face, and which do not square with the professed aims of political parties. Thus political language has to consist largely of euphemism, question-begging and sheer cloudy vagueness. Defenceless villages are bombarded from the air, the inhabitants driven out into the countryside, the cattle machine-gunned, the huts set on fire with incendiary bullets: this is called pacification. Millions of peasants are robbed of their farms and sent trudging along the roads with no more than they can carry: this is called transfer of population or rectification of frontiers. People are imprisoned for years without trial, or shot in the back or the neck or sent to die of scurvy in Artic labour camps: this is called elimination of unreliable elements. Such phraseology is needed if one wants to name things without calling up mental pictures of them.

Our quarrels with public language are, or course, far less severe. And while we expect some candor and clarity in public language, we certainly need not stand passively by and allow the language to use us. The best antidote to the linguistic gymnastics of others is honing our own sense of the language so that we know what it can be used to say. This simply negates any exercise in linguistic deception, and everyone returns to square one in terms of what

is really meant. Only as long as a fish is fooled by a lure is that lure still effective; when he is no longer so gullible, one may as well troll with old tires for all the good it will do. Besides, the miscellaneous list of social problems which vex many are not language problems, they are human problems. Speaking candidly or correctly solves none of them immediately; speaking clearly might, but those who wish to lie, posture, or evade will likely still do so. And those who do not wish to accept another's views are not likely to do so with any greater alacrity because the one side has spoken clearly. The problem, one suspects, is not a linguistic one; it is a comment on the human condition.

We all know Orwell's (1945:131) description of Newspeak whose purpose

> was not only to provide a medium of expression for the world-view and mental habits proper to the devotees of Ingsoc (English Socialism), but to make all other modes of thought impossible. It was intended that when Newspeak had been adopted once and for all and Oldspeak forgotten, a heretical thought -- that is, a thought diverging from the principles of Ingsoc -- should be literally unthinkable, at least so far as thought is dependent on words.

But thinking is not exclusively dependent upon words. While it is true that language manipulations have their effect on us, they do not entirely channel our modes of cognitive behavior. They may lead -- or mislead -- us down certain paths, but the ultimate responsibility is ours. Thought and language are not the same, never have been and never will be. And besides, is there really such a place where everyone without exception says what they mean and means what they say? Unfortunately, the society we inhabit is filled with vested interests, like used-car salesmen, ad-men, public relations men, and press secretaries who are all paid to push a product rather than to make sure that all the little nuances are spelled out for us clearly and unequivocally. But, while most of us are intrigued with a society where everyone means what they say, one doubts that having everybody say what they think all the time would be Utopia.

It is true that, if there is any one issue to be concerned about in the matter of public language, it is candor and clarity in its use. In many of its uses, the public language suffers from its being the vehicle of purposeful misconception rather than communication. Correctness can always be achieved by attention to a small number of mechanical details, but prevaricating humans seem to always find a polysyllabic tree to hide behind. Some sense of linguistic outrage at the failure to call a moral spade a spade is appropriate here, for although language can always be used to deceive and manipulate, it need not be. The deliberate playing of hide-and-seek behind polysyllabic pronouncements is a worthy cause for concern, but it is ultimately our responsibility to not be taken in by the rich thesaurus of public semantics.

Then too, we are ourselves partially to blame for the florid prose which is found in such abundance. Erudition seems to be measured by polysyllabicity, and for many the verbal golden rule seems to be 'the bigger the better'. And so we get what we deserve. If we continue to tolerate, even admire, such prolixity on the part of our public and private interactions, then we are ultimately responsible for the level of language we receive. It is a romance we have with the cult of the unintelligible, and the storyline goes something like this: the more obtuse a discussion is, that is, the less we seem to understand it, and the more erudite it sounds, the more likely we are to accept it as important or valuable. On the contrary, the more the discussion is couched in plain language, the less likely we are to accept it; we will probably end up by rejecting the speaker and his notions. This is because of the quality of the words, not the quality of the message. Too often we expect people of importance to beat around the bush, to be less accessable verbally and otherwise; we look to them not so much to give answers as to fill roles, even if those roles carry empty lines.

We may be trendy and read articles and books which decry the use of flatulent bafflegab in public messages, and then do the same ourselves when we are the message-givers. We overtly decry 'bafflegab', 'gobbledygook' and 'officialese', but we commit the same sins when we are the official message-senders or message-receivers. Besides, it is so safe; if no one understands what you really mean, then no one can pin you down and you cannot be held

responsible. It is a way of promoting one's linguistic security and it in turn promises other kinds of security. The vagueness of some forms of language enables one to maintain a comfortable position, where ultimately one does no have to be held responsible for any more than he wishes to. Too many of us may be comfortable with such a linguistic position, and this linguistic phlegmaticity is probably more Orwellian in consequence than erasing a few politically naughty words from the language.

Returning to the theme that clear language and clear thinking will go hand in hand, we may be expecting too much. Many are clear thinkers in that their hard and fast choice is to use exactly that muddled speech that we find so uninformative. This is often a conscious strategy. Whether we can expect our mentors and our confreres to speak better English so we can better know what they are talking about is doubtful. We can expect it, but one doubts that is will ever occur. But even if this event comes to pass, it is not the language which will be at fault or open to praise, for its workings have always been there. It is just that we have too many individuals who avail themselves of the natural ambiguity of language more often than they need to. If there is a moral here, it is that we should teach ourselves that the criteria by which we measure the true worth of an individual's verbal contribution are not necessarily those surface characteristics by which we initially note his speech. But this is a homily which goes back to the great Christian precepts, though its antiquity does not seem to have made much impression on us. We must remind ourselves that language can be used as the great deceiver, not because of its inherent malice, but rather because of our gullible expectations about what language will tell us. Others will thus often use it in the ways our gullibility suggests they will derive the greatest benefit from. Rather than correcting their manipulative usage of the language, we may be better protected by correcting the threshold values of our gullibility factor. This is where our efforts will probably do us the most good personally, and this strategy is one that we can expect the most reasonable level of success with in this year of Orwellian consciousness-raising.

The Structure and Function of Nootkan Baby Talk[1]
Part I

by Joseph F. Kess and Anita M. Copeland

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It is some seventy years since Edward Sapir reported on 'abnormal types of speech in Nootka' (Sapir, 1915) and 'Nootka baby words' (Sapir, 1929). Since then, of course, the Nootkan languages of the West Coast of Vancouver Island have much changed, typically in the reductionist direction of morbidity; linguistics has also much changed, but in the expansionist direction of adding critical disciplines like developmental psycholinguistics. This paper attempts to make comment on both these themes, namely, the declining variety of Nootkan speech functions and the possible role of baby talk in acquisitional terms. At the outset of this research, it appeared possible that the structure and function of Nootka baby talk might provide some insight into the simplification of an elaborate phonology into manageable dimensions of transfer for very young learners. This, however, turns out to be not entirely the case, and the function of Nootka baby talk is largely one of an affective nature, while its structure is only a statistically reduced version of adult varieties.

Nootkan, actually a family of three languages, stretches from Makah, on the northwestern tip of the Olympic Peninsula of Washington State, to Nitinaht and Nootka proper on the West Coast of Vancouver Island (see L. Thompson, 1973). Nitinaht is the sourthernmost language of the Vancouver Island pair, while Nootka proper consists of a number of dialects further north on Vancouver Island. It is from Ahousaht, one of the north central dialects of Nootka proper, that the primary baby talk data is drawn with some comparative data presented from Nitinaht. Since the following discussion revolves around these two languages, plus some additional evidence from the early work by Sapir (1915; 1929), Swadesh (1933), and Sapir and Swadesh (1939) on the dialect of Port Alberni, we will use the adjectival label of 'Nootkan' in a general sense, naming the individual languages where

needed in a specific sense.

By 'baby talk', of course, is meant that special subset of the language which a language group regards as appropriate for use only to small children, and occasionally to pets, plants, and the like (see Ferguson, 1964). It is a style which is not part of the larger repertoire presented to other adults, except in certain marked situations like sarcasm, satire, or poignant speech. In its use with very young children, it may consist of a limited suppletive lexical set, phonological substitution or simplification, and morphological devices like diminutives, reduplication or affixation. Not all of these need occur, and they may occur in any combination or proportion. Some languages appear to favor one device over another, as for example, lexical suppletion in Havyaka, a dialect of Kannada (Bhat, 1967), and phonological alternation or substitution in Pitjantjatjara, a Western Desert language of Australia (see Miller, n.d.). Others seem to favour several productive processes for deriving baby talk elements; for example, Cocopa, a Yuman language, (see Crawford, 1970, 1978) favours suppletion, reduplication, and affixation, while Comanche (Casagrande, 1964) favours lexical suppletion, with occasional morphologically non-productive reduplication.

Although Nootkan, like many other languages, makes use of special intonational and paralinguistic modifications in its baby talk register, this paper does not concentrate on them, other than to notice their presence. A wider range of pitch modulation, higher pitch points reached, and on a more sustained basis, whispery or whispered exchanges and lengthening of vowels - all of these and more constitute the ways in which adult Nootkan speakers have children listen to them. It is rather the other two common baby talk categories (see Ferguson, 1964), namely, modifications of existent morphemes, words, and constructions and a special but restricted set of lexical items, that this paper concentrates on.

At first glance, the reputed simplification and 'downscripting' so commonly described in the literature on caretaker speech and 'motherese' (Snow, 1972; Garnica, 1977; Ferguson and Snow, 1975) seemed to suggest an interesting working hypothesis for Nootka phonology. Could it be possible that a language with a complicated phonology large in inventory of secondary articulations

and complex in phonotactics, would show discernible differences in the phonology of the baby talk items presented to very young children? Within the common folk wisdom appreciation of baby talk is the implied assumption that baby talk may in fact serve more than just an affective function. A common cross-cultural folk belief is that baby talk is easier for children to use, with some adults even believing that baby talk is a tuitional paradigm, presumably easier for the child to imitate and thus learn. The real question seems to be whether baby talk does fulfill didactic functions in addition to the obvious affective function which it apparently serves more for adults than for children.

One assumes, of course, that most baby talk is taught to children by adults, rather than the other way around. The success rates that very young children have even with their own words when played back suggests too much variety across children to expect uniformity for lexical items right across the developmental population. The interesting question, then, is whether adults simplify the words in some uniform fashion in a way that anticipates the adults' perceived difficulties inherent in a potential hierarchical ranking of the phonolgy. If this is so, it is equally evident that such adult versions must employ impressions of how young language learners in their experience appear to simply simplify.

Our working hypothesis was prompted not only by such folk wisdom but by Ferguson's (1964:109) observation that :

> baby-talk words either as modifications of normal words or as special lexical items show certain general characteristics. In the first place, baby-talk items consist of simple, more basic kinds of consonants, stops and nasals in particular, and only a very small selection of vowels. One would expect that the rarer, more peculiar consonants or the consonants which tend to be learned later would not be found in baby talk...

He goes on (p.110) to say that:

> the child may, and often does, create his monoremes from other sources such as sound imitation or fragments of adult utterances, but the baby-talk items tend to be one of the principal sources. The baby-talk lexicon of a language community may thus play a special role in the linguistic development of its children...

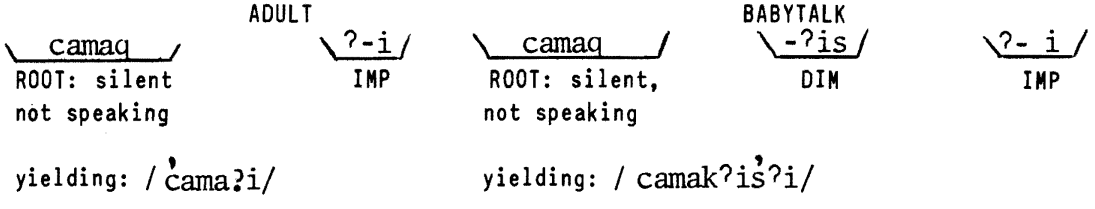
Thus, we tried to collect as complete an inventory of Nootka baby talk items as possible in order to compare them with the phonology of regularized lexical items. One speculates that some interesting differences may be found in the direction of simplification. Though any realistic discussion as to what is phonologically 'difficult' or phonologically 'easy' in the hierarchy of speech sounds is problematic, because of combinatory factors, one can argue that sounds which are considered more 'marked', such as the glottalized series, are likely to be more complex in an articulatory sense as well. These more complex phones might be expected to be absent, or at least less common, in baby talk.

This notion of simplification in baby talk is not entirely without precedent. Bhat (1967), in discussing the Havyaka dialect of Kannada, notes a simplified inner system as the result of such suppletion, with the features of length and nasalization avoided in baby talk words, as well as an absence of fricatives, laterals, and retroflex sounds. In Nootka, there are glottalized and labio-velarized stop consonants, which, because of their secondary articulations may then objectively be more difficult than simple stop consonants. Similarly, in classic derivational theory of complexity terms, one might have even expected that the glottalized labio-velarized stop series would be the most difficult, the latest in acquisition, and consequently absent from the baby talk inventory. Other possibilities suggest themselves. For example, there are both velar and uvular points of articulation (/k/ and /q/) in Nootka, and one might expect that the distinction in points of articulation might be neutralized, with a single Jakobsonian velar-uvular choice being the case. The same might be expected of the glottal-pharyngeal dichotomy for both stops (/ ʔ / and / ʕ /) and fricatives (/h/ and /ḥ/), the laryngealized series for the resonants (/m̓ n̓ y̓ w̓/ versus /m n y w/), and so forth. Reduction to a smaller set of vowels does not really arise in

Ahousaht, since there are only three basic vowels in the set; whether or not length appears is, however, worthy of attention. It is with anticipatory questions like these in mind that the lexical inventory was collected.

Most students of baby talk have concentrated only on the language spoken by adults to children, and this study also aimed to do so. It is difficult, however, to determine which of the forms may have been spoken ABOUT children instead of TO children. This potential complication may account for the presence of certain very complex articulations in the corpus. Pharyngeals, for instance, may be present in the sample in forms used about or around children, and have been gathered erroneously. In order to determine if this is indeed the case, it may be necessary to revisit.

As far as morphological devices in Nootka baby talk are concerned, there does not appear to be any specific baby talk affix, nor any specific inflectional affixes as such. The diminutive form does see great use in speech to or about children, and might even be counted as being more or less tied to this style. Sapir (1915) also noted the customary addition of the diminutive suffix /-ʔis/ when speaking to or about children, on verbs and other forms, commenting that 'even though the word so affected connotes nothing intrinsically diminutive; affection may also be denoted by it' (Sapir, 1915:3). This diminutive has variants /-ic/ and /-is/ (Swadesh, 1933) which were used widely by our Ahousaht informant. In one case our consultant used the diminutive process productively rather than the baby talk lexical item that had been previously recorded by Sapir and Swadesh (1939). This loss may be reflective of the reduction of stylistic variety in a declining Nootka speech community, or less likely, simply the restricted currency of the form gathered by Sapir and Swadesh. The form gathered by Sapir and Swadesh meaning 'be quiet' was / ʔahoˑ /. Our elicitation produced / camakʔiẍʔi / for the baby talk form - derived from the adult form as can be seen below:



It is evident that / camak?iš?i / is more complex than the suppletive form gathered earlier by Sapir and Swadesh. One interesting phonological characteristic of baby talk form is that the glottalization present in the suffix is blocked in the baby talk form, but is not blocked in the adult form. This may be the result of the diminutive suffix, or a conscious effort to keep complicated phonological elements like glottalization out of the child forms. This notion of simplification is addressed further in the section on phonology, but looking ahead, it seems safe to say that this is not the case.

Our consultant produced one form demonstrating some confusion over how suffixes are used productively in baby talk. The baby talk form was generated with an apparent disregard for normal rules of suffixation. Compare the adult and baby talk forms for 'lie down' below.

ADULT

čitk	pi(ɬ)	?-i·	č	i
ROOT: 'prone'	PERF	IMP	PL	'go to do.it'

yielding: / čitkpi?iči/

BABY TALK

čitk	pi(ɬ)	*ičuɬ*	?ic	?-i·
ROOT: 'prone'	PERF	*perfective	DIM	IMP

yielding: / čitkpi?iču·c?i /

The extra perfective, /*-ičuɬ /, is aberrant. This is rather unusual in Nootka, and gives the impression that the informant may have been trying a novel way of getting all of the information into the form, without exhibiting due regard for the normal rules of suffixation. The additional perfective suffix in the baby talk form could stem from a confusion between the combination of the imperative and plural suffixes / -?i·-č- / and the diminutive /-?ic-/ (Suzanne Rose, personal communication).

In addition to these diminutives, there is another suffix which appears

to be used as a diminutive or to express endearment. This form /-ǰaǰ /, could probably be loosely translated as 'dear little one'. It is not reported in the earlier literature, either as a root or suffix of any kind; the only form which bears even the slightest resemblance, / ḥaɬma /, a root meaning 'dear little girl' in the vocative, is found in Sapir and Swadesh (1939) Nootka Texts, but the resemblance is not strong.

An example of /- ǰaǰ / is seen in the following pair for 'no!', where adult and baby talk forms may be contrasted.

ADULT		BABY TALK		
wik		wik	ʔis	ǰaǰ
ROOT: 'no, not'		ROOT:'no, not'	DIM	endearment?
yielding: / wik /		yielding: / wikiʔiš ǰaǰ /		

It may be possible that the / ǰaǰ / form is not actually affixed, but is separated by a juncture and is a separate root. If this form is related to the stand-alone vocative / ḥaɬma /, it is likely that is has the same function. Since /- ǰaǰ / was not gathered in a large number of instances, further evidence is needed.

Turning to the lexical inventory itself, one notes that such lexical baby talk items typically number under a hundred in most languages and are drawn form specific areas that very young children can be expected to talk about or relate to. These fixed baby talk forms are widely recognized as forms used only with children, and do not include forms which have much less currency in the speech community or which are used only within one family group. Nootka is no different in having its baby talk inventory drawn from areas dealing with kin terms, bodily functions, warnings, attention-getting devices, and names for animals, play, and familiar objects, as well as those qualities used to describe them. Not all slots in all such categories have baby talk forms. For example, some kin terms do not have baby talk forms, while others do. For example, Ahousaht has the adult form /naniq / for 'grandparent', and /nan/ or /nani/ for the baby talk form, but has

DATA SET

⊕ denotes a suppletive babytalk form, unrelated to any adult variant with the same meaning.

GLOSS	AHOUSAHT ADULT	AHOUSAHT BABYTALK	NITINAHT ADULT	NITINAHT BABYTALK
Eating				
EAT	ha?uk̓in; ha?uk^{w}in	k̓^{w}ina k̓^{w}ina pa·paš	ha?uke·idicx̌	⊕ma·ma
SUCKLE		k̓^{w}ink̓^{w}ina		k̓^{w}ink̓^{w}ina
DRINK	naqšiƛ	⊕maḥmaḥ	daqšiƛ	⊕ma, maḥ
WATER	ča·ak	⊕maḥ		⊕maḥ
GOOD-TASTING	čimp̓aɬ	?ax?um?is	čabsapɬ	
Playtime				
TOY	ka·kana	ka·kana		⊕la·la·
SMILE!	cimḥ	⊕kakuku		
CLAP HANDS	ƛ̓uḥƛ̓uḥa	ƛ̓uḥƛ̓uḥ	ƛ̓apx̌i·ɬk^{w}	
BOO!	hu	?ix̌		?u?
HI!	?a?a·	?a·x̌ax̌		
JUMP	tux^{w}šiƛ	tux^{w}	?ackatši ƛ̓	?ack
MONSTER	č̓iḥ?ik			⊕ma·?a·
Toilet Terms and Private Parts				
DIRTY	?ašx̌mis	?a·?a·tis	?ašx̌abs	?ix̌

GLOSS	AHOUSAHT ADULT	AHOUSAHT BABYTALK	NITINAHT ADULT	NITINAHT BABYTALK
DEFECATE (GENERAL)	ḥicmis	čismis	šab	hum
DEFECATE (MASC.)	ẇaẇik	⊕ṗuṗ; ṗuṗik		
DEFECATE (FEM.)	łučkik	⊕ṗuṗ; ṗuṗik		
URINATE (MASC.)	ʔuqckʷi	kuxʷ		ṫi•š (Cowichan)
URINATE (FEM.)	tiskin	tis		ʔisano
PASS WIND	ƛiƛkcu•	ƛiƛkƛiƛkiš	waxšiƛ	
PENIS	ḳimis	kuxʷyak		
VAGINA	hičkun	ʔaʔaʔuckʷin		
Relatives				
MOTHER	ʔumʔi	⊕ma•ma	ʔabe•qs	ʔe•b (voc.)
FATHER	nuʔẇi	⊕ta•ta	duwiʔ	⊕de•t (voc.)
GRAND-PARENT	naniq	nani; nan		nan (voc.) nane•ʔš
Learning Activities				
WALK	ƛiči̱ƛ	ẏicẏic		
TODDLE	či•xa	či•x̌		⊕pe•pa
GIVE ME	ʔiniʔis	ʔiniʔisx̌ax̌	hacse•ʔb	te•ʔb
HURT OR INJURY	ʔusuqta	hix̌piq	ʔu•suqʷ	⊕na•na; ʔa•na•

GLOSS	AHOUSAHT ADULT	AHOUSAHT BABYTALK	NITINAHT ADULT	NITINAHT BABYTALK
SIT	ƛ̓iqpiƛ	ƛ̓iq	ƛ̓iqpiƛ	
YES	hi?i	hi?iχ̌aχ̌		
NO	wik	wiki?iχ̌aχ̌		
STAND UP	taqʷiči ƛ	⊕hito; heto		
PUT CLOTHES ON				⊕ni·ni·
BE QUIET	č̓ama?i	č̓amak?iχ̌?i		
	imperative		not imperative	
LIE DOWN	č̓itkpi?iči	č̓itkpi?iču·c?i	č̓itkpiƛ	⊕hu·š
GO TO SLEEP	wa?i?ču?i	⊕hu·š	we?ič	⊕hu·š
GOODBYE	ʷ̓u·cʷ̓u·c	ču·č		

Examples where -χ̌aχ̌ is added to form babytalk

	AHOUSAHT ADULT	BABYTALK -χ̌aχ̌ FORM
GOOD	ƛuɬ	ƛuɬχ̌aχ̌
SIT STILL	ƛaniɬ	ƛaniɬχ̌aχ̌
GEORGE	dzɔrdz	dzɔrdz χ̌aχ̌
CAPE	ƛ̓itimɬ	ƛ̓itimɬχ̌aχ̌
SICK	ta?iɬ	ta?iɬχ̌aχ̌
YES	hi?i	hi?iχ̌aχ̌; hi?iχ̌

/mamis/ for 'older brother or sister' in both the adult and baby talk registers.

Like Sapir (1929), we also noticed that while some of the Nootka baby talk inventory was derived from the regular vocabulary, other forms were entirely suppletive. As can be seen from the following data, the actual number or suppletive baby talk items in both Ahousaht and Nitinaht is quite small, nine and eleven respectively. This could be either the result of having male informants, an indication that the baby talk register is in a state of decline, or both.

Instead of the use of suppletive items, the more common strategy seems to be some alternation of the existing adult form. Both suppletion and alteration strategies can be seen in the complex data set attached as Appendix I.

In Ahousaht, the suppletive forms are phonologically simpler than adult forms, with the phonological segments restricted to sounds which might reasonably be produced by a language-learning child. Suppletive forms, of course, imply no phonological relationship to the adult form and are not built from the same root. Some of the forms dealt with in the paper up to this point have had the same root in both the adult and the baby talk form, but suppletive baby talk forms differ completely from the adult forms, and from adult variants or euphemisms. For example, the Ahousaht baby talk form hu·š 'go to sleep!' obviously bears no correspondence to the adult form / waʔiʔčuʔi/. The adult form can be analyzed as a root, /weʔičʲ/, plus /u/, and the imperative suffix. This suffix is responsible for the glottalization before the /č/, or at least there is a strong probability that this is the case. The baby talk form, on the other hand, can not be analyzed further. This Ahousaht form is very similar to the form given in Sapir and Swadesh (1939), /ho·š/ glossed as 'sleep, child form'. (The Sapir and Swadesh orthography employs /o/ in place of the current /u/.) Sapir and Swadesh also have another form meaning much the same thing, / ʔe·ho·š /, possibly related to their form / ʔaho· / 'be quiet', seen previously. Of these three forms, it is worth noting that only one is found in Ahousaht speech in 1982.

Forms which universally crop up as baby talk items, namely, words for mother, father, food, water, and excretory terms are all present in Nootkan. Suppletive forms for these referents are present in the corpus, and are listed in their entirety below for both Ahousaht and Nitinaht.

Thus, both Nitinaht and Ahousaht have suppletive forms, and not surprisingly, there are differences in these forms between the two languages. Even though the languages are related, there are numerous differences between their baby talk inventories of suppletive lexical items, just as there are for the rest of their respective vocabulary inventories. For example, compare the following:

GLOSS	AHOUSAHT BABY TALK	NITINAHT BABY TALK
'eat'	pa·paš̌	ma·ma
'defecate'	p̓up̓	
'drink'	maḥmaḥ	ma
'water'	maḥ	maḥ
'smile'	kakuku	
'toy'		la·la·
'monster'		ma·.a·
'dirty'.	.a·.a·tis	
'father'	ta·ta	de·t
'mother'	ma·ma	
'walk'		pe·pa
'hurt'		na·na; ʔa·na·
'put on clothes'		ni·ni·
'go to sleep'	huš̌	hu·š̌

An interesting example of borrowing with a semantic shift is found in the Ahousaht form meaning 'urinate, fem.'. Ahousaht gives /tiskin/ as the adult form; with the suffix deleted it becomes /tis/, the baby talk form. Interestingly enough, /t̓i·š̌/ is given as the Cowichan baby talk form for the masculine sense of the word 'to urinate' (Cowichan is a neighboring Salish language of eastern Vancouver Island). This Cowichan form was elicited

from the Nitinaht informant, who gave no Nitinaht baby talk form for 'to urinate' in the masculine sense, but did give / ʔisano· / for the feminine form. Compare the form given by Sapir and Swadesh, / kʷaʔanox /, the female sense of 'to urinate' in the adult register. The only form given by Sapir and Swadesh which looks like /tis/ or /ʔtiˑšˇ/ is /ʔtic/ which means 'large drops of rain fall from trees', which, though colourful, does not seem to express the same thought, although it might be the basis for a widespread euphemism. Obviously, some adult form may underlie two such similar forms in Cowichan and Ahousaht.

It has been suggested (Ferguson 1964; Ferguson 1976) that baby talk items are also subject to cultural diffusion. There is a strong tendency for ethnolinguistic features like politeness formulas, folk literature, and artifactual folklore to diffuse with other elements of culture across language boundaries (Ferguson 1981), and baby talk appears to fit into this set of transferrable cultural categories. In addition to the Quileute-Nitinaht ties, one finds other lexical examples of diffusion in the Northwest Coast area, restricted in a manner similar to that described for several items in the Mediterranean and Middle East areas (see Ferguson 1964). For example, one finds the baby talk elements /hum/ 'to go to the toilet' in Sahaptin, spoken by the Yakima of central Washington, and /hum/ 'to defecate, to poop' in Nitinaht. According to Weeks (1973:66), this is a standard Sahaptin word meaning 'unpleasant smell' but has uses in baby talk. This must be the result of some diffusional drift from Nootkan to Sahaptin by way of Nootkan prominence in the extinct trade language Chinook Jargon. Chinook Jargon also had /humm/ meaning 'bad smell', derived from Nootkan /hamaˑs/ 'to defecate' (Barbara P. Harris, personal communication), and has obviously served as the source for the Sahaptin form. Given the fact that Sahaptin had contributed practically nothing to the Jargon, it is safe to assume that the above directionality is the correct one.

Secondly, considering the close parallels in the mythologies and cultural patterns of the area, it seems likely that general strategies of baby talk formation probably had diffusional parallels in the once viable and highly

interactive Northwest Coast language communities. For example, Quileute, mentioned above, shares much culturally with Makah and Nootka to the north, and does indeed show other parallels in both the general principles of suppletion and the specific strategy of 'consonantal or vocalic play' (see Frachtenberg, 1917) to characterize the speech types of very young children, individuals with certain physical defects, or mythological beings or animals.

For the sake of brevity, this paper will be curtailed at this point, to be continued in the next issue of WPLC. In that issue a discussion of the various types of reduplication in Nootkan and in baby talk will be put forth. The phonology of Nootkan baby talk items will be compared with the phonology of the adult corpus and will be explained in detail. Cultural diffusion and language decline effects will also be discussed.

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Baudouin de Courtenay - a pioneer of structural linguistics

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Baudouin de Courtenay, whose life straddled the nineteenth and twentieth centuries, took up the study of linguistics when it was in its infancy. Polish by birth, and an iconoclast by inclination, he worked alone, far from the major academic centres, and created little stir in his own time. In spite of this isolation and obscurity, he left an indelible imprint on linguistics by erecting the landmarks for the course it was later to take, with such rich rewards. He is associated primarily with helping to formulate the concept of the phoneme, but his contribution is not limited to this. His legacy is seen most clearly in his influence on the Linguistic Circle of Prague and their disciples, whose collective ideas have dominated modern linguistics, setting its trends and staking out its proper domain.

Baudouin, then, blazed the trail for structural linguistics. Perhaps it is not entirely fortuitous that his raw material came from the Slavonic languages. M.A.K. Halliday has pointed out that, whereas few today subscribe to the theory of linguistic relativity, i.e., that a language shapes the thought of the people using it, "There is one special exception in which such a connection is naturally admitted, namely the study of language itself" (1981, p.123). The early linguists usually began by studying their home language, and its nature decided what direction their activities should take. Thus, scholars in both ancient India and Greece, whose native languages exhibited a complex word morphology, examined first, word paradigms and , eventually, syntax, while in classical Chinese, in which morphology is virtually non-existent, Chinese linguists concentrated on lexicology and phonology.

Baudouin, for his part, with an extensive knowledge of Slavonic languages, could not fail to notice the abundant sound correspondences and alternations in Slavonic morphology. His detailed observations of this data served as

the spring-board for some inspired deductions about the function of speech sounds and their representations that were crucial to the subsequent development of the study of language.

Jan Ignacv Niecislaw Baudouin de Courtenay was born in 1845 in Radzymin, near Warsaw. He traced his descent from a long line of French aristocrats, among them Baldwin, Count of Flanders in the 13th century. His impoverished great-grandfather migrated to Poland to become colonel of artillery and head of the court guard to August II. His grandfather was court chamberlain to Stanislaw Poniatowshi, last king of Poland, and was a man of letters who dabbled in writing and translating. Though Baudouin was, by ancestry, French and Catholic, he considered himself Polish and an atheist.

After high school, where his chief interest was mathematics, Baudouin attended the faculty of historical philology at the University of Warsaw and received a master's degree in 1866.

He travelled widely in pursuit of learning, and studied comparative Indo-European, Sanskrit and Slavonic philology in Prague (under Schleicher), in Berlin (under Weber), and in Jena, Leipzig and St. Petersburg. He received a doctorate at Leipzig and a second master's degree at St. Petersburg for his study of old Polish. In 1872 he made a field trip to study Slovenian dialects in S.W.Austria and N. Italy, and attended Ascoli's lectures in Milan. He was awarded a second doctorate in Russia, for his phonetic outline of Slovenian.

In 1875 he moved to Kazan' as the Professor of Comparative Indo-European and Sanskrit. Baudouin's exposure to prevailing linguistic theories has served only to leave him disenchanted with them. Indeed, he always considered himself self-taught. He rejected both the Neo-Grammarian teachings of Leskien, Brugmann and Delbrück, and the narrow "archaeological" approach of the philologists in St. Petersburg. In Kazan', where he spent nine years, he was free to develop his own ideas, and it was a time of great creativity for him, surrounded as he was by a lively academic community, including notably

his pupil, M. Kruszewski. Working together, they developed some original concepts of lasting value.

In 1883 Baudouin left Kazan' and moved to Dorpat, where, among other interests, he studied Baltic dialectology. Ten years later, in 1893, to his immense delight, he was appointed as professor in Cracow and returned to work in Poland. The enthusiasm was not shared by the Austro-Hungarian authorities. Baudouin was an outspoken critic of the government's social, political and national policies and did not hesitate to attack the Hapsburg regime. Not surprisingly, his contract was not renewed, and he returned to St. Petersburg after five years. Here he again attracted and stimulated some outstanding young linguists, among them E. Polivanov and L Ščerba. Still a firebrand, he continued to air seditious views and, eventually, again ran afoul of the authorities, this time for publishing a pamphlet attacking the Tsarist suppression of national minorities. For this, in 1913, at the age of 68, he was sentenced to two years in prison. He was freed, after serving several months, only by the outbreak of World War I. When Poland became independent, he moved to Warsaw to occupy the Chair of Indo-European Linguistics. He died there on November 3, 1929 at the age of 85.

Baudouin commanded an impressive number of languages. He was fluent in Polish, Russian, Slovenian, Czech, German, French, Italian and Yiddish. He was proficient in the proto-languages of Sanskrit, Latin, Slavonic, Baltic, Turkic and Finno-Ugric. He was also conversant with artificial languages such as Ido and Esperanto.

Baudouin was a man of passionate conviction and dedication. He devoted himself whole-heartedly and uncompromisingly to scientific research and expected no less from others. He was an independent thinker, with a refreshing lack of reverence for received ideas, especially when these were bolstered by tradition or the prevailing fashion. He displayed a caustic wit, often aimed at muddled or timid reasoning. He was an ardent advocate of political and social justice, and, remained all his life a fervent Polish patriot.

He was generous in his treatment of students and deserving colleagues, and modest about his own achievements; for instance, he decried any mention of a "Kazan' school of Linguistics". He was aware of the rudimentary nature of some of his findings and his failure to integrate them into a cohesive theoretical system.

Baudouin died a disappointed man. He had attracted few disciples in Poland, and he was deeply hurt by this neglect and lack of appreciation. He wrote: "At every step I have met only blows and disappointments... Laisse nous oublier que nous avons vecu" (sic) (Stankiewicz, 1972, p.12).

Baudouin de Courtenay's achievements are not, however, so easily overlooked.

Linguistics in the late nineteenth century

When Baudouin de Courtenay arrived on the scene, studies in linguistics had reached a stalemate. A. Schleider and other scholars adhered to the Romantic view, that language was an organic whole, a synthesis of external and internal form. According to W. von Humboldt, "In the word, 2 units, the sound and the idea coalesce. Words thus become the elements of speech; syllables lacking significance actually cannot be so designated" (1836 [1971 p.49]). Schleicher maintained that language as a separate organism developed independently of man and therefore lacked any unconscious generalisations and needed no psychological explanations. (Baudouin de Courtenay, "August Schleicher", 1870 in Grigor'ev, 1963, I p.37).

Careful attention was given to "internal flexion", vowel alternations in the stem, and to the reconstruction of Indo-European systems. Languages were rated according to the complexity of their grammatical markings, and and European languages were considered examples of the most advanced development. The interest in historical phonology was concerned less with establishing the forms of the proto-language than with tracing the processes of phonetic change involved. Using this knowledge, linguists hoped to formulate immutable

laws, universally applicable to all languages. In the prevailing intellectual climate, advances in biology and physics led to a belief in causality and determinism in science, which held that the laws of nature followed an inexorable course, independent of man and society. Many considered that, for linguistics to qualify as a science, it, too, must operate according to similar inflexible principles.

The first item in the Neo-grammarian programme, announced in 1878 by H. Osthoff and K. Brugmann, read: "All sound changes follow laws that are valid without exception ... for all speakers of a given speech community and for all words in which the given sound occurs" (Stankiewicz, 1972,p.13). For this bold manifesto to work, it had immediately to admit exceptions and restrict its scope: so the dialect of a speech community was defined as narrowly as possible, and any forms that might have resulted from analogical levelling were pronounced ineligible. Baudouin, perennially sceptical of established authority, made the withering comment that the predictions of the omnipotent phonetic laws were as reliable as those of a weather forecast.

Another important trend placed great weight on the compiling of facts for their own sake and disdained abstractions. The linguist was urged to leave behind "the murky circle of his work-shop, beclouded with hypotheses, and step out into the clear air of palpable reality" (Osthoff and Brugmann, 1878, in: Stankiewicz, 1972 p.14) One linguist, H. Paul, went so far, in 1886 as to deny the possibility of making any generalizations about language as a social system: "In reality we have to recognise as many languages as there are individuals" (1920, p.37).

The science of linguistics, then, found itself fragmented, relying on faulty arguments and short-sighted policies. Its "universal" laws could not be universally validated. Data on speech were collected on an individual basis, without reference to any wider social significance; and abstract analyses were resolutedly shunned.

Baudouin's linguistic principles

Baudouin found these mechanistic and atomistic conceptions of language clearly inadequate. At the very outset of his career he charted an independent course. In an introductory lecture (published in 1871) that he gave at the age of 25 as a docent at the University of St. Petersburg in December, 1870, he pinpointed the shortcomings of many of the fashionable beliefs, refuted their conclusions and outlined the tasks facing the science, of which the most important was the analysis of language.

Above all, he gave precedence to the study of living languages over extinct ones, because he felt that one must proceed from the known to the unknown, not vice versa, and also because concentrating on a fossilized language, frozen at a single moment in time, yielded only limited information. (He carefully separated the forces which act in the existing language from those which have conditioned its development). Similarly, he objected to comparative grammar, as practised then, because it insisted on an absolute, inherent purity of language. This meant that a strictly limited number of roots were accepted as suitable for study, and the effects of diffusion or borrowing were totally ignored. There could, therefore, be no question of obtaining a comprehensive picture of the structure of a language.

Baudouin also disagreed with those who rejected morphological analysis. Sayce, an English linguist, disparaged in 1890 "the empty clatter of stems and suffixes" (Stankiewicz, 1972, p.34). Delbrück (1880) proposed that the time was ripe for treating the word itself as the basic unit of language, just as the Greeks had done, rather than breaking it down into its constituent parts, a method he dismissed as having outlived its usefulness. Baudouin, meanwhile, devoted himself in Kazan' to investigating morphological structure. In fact he considered morphology the "soul" of the linguistic system, and saw syntax as "morphology of a higher order" (Vinogradov, 1963,p.14). Similarly, he defended analysis as the beginning of precise investigation in the sciences (1903).

Baudouin also felt strongly that gathering facts was simply a preliminary to drawing conclusions. He declared in 1871: "The goal of all science is explanation, because reality is not a heap of incoherent and disconnected phenomena" (Stankiewicz, 1972, p.72). Observation and interpretation, therefore, must go hand in hand, making the broadest possible use of the inductive method.

The Kazan' period

In Kazan', which was something of an academic backwater, Baudouin was completely free to pursue his ideas, which are clearly laid out in the lectures he gave there from 1875 to 1878, and which testify to his attempt to apply a strictly scientific method to linguistics.

He elaborated distinctions that had not been clearly enunciated before. He contrasted "static" laws and "conditions that form the foundation of the life of sounds in a language at a given moment", and "dynamic laws and forces" which determine historical development. Jakobson (1971) claims that this distinction was being made for perhaps the first time and corresponds, in a rudimentary way, to the concepts of synchrony and diachrony in language. Later, in the 1890s, de Saussure was also to draw attention to the "fundamental duality of language".

Baudouin divided "phonetics", as linguistics was then called, into two separate disciplines. One branch dealt with the exhaustive scientific examination of speech sounds in relation to their acoustic and physiological properties: this activity he labelled "anthropophonics".

The other aspect he termed "phonetics in the strict sense of the word", i.e. "the morphological-etymological part of the general science of sounds", in which sounds were studied for their connection with word meanings. Its task was to analyse the "equivalents of sounds (sound units and their combinations) with respect to the role they play in language". For example, some elements may alternate while fulfilling the same function in a word.

To clarify the difference between the physical nature of sounds and their function in the language system, Baudouin compared the sound structure of language to that of musical tones. He said that every language possessed a sound scale of its own, so that physiologically identical sounds occurring in different languages might have different values in each, in accordance with the whole sound system of that language. In other words a sound is perceived in relation to other sounds in the same language and not as carrying certain absolute, intrinsic properties.

Baudouin's lectures continued to develop the principle of the relativity of sound categories. He found that sounds could be classified into parallel sets, based on their distinctive, physiological properties, including: voiced and voiceless, long and short, stressed and unstressed, soft and hard, (i.e., palatalized and unpalatalized). etc. Languages made use of these differences to set up certain parallel sound oppositions and so distinguish the meanings of words and parts of words.

In attempting to impose logic on linguistic analysis, Baudouin consciously looked to mathematics as a model and expected an increasing use of quantitative thinking and methods. He said: "Just as mathematics reduces infinite quantities to finite ones, which are susceptible to analytical thinking, so we should expect something similar for linguistics from a perfected qualitative analysis." He had already realised that zero may be of contrastive value in some languages, alternating with a sound of a certain magnitude (Russ. masc. nom. son. gen. sØna, i.e., o > ø during inflection). One Czech linguist, Zubaty, dismissed Baudouin's work as algebra rather than linguistics (Jakobson, 1971 p.401).

Already, in these lectures in the 1870s, Baudouin had marked out the the territory that the school of structural linguistics was later to explore in depth. He distinguished between the present state of a language and its historical development, hinting at a synchronic/diachronic division. He discriminated between the phonetic quality of sounds and their function in word-building. And, finally, he concluded that the sounds within a language formed a relative system which could be subjected to and described by quantita-

tive analysis.

Baudouin showed how his methods could be applied when, in his 1877-78 lectures, he classified the Slavonic languages using what is, in effect, a system of binary oppositions in the vowels, based on a pattern of long/short and stressed/unstressed contrasts. This dazzling feat of analysis has stood the test of time with only minor revisions.[1]

Baudouin concluded that, when stress becomes fixed and stable, as in West Slavonic, it loses its value as a morphological device and remains only as an "anthropophonic" quality. Fixed stress still may act as "phonetic cement", binding syllables together into words, just as vowel harmony does in the Ural-Altaic languages.

His attempts to explain the stabilization of stress, though ingenious, are less convincing. He lists as contributory factors purely phonetic processes, analogy (one word assimilating to another), and the influence of foreign languages (which he thought very powerful).

Baudouin's contribution to phonological theory: The concept of the phoneme

Baudouin's interests led him to search for a phonetic "atom", an indivisible unit of language, parallel to the atom as the unit of matter, and the digit 1 in mathematics, i.e., a sort of basic building block. This idea received a fresh impetus when he was joined in Kazan' in 1878 by Mikolaj Kruszewski (1851-1887), a 27-year old Polish linguist with a rigorous and searching mind. Kruszewski was attracted to Kazan' by Baudouin's views on language, and he was intrigued by the possibility of explaining logically and extrapolating a general law from all the linguistic data collected.

Baudouin and Kruszewski stimulated and encouraged each other; their partnership was so fruitful and successful that it is difficult to separate the contributions of each in apportioning credit. It is easier, then, to

treat their ideas at this stage as a product of their collaboration. Baudouin was generous in his appraisal of Kruszewski's work in his comparative Slavonic grammar in 1881. Kruszewski's ideas were, in fact, so daring and startling that academic journals in Germany refused to publish the introduction to his thesis, giving the excuse that it dealt more with methodology than linguistics. Baudouin retorted, with his usual colourful turn of phrase, that their real reason for refusing it was because it "introduced a new principle for research into phonetics, and the overwhelming majority of scholars fear new principles as they fear fire." (Jakobson, 1971 p.405).

In his thesis, Kruszewski examined vowel alternations in Old Church Slavonic. Like Baudouin, he distinguished between a sound as a product of a physiological process with acoustic properties, and as an item having structural significance. To eliminate confusion, he chose to apply a different term, phoneme, to the latter function. He appropriated the word from de Saussure, with whose work he was familiar and who had used it in a different sense, to denote a proto-sound in a parent language. "I propose to call the phonetic unit (i.e., what is phonetically indivisible) a phoneme, as opposed to the sound - the anthropophonic unit. The benefit and indispensability of such a term (and of such a concept) are obvious a priori" (1881, p.14). He was, of course, over-optimistic in his last assumption. He was immediately attacked for inappropriate innovations in technical terminology in academic circles of the day (Jakobson, 1971).

The Polish linguists had trouble finding a definition for the phoneme comprehensive enough to cover its various applications. Baudouin described it, in 1881, as "a unit that is phonetically indivisible from the standpoint of the comparability of phonetic parts of the word." Though its definition remained elusive, the phoneme held a firm place in their scheme of linguistic analysis. Baudouin (1881) divided the structure of audible speech, in anthropophonic terms, into sentences further sub-divided into words, syllables and sounds. The grammatical structure of speech was composed of sentences, i.e., meaningful syntactic wholes, which could be divided into meaningful

words, and words into morphological syllables, or morphemes (coined by Baudouin on analogy with phoneme). If the morpheme, a semiotic unit, were to be further sub-divided, it should, logically, be split into homogeneous elements, i.e., smaller semiotic units. Purely physical entities, such as sounds, whose acoustic properties are irrelevant in this context, do not fulfill this requirement. Therefore, the term, phoneme, was chosen expressly to designate the minimal unit carrying meaning. It is claimed that Baudouin was the first linguist of modern times to realise that sounds and their combinations mean nothing by themselves, but are used to transmit information (1889, Stankiewicz, 1972 p.139), so that distinctions of sound impart distinctions of meaning, as in the Russian minimal pairs, tam/dam, tom/tam (1917 Grigor'ev 1963 II p.279).

The interest that Baudouin and Kruszewski shared in the alternation of sounds led to some striking revelations. Kruszewski (1881) methodically differentiated between different types of alternation including, for example, the alternation of s~z, as in German: Haus, Häuser, where the sound change is gradual, predictable and phonetically conditioned, and the alternation of z~r, in German: gewesen, war, where the sounds are dissimilar, conditioned by a different set of factors and form part of a morphological pattern.

In 1893-5 Baudouin published (in Polish and German) "An attempt at a theory of phonetic alternations" and this study of synchronic variants ("das Nebeneinander" in his words) led to what Jakobson (1971 p. 410) has called "Baudouin's magnificent discovery", the merger of the Russian and Polish variants [ɨ] and [i] into one phoneme, called i mutabile. Influenced by de Saussure's approach to morphological structure, Baudouin was struck by the fact that the same ending showed up in two different forms: the nominative plural ended in [ɨ] after a hard (unpalatalized) final stem consonant, and [i] after a soft one, e.g., bal, "ball", nom. plural balɨ; dal', "distance", nom. plural dal'i. In modern terms, these are allophones in complementary distribution. Baudouin was not aware of all the implications of his discovery,

nor was this terminology available to him, but he realised that the two sounds make up one phoneme, and that the representation of the high unrounded vowel was determined by the representation of the consonants. This interpretation made it necessary to view the phoneme as an abstraction that could be realised in more than one way, the sum of generalized properties elicited from different combinatory variants.

He astutely supported his argument for the reality of the phoneme by citing traditional Russian and Polish rhyme schemes, where [ɨ] and [i] were regularly paired, as in: bɨl - m'il: pokrɨt' - l'ub'it' (1917, Grigor'ev, 1963 II,p.264).

Not all problems of Slavonic phonology were solved as successfully. He examined alternations such as k ~ č, and k ~ c, as in p'ekú, 1st. sing. "I bake", p'ečót, 3rd. sing., and p'eci, imperative (obsolete). He saw these forms as giving way to the more frequent k ~ k', (pek'í, imperative), by analogy (1894, Stankiewicz, p.181).

From the perspective of a century later, it is simple to identify the shortcomings of such analyses. He lists the alternants that appear, but he does not formulate rules by which one set is derived from the other, nor, of course, does he establish any base forms. These omissions made it impossible to construct a neatly ordered hierarchy of sound changes, operating according to regular laws to produce a predictable pattern.

The difficulties of making a correct analysis at this time should not be under-estimated. Jakobson (1971) considers that the worst obstacle that the pioneer linguists had to face was the absence of an adequate theoretical basis that would have encouraged the development of their novel ideas. Instead, they struggled unavailingly against adverse criticism and the sterile dogmas of the day.

The early years of innovative discoveries gave way to more modest achievements. Baudouin never completed the ambitious programs he had laid out in

his youth. He left Kazan' in 1883. Kruszewski fell ill the next year and died prematurely in 1887, uttering the poignant cry: "Oh, how quickly have I passed across the stage".

Baudouin's subsequent activities and views changed radically. He concentrated increasingly on the mental aspect of speech sounds as perceived by the individual, which he now recognized as the only reality in language. He revised his opinion of Kruszewki's work, and re-interpreted many of their earlier ideas, including the concept of the phoneme, which became "the psychological equivalent of a speech sound", produced by a fusion of the psychological impressions which result when a sound is pronounced. Removed from a concrete linguistic context, and placed at the mercy of individual introspection, the phoneme lost much of its operating value in this formulation.

His best students in these later years skilfully separated the wheat from the chaff. L.V. Ščerba (1957) considered that Baudouin's later fuzzy "psychologism" could easily be disregarded and still leave essentially intact Baudouin's linguistic theories and the valuable insight they contain.

Contributions to linguistics in other areas

One of Baudouin's endearing characteristics was his intellectual democracy in an age when snobbery of all kinds was rampant. He demanded "equal rights" for the study of all subjects and all languages, even Yiddish, which the purists rejected as "jargon" (Vinogradov, 1963, p.19). As a result, his range of interests was staggeringly diverse.

The bulk of his work was, of course devoted to Slavonic linguistics which he vastly enriched. He collected a great number of Serbo-Croat and Slovenian texts and Lithuanian folk-songs. He wrote on the history, structure and dialectology of Polish, Slovenian and Russian, as well as their comparative relationships. In historical linguistics, amongst other things, he isolated the third palatalization of velars in Proto-Slavonic, and also Linden's law (the treatment of initial wr-). His book an "Old Polish before the 14th. century" is a brilliant reconstruction of Old Polish phonology from Latin texts. His penetrating analysis of Kashubian, which had baffled other linguists, definitively established it as most resembling Polish.

For Baudouin, language was not a dry academic bone to be worried, but a vital part of everyday life. He took a keen interest in the practical application of linguistics, a somewhat neglected aspect of his work. This included looking into the possibility of using linguistics to help the deaf communicate. Further, he was struck by the possible implications for linguistics in the utterances of aphasics, and he made a record of the speech of one aphasic patient. He noted marked differences in the speech of educated and uneducated speakers, that is, in the conscious and unconscious use of language, suggesting that allowances should be made for metalinguistic awareness. Many of these issues, that he brought to light, re-appear and are treated more thoroughly in the works of later Russian linguists and psychologists.

His ideas were also to make a lasting impact on education. He realised at an early stage that Russian phonology and orthography fail to correspond exactly, and that the graphemes do not represent the phonemes accurately in certain all-important respects. If the two systems are confused, the task of learning to read is made incomparably more difficult. "Only a clear knowledge of the sound of the language, as opposed to their graphic representations) and of the origin and structure of words can provide a good method of teaching children (and adults) to read and write a given language" (1871, Stankiewicz, p.51). The gap between speech sounds and the written symbols for them is especially pronounced in Russian, as palatalization, a feature of major contrastive importance, is represented in Russian script most often by the vowels. Baudouin first suggested that the feature belonged to the consonants rather than the vowels (1912).

This perception has helped to promote an approach to teaching literacy, according to which children are introduced first to the sounds of Russian, and only later to the letters. A pioneer in this field was K.D. Ushinsky (1824-70) and his method was later followed and amended by V.A.Flerov and V.P. Vakhteroy (Nazarova, in J. Downing (ed.), in press). Before learning to read children are taught to discriminate phonemes, e.g. pat, pot, put, and to segment utterances. A development of this method, again based on sound phonological principles, advocated by D.B. Elkonin is to present the

phonematic unit of the open syllable, consonant + vowel, rather than the phoneme in isolation, as the basic unit of language, and thus express the duality of hard/soft consonant + vowel in a rational and consistent way: la/l'a, not l+a/l+ya, (Downing, in press). The need for this approach and the theoretical rationale were both outlined by Baudouin.

Conclusion

Although Baudouin's ideas made little headway in his own time, they have proved durable, surviving through his successors. De Saussure took note of them, as did Meillet in his theory of alternations. Meillet wrote an obituary in 1930, regretting the neglect of Baudouin's work (Kilbury, 1976). A line of succession in phonological theory can be traced through Polivanov and Ščerba to Trubetskoĭ, Jakobson and other linguists of the Prague Circle, and from them to their disciples, Halle and Chomsky. In England, the phonetician D. Jones acknowledged a debt to Ščerba for introducing him to the phoneme (Kilbury, 1976). J.R. Firth (1957) in 1934 discussed the Kazan' linguists' classification of alternants, listing the English plurals, /-s, -z, - əz/ as an example of a "morphological phoneme", and made use of their findings in his own work (Albrow, 1981).

Starting from the principles set forth by Baudouin, linguists have produced definitive work in the fields of phonology and distinctive features, morphophonemics, diachronic phonology, and aphasic and child language. Other topics, such as typology, language universals and sociology, which Baudouin considered important, are now being given detailed attention, largely because all these subjects came under the scrutiny of this remarkable man.

NOTES

1 In this schema, Serbo-Croat retains both oppositions, offering, for example: gen.sing., drȗveta, "of the tree"; nom. plural, drvèta; and gen. plural, drvétā, where ȗ indicates a short falling stress. ` is short rising, ´ is long rising, - is long unstressed, and a short, unstressed vowel is unmarked.*

Slovenian preserves the long/short opposition only in stressed syllables. In Bulgarian and the East Slavonic dialects, including Russian, only the stressed/unstressed opposition survives. Conversely, Czech and Slovak show only the long/short opposition. Lusatian and Polish have lost both types of opposition.

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* My examples. I.M.H.

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*N.B. In listing the works of Baudouin de Courtenay, I have drawn upon two sources: 1) A Baudouin de Courtenay Anthology, translated and edited by E. Stankiewicz, 1972. Bloomington: Indiana University Press, which includes an informative introduction to Baudouin's life and times; in this case the titles are given in English; 2) the two-volume, Russian language edition of Baudouin's selected works, compiled by V.P.Grigor'ev and A.A.Leont'ev, published in 1963 by the Soviet Academy of Sciences, Moscow. Discrepancies exist in dates of publication as Baudouin published the same work in different languages at different times (and later revised it). For instance, Baudouin issued An Attempt at a Theory of Phonetic Alternations first in Polish in 1893-4, then in Germany in 1895. I have used the date given in the source from which I have taken it.

Intonation in Kyuquot -- a Scratch on the Surface*

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0. Very little has been done on intonation in Northwest Indian languages, but certain universals of intonation have been proposed. One of these is the "unmarked breath group" described by Lieberman (1967). The purpose of this investigation was to determine whether or not this contour appears in Kyuquot, a dialect of Nootka, and in this paper it will be shown that Kyuquot does in fact demonstrate this intonation pattern.[1]

After a presentation of Lieberman's (1967) unmarked breath group, and definitions of intonation and the Kyuquot clause, the procedure of the investigation is discussed. Following this, the normal falling contour or unmarked breath group as it appeared in this sample is described, along with four other interesting intonational effects that were observed. A brief look at the combination of these secondary effects follows and suggestions as to further research concludes the paper.

1. Lieberman (1967) noted that the unmarked intonation pattern for declarative sentences is characterized by a sharp rise in fundamental frequency (Fo) at the beginning of the utterance, followed by a gradual fall toward the end, where there is usually a short, fairly sharp final drop. He called this contour the "unmarked breath group", and although Ohala and Hirano (1967) disproved his proposal for the physiological cause of this contour,[2] no one has disputed the existence of the normal, falling contour.

Intonation is not easily defined, but for the purposes of this study, movements in pitch which are neither lexically significant nor determined by phonetic co-articulatory constraints constitute intonation. In this paper,

* I am especially indebted to Suzanne Rose and Barry Carlson for all their helpful suggestions, encouragement, and willingness to listen to my halfcompleted ideas. George Louie's help was invaluable and much appreciated, and I would also like to thank Susan Nelson and Barbara Harris for their help in the typing and editing of this paper.

a syntactic unit containing only one predicate, will be called a clause. Complex sentences and other utterances containing more than one clause will all be grouped together under the term "multi-clause utterance". An utterance or breath group will be defined as the stream of speech from one pause for the intake of air up to and including the next. This distinction is necessary for this study as intonation is a feature of the utterance, not of the sentence or clause.

2. The nearest equivalent to Lieberman's "declarative" in Kyuquot, is the absolutive mood, so to test for the presence of the normal falling contour, a series of absolutive sentences were examined both auditorily and acoustically. To avoid special citation patterns of intonation a story was used, from a tape recording of Sophie Jules, a native speaker of Kyuquot, made by Suzanne Rose. Only one recitation of one story told by this person was used, and therefore the description of intonation patterns found may be idiosyncratic, or a special story-telling intonation may have been used throughout. Also, as the story is told in Kyuquot, the results cannot be automatically transferred to other dialects of Nootka.

2.1 Once the sample had been chosen, an attempt was made to group together on tape the sentences which had similar contours or salient features based simply on a perceptual analysis. Within each group, utterances were compared for their morphemes, phonemes, and semantic content. The non-intonational causes of pitch fluctuation (e.g., co-occurrence effects of certain phonemes) were thus eliminated, and the remaining groups were described and compared.

With help from Suzanne Rose, a specialist in Kyuquot, and from Mr. George Louie, a native speaker of Nootka, the groups were labelled as to potential affective causes.

2.2 In addition to this auditory analysis, an acoustic analysis was completed on each of the intonation groups that had been established as described above. To determine the phonetic correlates of the pitch contours found, oscillograms were made of all the sentences in the sample. Their Fo traces were then examined with reference to the pitch contour that had caused them.

Measurements of fundamental frequency over time were obtained using an F-J Electronics fundamental frequency meter[3] and these were converted to hard copy output by a Honeywell Visicorder single channel oscillograph.[4]

The speech sample was input from a tape recording to the Fo meter. In order to extract the Fo of a woman's voice using an Fo meter, the following procedure is typically used: A high pass filter is set at 180 Hz, and a low pass filter, operating in tandem, is set at 200 Hz. As the signal is fed into the Fo meter, any frequency falling within this range will not be damped, and frequencies just outside of it will be damped slightly. It is found that at this setting, an Fo as low as 130 Hz will pass the filter with some damping, but that its second harmonic (260 Hz) will be heavily damped. Thus, it is only the fundamental frequency of the woman's voice that passes through both filters. Each half-wave of the remaining fundamental cycle is then converted to a DC voltage by means of a frequency to voltage converter. The meter allows for either a linear or a logarithmic display scale for the Fo trace; in this experiment a linear scale was used.

From the Fo meter, the Fo trace was sent by line output to the oscillograph, which converted the trace to an oscillogram on direct print paper. The speed of the paper was set at ten centimeters per second, which allows the oscillogram to record fluctuations in frequency occurring as often as once every 5 milliseconds. The resulting oscillogram reads from right to left.

3. As expected, the most common intonation pattern among the absolutive sentences in the story was Lieberman's (1967) unmarked breath group, called here the "normal falling contour". Lieberman's description (see section 1) is of course only the overall tendency of the contour, and in any sentence the actual readings of fundamental frequency fluctuate noticeably, so that there are many rises in frequency as well as drops over the course of an utterance. In any given series of a rise in fundamental frequency, followed by a fall, followed by another rise, the highest frequency attained by the second rise will not be as high as that attained by the first rise. Thus if a line is drawn through the successive peaks of fundamental frequency

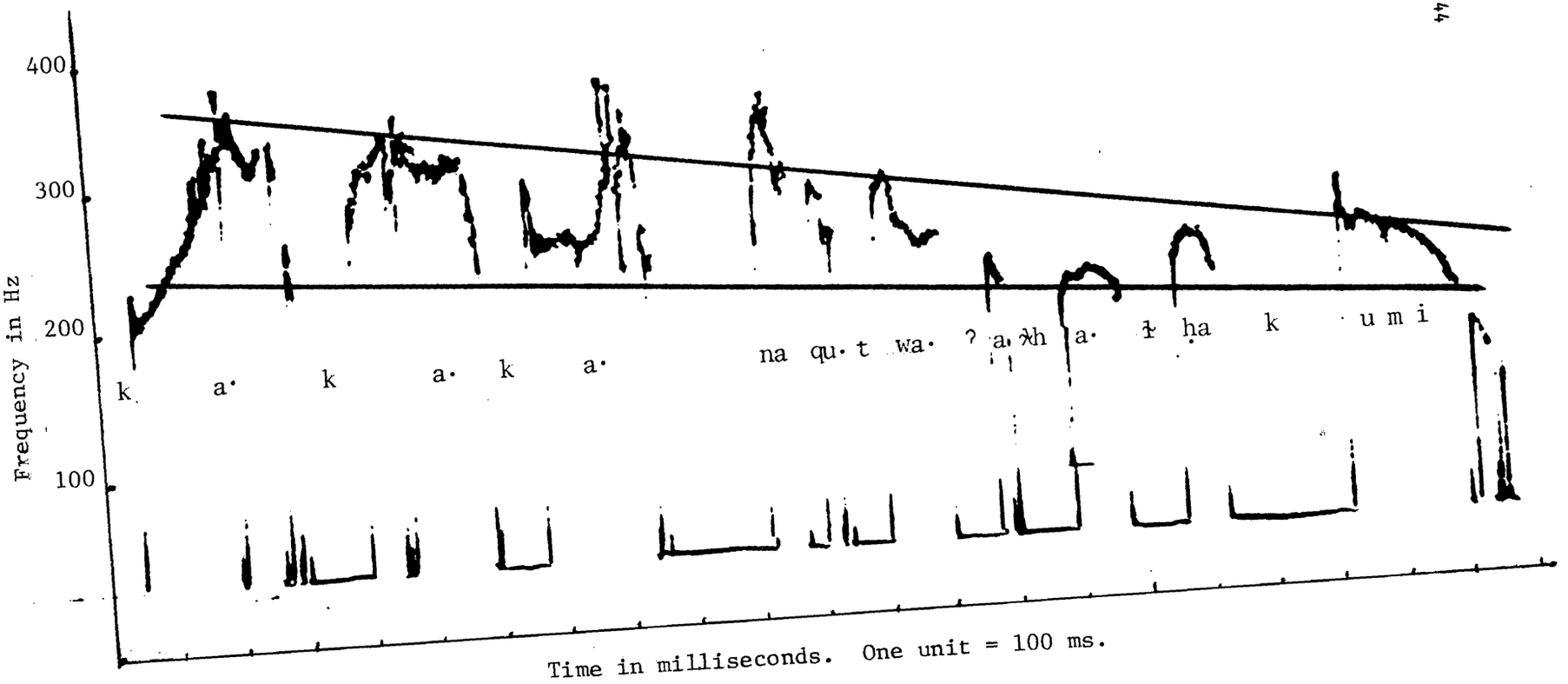


Figure 1. Oscillogram illustrating the normal falling contour. The sentence is:

/ka· ka· ka· naqu·t wa·?a·ɬ ha·ɬ ḥakumi/

"'Give me a drink!' he said to the princess."

in utterance and another connects successive "valleys", both lines will show gradual declination, with the peaks declining more rapidly than the valleys.

Figure 1 is an oscillogram of an intonation contour of this type. Lines have been drawn through the peaks and valleys of fundamental frequency.

Perceptually, this most common contour is simply a gradual but steady fall in pitch. Neither the sharp initial rise nor the sharp final drop are noticeable in a simple auditory examination. Based on this perceptual description then, the pattern can be called a "normal falling contour".

In most cases, where the pattern occurs in a multi-clause utterance, the contour extends over the entire utterance, so that the contour on any individual clause in the utterance is not a complete intonation unit in itself but a part of the whole intonation pattern at the utterance level. An exception to this will be discussed in section 4.2.

4. In addition to the normal falling contours described above, several secondary effects on intonation produced variations in the contour. These were: lengthened vowels; repetitions of entire clauses; a rise in pitch on locatives and deictics; and an utterance final rise in pitch indicating surprise on the part of the speaker. We will look at the special effects produced by each of these in turn, giving both auditory and acoustic descriptions.

4.1 A lengthened vowel seems to have the stylistic effect of intensifying the meaning of the word in which it appears. In most cases the lengthened vowel is one that is already phonemically long. In the sentence /ɬiciti··· ɬ ǰa·ni/, the gloss reads "she got really pregnant quickly". The individual morphemes in this sentence can be translated:

	ɬic - it	- (č)iil	ǰa·ni
pregnant -	at the body -	make ...	at first~for a while

Presumably the second word /ǰa·ni/ is what has been translated "quickly", but the point of interest is that none of the morphemes have the meaning

"really". It would thus appear that vowel lengthening here serves to intensify the meaning.

An acoustic description of this special effect is quite straightforward. The fundamental frequency drops as usual, but on the syllable which is lengthened, it falls only very gradually (30 Hz in 1.1 seconds in the most extreme example in the story). A phonetic analysis by oscillograph of a sentence of this type follows in Figure 2. In an auditory analysis of this pattern, the lengthened vowels maintain a level pitch.

4.2 A second special effect which can occur along with the normal falling contour and modify its shape somewhat is that of repetition of entire clauses within an utterance. Stylistically, one purpose of this repetition is to reinforce what has been said, for example, the sentence: "They wanted to catch up to him" which is repeated twice. It can also emphasize real repetition of events in the story; two of the utterances in the text consist simply of repetitions of the two clauses: "daytime, nighttime".

As would be expected, the perceptual effect of repetition of the same clause is that each pronunciation has the same pitch contour and level. Acoustically, however, the clauses have very similar Fo contours, but each successive repetition is slightly lower in Fo.[5] Two more differences between this contour and a normal falling contour are that the Fo declination is over a smaller total range, and that while the first repetition of the clause spans almost the entire Fo range, succeeding ones cover smaller ranges.

Figure 3 is an oscillogram which illustrates the effect of repetitive utterance. The reading of 250 Hz near the end of the oscillogram was picked up from the second formant when the first formant (Fo) dropped below the range of the Fo meter.

4.3 Deictics and locatives were taken into consideration only after several unusual variations in intonation had been noticed in utterances containing deictics in final position. Rose (personal communication) suggested that

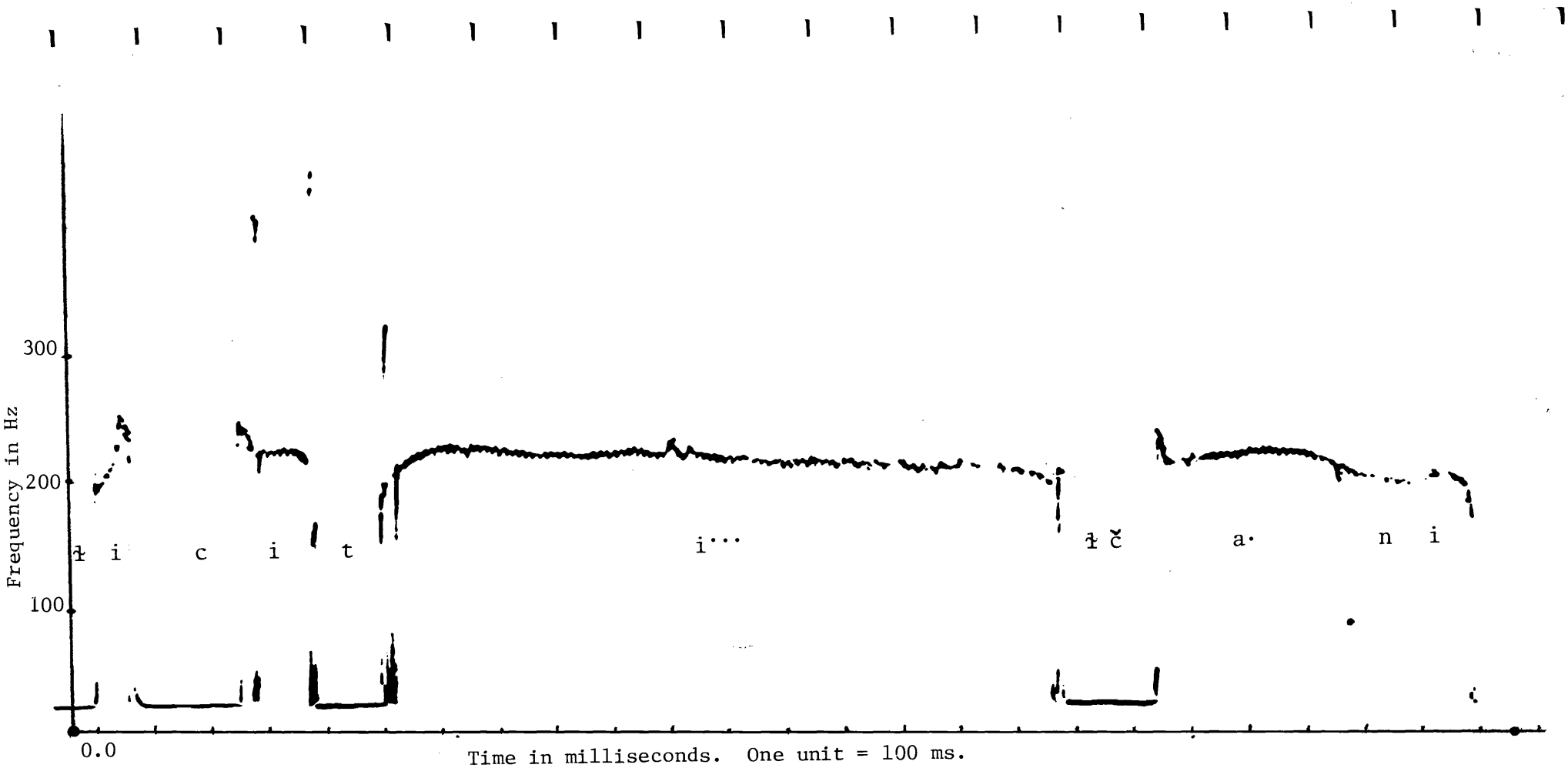


Figure 2. Oscillogram illustrating the effect of a lengthened vowel. The sentence is:

/ ɬiciti···ɬ ča·ni /

"She got really pregnant quickly."

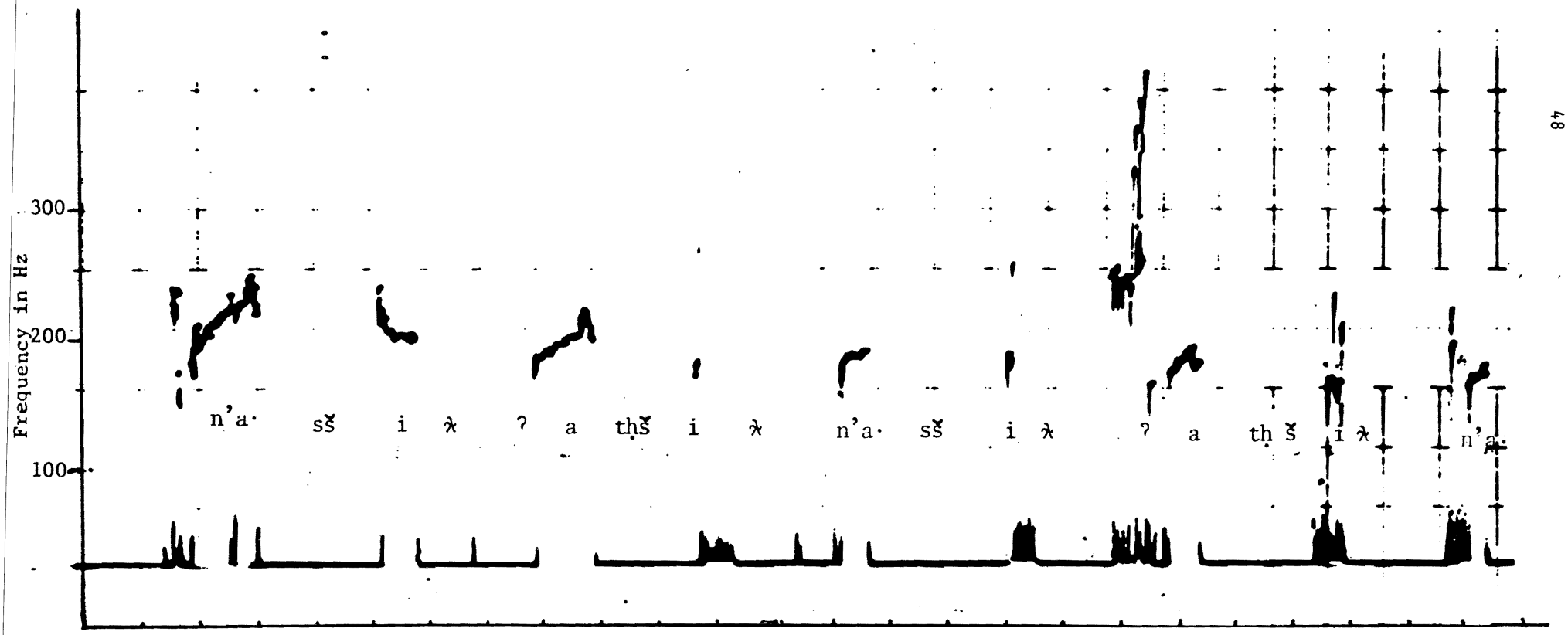


Figure 3. Oscillogram illustrating the effects of repetition of entire clauses. The sentence is:

/ n'a·sšiƛ ʔathšiƛ n'a·sšiƛ ʔathšiƛ n'a·/

"Night after night, day after day."

deictic markers and locatives in Kyuquot may fulfill an important structural function in stories, much as auxiliaries do in Kwakwala stories, according to Berman (1982). Since an item of structural importance could well cause special intonational effects, an attempt was made to relate the observed variations to the presence of deictics or locatives in a sentence.

Three general observations regarding the intonational influences of deictics and locatives could in fact be made. First, a deictic has no effect on intonation except when it occurs utterance-finally. Second, a locative affects intonation only when it occurs clause-initially and thus acts as a predicate, even when this clause is not utterance-initial. This may be because these are structurally salient positions, and deictics and locatives occuring elsewhere do not carry as much weight in discourse structure. Third, the effect of either is to raise pitch. For the sake of space, examples of these will not be given, but an example of an utterance final deictic in combination with other secondary effects is shown in Figure 5, in section 5.

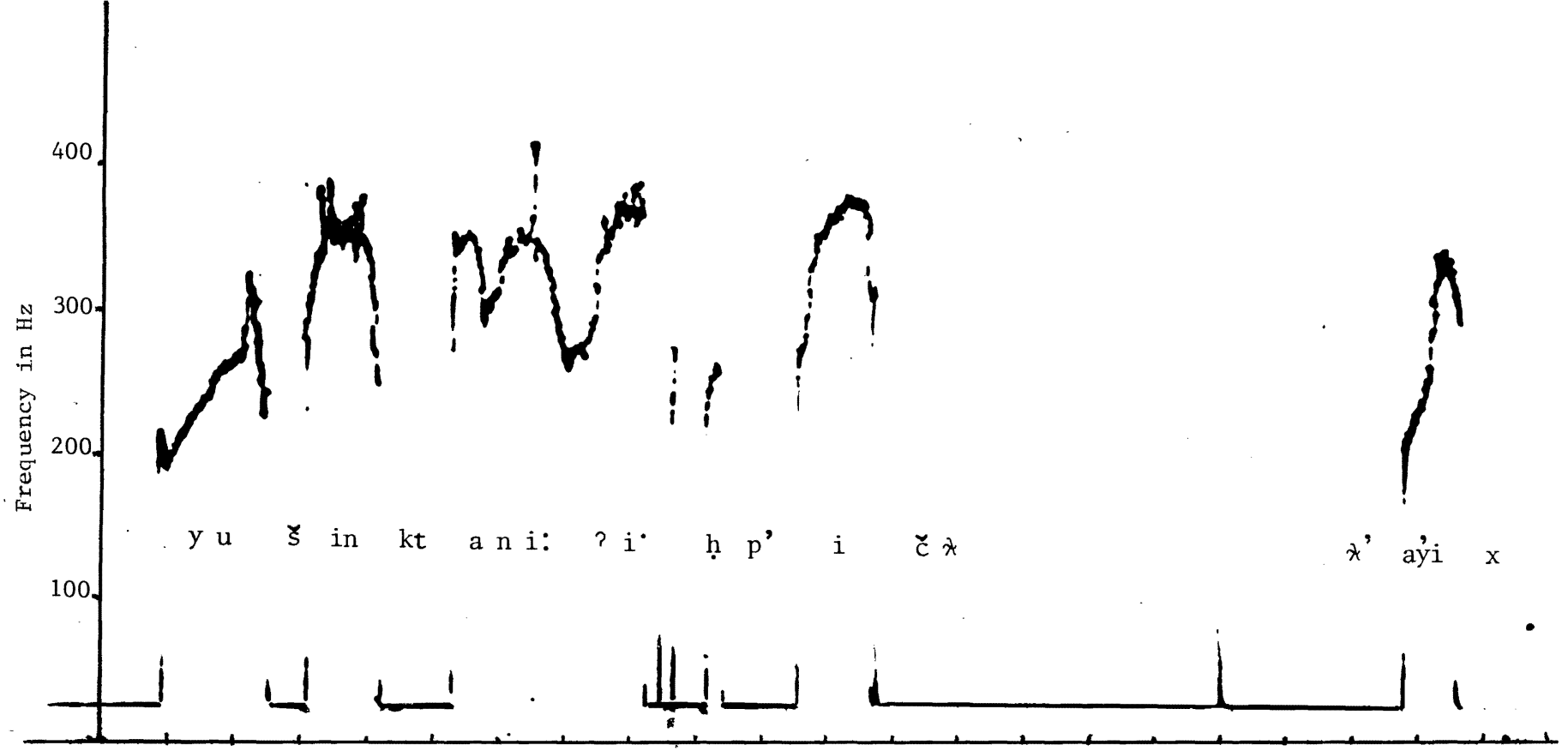
4.4 In thirteen sentences from the sample, a final rise in intonation was audible. The acoustic manifestation of this rising intonation pattern differs from that of a normal falling contour only in the final syllable, where instead of a drop in fundamental frequency there is a sharp rise followed by a sharp fall. The rise attains almost as high a level of fundamental frequency as the rise at the beginning of the utterance. An oscillogram of an utterance of this type is given in Figure 4.

Of the sentences in question only one indicates an element of surprise in the gloss. This is the one that ends with the morpheme / ʔih/, which is always spoken with a rising intonation according to George Louie (personal communication) and means that the speaker is surprised. This in itself would suggest a relationship between rising intonation and the element of surprise.

The remaining sentences were played in isolation from context to Mr. Louie, who was asked to "explain" them.[6] In all of them it appeared that rising intonation was caused, in these sentences at least, by surprise on the part of the speaker. An example of this is the sentence

/quʔišint ʔuḥčaːs qʷaː/

'It must have been raven'



Time in milliseconds. One unit = 100 ms.

Figure 4. Oscillogram illustrating the effect of surprise - rising intonation. The sentence is:

/(ču·) yušink tani: ʔi·ḥp'ičƛ ƛ'a'yix/

"He grew up quickly. Quickly."

Mr. Louie, after listening to the sentence on tape, explained, "They are surprised because it's raven."[7]

5. Several utterances in the text involved two or more of the above special effects. One of these was particularly interesting in that it illustrated the combined influences of vowel lengthening, a final rise for surprise and an utterance-final deictic. The final syllable rose to well above the height of the beginning of the sentence. In fact, the combined raising effects of the deictic and the surprise produced a generally rising contour of Fo through the whole utterance, with the final fall being extended by vowel lengthening. These effects were not observed anywhere in the cases where only one intonational pattern was present. Figure 5 is an oscillogram of this sentence.

George Louie was asked to say this sentence without the special contour. He was then asked what difference in meaning there was between the two sentences. His answer was "If you just say it like that [normal falling contour] it means he's paddling just over there [indicating a point about ten feet away]." With the special contour, the gloss provided was "So he took off, paddled away, far and fast."

Except for the sentence described above, the combining of two special effects merely produced an utterance which showed the influence of both of them; no other effects caused by the combinations themselves were observed.

6. We have discussed the normal falling contour as it appears in Kyuquot. along with four secondary intonational effects which are overlaid on the main pattern. For each one, a perceptual description and an oscillogram of the phonetic output has been presented. It must be remembered, however, that there are certainly other effects which could not be tested in the course of this study. These include the effects of stress, idiosyncratic intonation habits of the speaker, emotional attitudes other than surprise, and others. Several patterns were observed for which no explanation could be found, perhaps caused by one of the above factors.

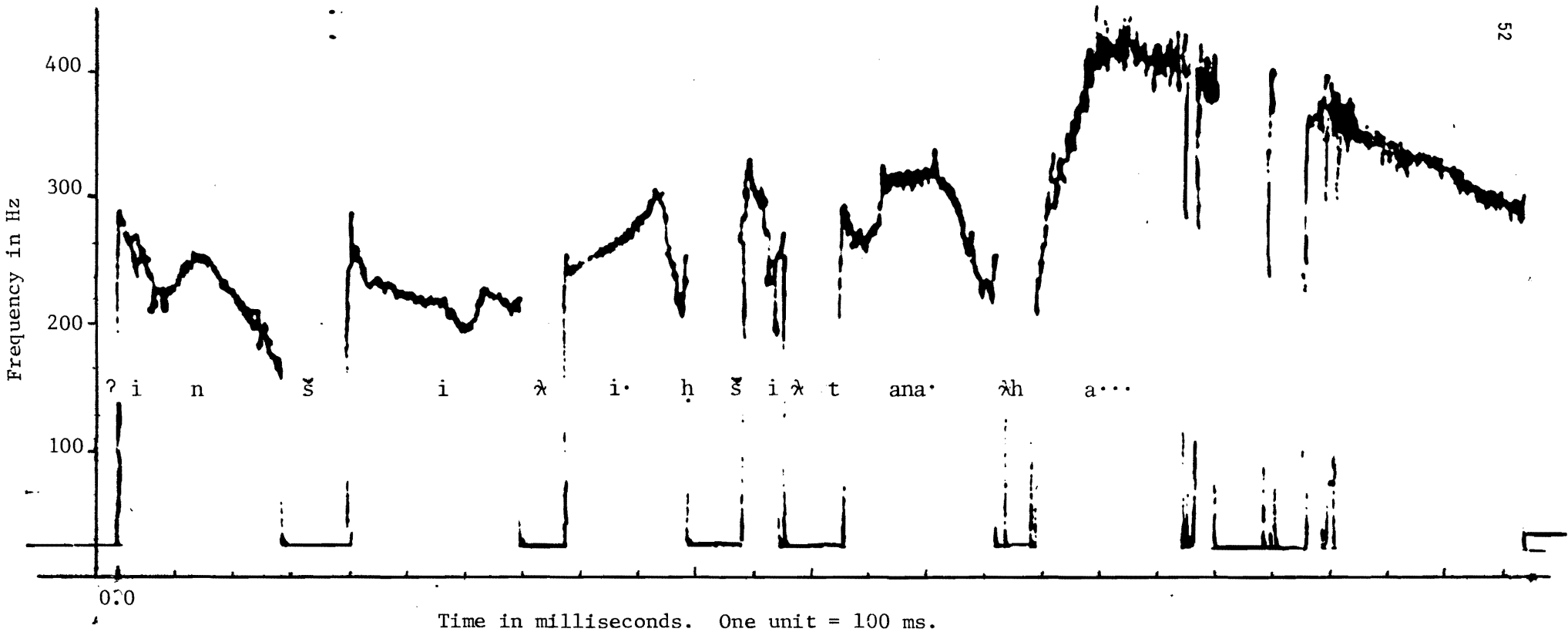


Figure 5. Oscillogram illustrating the combined effects of vowel lengthening, surprise, and an utterance-final deictic. The sentence is:

/ ʔinši ƛi ḥši ƛ tana·ƛ ha··· /

"So he took off, paddled away far and fast."

Above all, it is clear that much work remains to be done on the topic of intonation in Kyuquot. First, the observations described above apply only to one recitation of one story by one speaker of Kyuquot, and the results should therefore be retested in other contexts.

In addition to this, exploratory research must be done as to the nature of stress in Nootka; it is probably not primarily correlated with duration, as lengthened vowels are phonemically distinctive,[8] but perhaps it is strongly correlated with intensity and/or fundamental frequency. Studies involving instrumental measurement of intensity and fundamental frequency along with native-speaker surveys to obtain subjective judgements as to the placement of stress would be helpful. In this way the influence of stress could be isolated from other effects on intonation, and could be described.

Further studies on the discourse-level structure of Nootka will make it possible to give proper consideration to its effects in future studies of intonation. A study comparing citation-intonation of sentences to story-telling intonation would perhaps be revealing as well.

Obviously, this is only the beginning, and it is only after initial studies of this sort have been completed that the necessary further steps in the analysis and description of intonation in Kyuquot and Nootka will become clear.

NOTES

1. Following is a table of the Kyuquot consonant inventory, reproduced from Rose (1981).

TABLE 1: CONSONANT INVENTORY OF KYUQUOT

	Lab	Alv	Alv	Alv-pal	Lat	Vel	Lab-vel	Uvu	Lab-uvu	Phar	Lab-phar	Glot
Stop	p	t	c	č	λ	k	k^w	q	q^w			
Ejective	p̓	t̓	c̓	č̓	λ̓	k̓	$k̓^w$			ʕ		
Fricative		s		š	ɬ	x	x^w	(χ)		ḥ	$ḥ^w$	
Resonant	m	n		y			w					h
Glottal Resonant	m̓	n̓		y̓			w̓					ʔ

The bracketed consonant (χ) is a very rarely occurring segment, and (h^w) is actually a morphophoneme. The vowel phonemes of Nootka are: i, a, u, i·, a·, u·, and the marginal phonemes ɔ· and e·, which appear only in a very limited set of morphemes.

2. Lieberman (1967) claimed that decreasing subglottal pressure is mainly responsible for Fo declination, and Bolinger (1964) also proposed that the effort of speaking causes a rise in pitch by increasing the subglottal air pressure. Ohala and Hirano (1967), however, showed that several muscles were involved in the raising and lowering of Fo, and that the value of subglottal pressure is therefore only a minor factor in determining Fo.

3. For a more detailed description of this instrument see: Manual for Fundamental Frequency Meter. Published by F-J Electronics, Gentofte, Denmark.

4. For a more detailed description of this instrument see: Technical Manual - Instructions for Fiber Optics CRT Visicorder Oscillograph Model 1806A 1973. Published by Honeywell Test Instruments Division, Denver, Colorado.

5. Of course, this is not the case for every repetition of a clause within a given utterance, but the final repetition is always lower in fundamental frequency than the first, and there is a gradual Fo declination throughout the utterance.

6. When Mr. Louie was explaining the sentences with rising intonation from the story, he used the same intonation in his English sentences.

7. This translation reveals that Mr. Louie recognized the story even with the sentences played out of context.

8. Another area of study which was not examined here is the intonational effect of phonemic vowel length.

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The Role of Closure in Language Processing [1]

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1. INTRODUCTION

This paper contrasts two classes of language processing models in terms of the differential ease of processing of various structures. It is argued that a processing strategy of closure explains why certain types of structures are easier to process and more frequent than others. It is concluded that those processing models not incorporating a closure strategy should be rejected as inadequate to account for actual language processing.

The two models are characterized and contrasted in section 2, while in section 3 a wide range of evidence is adduced in support of the existence of closure strategy. Section 4 contains a summary and conclusions.

2. TWO MODELS OF LANGUAGE PROCESSING

No one would deny that grammatical knowledge must play an important role in actual language processing, but the precise nature of that role in comprehension, production, and acquisition is still uncertain. Although a host of alternative proposals has been offered over the past several years as to how language processing takes place, Foss and Hakes (1978) have distinguished two general classes of processing models, namely the 'direct incorporation' models and the 'strategy' models.

As the older and perhaps more familiar of the two approaches, the direct incorporation models assume that the speaker (or hearer) mentally executes those steps represented in the linguist's formal grammatical description as he produces (or comprehends) sentences. The most familiar version of this model is the so-called 'derivation theory of complexity', which was associated with much of the psycholinguistic research of the 1960's (cf. Miller and McKean 1964;

Fodor, Bever, and Garett 1974). According to this theory, the speaker-hearer was hypothesized to utilize a transformational grammar in his production and comprehension activities such that as he processed a sentence psychologically, he mentally worked his way through its transformational derivation. Although the derivational theory of complexity has now been largely discredited (cf. Fodor, Bever, and Garrett 1974), other direct incorporation models are at least logically possible and indeed some have recently begun to appear (e.g. Ford, Bresnan, and Kaplan 1982). What is crucial in all direct incorporation models is not the kind of grammar involved, but rather the claim that the psychological processing steps carried out by the speaker-hearer are analogous to, or isomorphic with, the formal grammatical operations (rules) associated with the derivation of the sentence being processed. More important, perhaps, is the fact that the direct incorporation models attempt to account for all language processing phenomena in terms of grammatical factors. These models by and large deny the relevance of separate cognitive factors, such as processing heuristics, claiming instead that the grammar bears the full burden in processing.

In the second general class of processing models, the 'strategy' models, grammar also plays an important role, but unlike the direct incorporation models, the strategy approaches assume that the language user has access to grammatical (usually surface) structure, but not necessarily to the formal linguistic rules which the linguist constructs to account for the distributional properties of sentences. The crucial characteristic of the strategy models is that, in addition to accessing a knowledge of linguistic structures, the speaker-hearer also employs a battery of processing heuristics, often called 'perceptual', 'parsing', or 'cognitive' strategies, which he uses in comprehension, for example, to construct meaning representations directly from the surface structures he has mentally formed.

At the present state of research, serious problems can be discerned with both types of processing models, and it is useful to discuss these briefly. Within the direct incorporation models, both empirical and conceptual problems have

been uncovered. The derivational theory of complexity, for example, required that the more transformationally complex the formal derivation of a sentence, the more difficult psychologically the sentence should be to process. Accordingly, within the context of the transformational model most commonly associated with that theory (e.g. Chomsky 1965), a truncated passive should be more, not less, difficult to process than a full passive, and a prenominal adjective construction should be harder than one containing a relative clause. Both these predictions, and a host of others, have not been borne out empirically (cf. Fodor, Bever, and Garrett 1974: Ch. 5). Moreover, as revisions have taken place within linguistic theory, experimental results have had to be constantly reassessed against evolving theoretical perspectives. However, the conceptual issue still remains that it is a category mistake[2] to equate a formal linguistic rule with a psychological process, since the former deals with a description of linguistic objects (sentences, etc.), while the latter deals with mental processes taking place in the human mind in real time.

Similarily, there are difficulties with the strategy approach to language processing. The most obvious conceptual problem is the lack of a clear specification of what is meant by a strategy, coupled with a lack of understanding as to how strategies are interrelated. A secondary problem concerns how strategies interact with grammatical structure. Taking the first problem first, we can note that in Bever's (1970) early 'perceptual strategy' program, it was assumed that the hearer parses sentences to obtain surface structures, then uses various strategies, plus a wealth of lexical information, to construct semantic representations rather directly. For example, Bever (1970:290-293) suggests that the following four strategies are involved in comprehension:

STRATEGY A. Segment together any sequence X ... Y, in which the members could be related by primary internal structural relations "actor action object ... modifier".

STRATEGY B. The first N ... V ... (N) ... clause (isolated by Strategy A) is the main clause, unless the verb is marked as subordinate.

STRATEGY C. Constituents are functionally related according to semantic constraints.

STRATEGY D. Any Noun-Verb-Noun (NVN) sequence within a potential internal unit in the surface structure corresponds to "actor-action-object".

Strategy C is clearly semantically based and has no language-specific aspects, while Strategies A, B and D are directly dependent on English syntactic properties. Indeed, the confounding of language-specific with language independent factors on the one hand, and of semantic with syntactic factors on the other, plagued early versions of the strategy model. Later, however, attention came to be focused on those language independent factors which could be isolated and then viewed as interacting with the specifics of a given language structure.

A further problem concerns the distinction between a strategy on the one hand and a rule of grammar or a statement of grammatical structure on the other. When the strategy paradigm was first being developed, a strategy and a rule of grammar were often understood as being the same thing. As Slobin (1970:175) commented, 'We approach grammar as a set of linguistic strategies used to express various semantic relationships in spoken utterances'. Similarly, Lakoff and Thompson (1975: 295) argued that:

> ...GRAMMARS ARE JUST COLLECTIONS OF STRATEGIES FOR UNDERSTANDING AND PRODUCING SENTENCES. From this point of view, abstract grammars do not have any separate mental reality; they are just convenient fictions for representing certain processing strategies. (original emphasis)

Presumably, Lakoff and Thompson are inveighing against versions of generative transformational grammar when they speak of 'abstract grammars'. However, just because a grammar is not directly incorporated into a processing model

does not mean that grammar is another name for strategies. Indeed, as the strategy paradigm evolved, it became obvious that strategies should be understood as general, usually language independent, cognitive processes which are often manifested in other domains as well as being operative within language processing.

In summary, the strategy approach to language processing assumes the existence of a set of general strategies and it views production and comprehension as involving the interaction of language independent strategies with language-specific structural factors.

How then can these alternative approaches to language processing be assessed? Are there phenomena which will, in principle, distinguish between the two approaches? It will be argued below that there are several phenomena which allow the two types of processing models to be distinguished on empirical grounds. In particular, it will be suggested that a wealth of evidence exists in support of a strategy of closure, such that any processing model which incorporates this strategy will predict that certain structures are easier to process and more frequent than equally grammatical syntactic alternatives, while a model not incorporating the closure strategy will fail to make such a prediction, and thereby be inadequate as a processing model.

3. CLOSURE

The well-known psychological principle of closure can be characterized as the tendency for perceptual units to resist interruption and to be perceived as single entities rather than as two or more separate ones (cf. Fodor, Bever, and Garrett 1974: 330). While evidence for closure has been adduced from a variety of perceptual domains (e.g. visual perception, music), its earliest application to linguistic processing seems to be that found in the interpretation of Ladefoged and Broadbent's (1960) click migration study. In that work, it was suggested that the perception of click locations away from their actually occurring positions and toward constituent boundaries is a result of a principle of closure, coupled with subjects' knowledge of the (surface) structure of the stimuli they were hearing. Bever (1970) alludes to the closure strategy

several times. For example, Strategy A cited above claims that a set of constituents will be grouped together on the basis of membership in the same clause, which in turn requires that the speaker-hearer knows what constitutes the minimal components of a clause in English. At the same time, however, Strategy A requires language-specific knowledge of word order. Abstracting away from language-specific factors and toward the formulation of language independent 'operating principles' was proposed by Slobin (1973). One of his most important proposals was his 'Operating Principle D', which states that the language user will tend to avoid, or treat as relatively more difficult, structures which contain interruptions or which deviate from the 'normal' word order expected in a particular language. Here we find a language-independent formulation of closure, coupled with a second language-independent stategy of what might be called 'normal form' (Prideaux and Baker 1982). In general terms, closure can be formulated as follows:

> CLOSURE: In processing a particular linguistic unit (clause, phrase, etc.), the speaker or hearer tends to complete that unit at the earliest possible point.

Within the comprehension, closure can be interpreted as the hearer's attempt to complete a particular clause, etc., as soon as the minimal structural properties for that unit have been satisfied. At a certain point, the hearer is able to complete his construction of the semantic representation of that unit, and he can therefore dispense with the syntax, retaining only the meaning. Closure therefore obtains when the semantic representation for the unit is executed (Kimball 1973). The closure strategy predicts that, if a main clause is interrupted by a subordinate clause, the entire structure should be more difficult to process than a case in which the subordinate clause comes at the end of the main clause. In terms of production, closure suggests that the speaker tends to place subordinate constructions at the extremities of main clauses rather than within them. In other words, the closure strategy predicts that non-interrupted structures should be easier to comprehend and produce than those with interrupting clauses. If this is so, then there should be

a tendency for non-interrupted structures to be more frequent than interrupted ones.

Two important points must be kept in mind about the notion of a processing strategy. The first is that a strategy is just that -- a heuristic device, grounded in the human cognitive system, which is employed, albeit unconsciously, by the speaker or hearer as he processes language. It is not a steadfast rule, free from exceptions. Nevertheless, the usefulness of a strategy resides in the fact that it works so often; its high success rate supports its continued utilization, for if it failed to facilitate processing, it would surely be discarded as useless. The second point is that a strategy must by definition interact with language-specific grammatical knowledge. For example, if a given language permits both internal and sentence-initial or sentence-final subordinate clauses, the interaction of the closure strategy with these facts predicts that, all other things being equal, interrupted structures will be more difficult to process, less frequent, and even perhaps harder to acquire than non-interrupted ones. Such a prediction would not follow from the structural facts alone, but only when the structures are acted upon by the strategy.

Empirical evidence in support of closure is not hard to find, although the closure interpretation of certain empirical facts is sometimes disputed. In what follows, some anecdotal evidence in support of closure will first be presented, and then several experimental studies will be discussed.

English contains sentences such as:

(1) a) That for Fred to win the race is easy is obvious.
b) It is obvious that for Fred to win the race is easy.
c) It is obvious that it is easy for Fred to win the race.

It has often been observed that these structures differ in perceived difficulty, with (1a) the hardest, (1b) next, and (1c) the easiest. Most English speakers

do not seem hesitant to accept (1c) readily, although many tend to reject (1a) as incomprehensible. While all three examples are 'grammatical' in some ideal sense, the reason for the relative differences in ease of processing can be found in the action of the closure strategy: sentence (1c) contains no interruptions, (1b) contains one interruption, and (1a) contains two. Closure therefore predicts precisely the relative order of difficulty which our intuitions reveal. Interestingly, such sentences also constitute counter-evidence for the derivational theory of complexity, since (1a) is closer in form to the presumed deep structure than is either of its two paraphrases, and yet is the hardest to process.

A second class of sentences has also been widely discussed as offering some evidence for the closure strategy, namely the so-called 'garden path' sentences such as Bever's (1970) famous example:

(2) a) The horse raced past the barn fell.

In this example, the hearer expects the main clause to be completed after the word barn since at that point all conditions for a simple sentence have been satisfied. What is not anticipated, of course, is that raced is both a past tense and a past participle, and accordingly when used as a past participle, as in (2a), it may be confused with the past tense form. If, however, the missing relative pronoun and a form of be are included, there is no chance of misinterpretation, as in (2b).

(2) b) The horse which was raced past the barn fell.

The reason for no misinterpretation of (2b) is clear: once the hearer encounters the relative pronoun, he knows that he is into a relative clause and thereby expects that the first verb he hears will be a part of that subordinate clause. Once again, knowledge of the structure of English interacts with closure, with the result that (2a) should be harder to process than (2b), again in accord with our intuitions.

While these two examples appear to constitute impressive evidence in support of closure, they might also be given other interpretations. For example, it might be argued that the order of difficulty of the example in (1) can also be explained by a variable weighting of the extraposition transformation such that the heavier a clause, the more likely (i.e. frequently) it is to be extraposed. Similarly, the difficulty of (2a) might be explained by calling upon a frequency-based argument along the lines that if a past tense and a past participle of a given verb share the same form, then whenever the hearer encounters the form in a potentially ambiguous construction, he always opts for the more frequent past tense form as his first interpretation. Both explanations might be plausible, even though the reason for a differential weighting for the extraposition rule remains unknown, as does the source for differential frequencies of verb forms.

Since alternative explanations are, at least in principle, available for the judgements discussed above, it is useful to turn to experimental data in which the closure strategy can be more directly assessed.

As discussed above, some of the earliest experimental evidence in support of closure was the Ladefoged and Broadbent (1960) click study. Later click studies provided continued support for the claim that subjects tend to perceive clicks at major constituent boundaries, thereby supporting the perceptual integrity of major constituents and hence closure. One of the most telling of the later studies was that of Ladefoged (1967), who told subjects that the sentences they were to hear contained 'subliminal' clicks, and that their task was to indicate the click locations. In fact, there were no clicks in the stimuli, but subjects contended that they heard clicks at major constituent boundaries. Holmes and Forster (1970), using reaction time as a dependent variable, found that clicks located within major constituents were responded to more slowly than those at constituent boundaries. These and a host of other click studies suggest that hearers impose at least major constituent structure on sentences and tend to maintain the integrity of such constituents in such a way that closure forbids their easy interruption.

Relative clauses constitute one of the commonest types of subordination in many languages. Since in English a relative clause can be formed on an NP playing virtually any grammatical role, a set of sentences containing relative clauses in different positions provides a useful domain for investigating the role of closure. As a SVO language in which the relative clause follows the modified NP, English permits both interrupting and non-interrupting relative clauses. Closure predicts that sentences with interrupting relative clauses should be more difficult to process and less frequent than those in which the relative clause is final, even though both types are perfectly grammatical. Here grammaticality does not conflict with or become confounded with closure as was the case in the examples in (1). According to closure, then, a sentence like (3a) should be easier to process and more frequent than one like (3b).

(3) a) The man saw the thief who stole the briefcase.
b) The thief who stole the briefcase saw the man.

In a study dealing with English relative clause structures, Sheldon (1977) had subjects listen to sentence with both interrupting and non-interrupting relative clauses. Her stimuli consisted of the following four types, with examples of each:

(4) SS: S(RPs V O) V O
The dog that bit the man chased the cat.
SO: S(RPo S V) V O
The man that the dog bit chased the cat.
OS: S V O(RPs V O)
The dog chased the cat that bit the man.
OO: S V O(RPo S V)
The dog chased the man that the cat bit.

In the coding to the left of each structure, the first letter refers to the grammatical role of the NP to which the relative clause is attached (subject or object), while the second letter refers to the grammatical role (again,

subject or object) played by the relative pronoun. Sheldon had each subject listen to a sentence, immediately after which two wh-questions were asked, one based on the main clause and one on the relative clause. She tabulated the subject's errors and found that non-interrupted structures (OS and OO types) contained fewer errors than the other two types; the former are therefore easier to process, providing support for closure. When presented with non-interrupted structures, the hearer can complete his construction of the meaning of the main clause before he begins processing the subordinate clause, but with interrupted structures, he can construct only a part of the main clause's meaning, then must hold this information in storage while processing the subordinate clause, and finally complete the processing of the main clause.

Townsend, Ottaviano, and Bever (1979), using a probe-latency task, investigated a variety of complex sentences, including those with both interrupting and non-interrupting relative clauses. They found that subjects processed non-interrupted clauses faster than interrupted ones, and they also found that those clauses with the 'normal' SVO word order were processed faster than those with the non-standard OSV word order. These results constitute support for closure and for the normal form strategy mentioned above.

In a comprehension experiment designed to evaluate the closure strategy and its interaction with other strategies, Prideaux and Baker (1982) constructed four lists of 32 sentences each, based on the structures in (4). Each of the 61 subjects was seated before a computer-controlled CRT screen, and sentences were presented visually one word at a time. The rate of presentation was controlled by the subject, who pressed a button to make the next word come on. The latencies between words were measured. After the completion of each sentence, the subject had to recall the previous sentence, then go on to the next sentence. From the subject's point of view, the sentence unfolded word by word, with the speed determined by the subject himself. Closure predicts that the latency after the relative pronoun should be shorter for interrupted sentences than for non-interrupted sentences, since in the former case no closure could have taken place by the time the relative pronoun was reached, while in the latter,

non-interrupted, sentences, closure should take place after the final object NP had been processed. This is precisely the result which was obtained; latency was significantly shorter after the relative pronoun in types SS and SO (the interrupted structures) than in types OS and OO (the non-interrupted sentences).

The recall data from the same experiment were evaluated, in part, in terms of the kinds of structural errors made. Subjects produced many sorts of errors, such as giving no answer at all, forming sentences which were only partially grammatical, or which contained prepositional phrases, conjunctions, or infinitives. Those errors containing relative clauses are the most instructive for our purposes here. When the stimulus type was of the interrupting sort (SS or SO), the most common error was to substitute a non-interrupting relative clause, and, in fact, most often in the form OS. When the stimulus types were themselves non-interrupting (i.e. OS or OO), errors tended to reestablish a normal SVO word order in the relative clause. These results suggest that closure is interacting with the normal form strategy. A similar tendency was found in the other errors as well, suggesting that subjects perfer the canonical word order SVO.

In an experiment dealing with production (Prideaux and Baker 1983), subjects were shown a short, silent TV clip consisting of several little episodes in a bar or lounge. The subjects' task was to write a short descriptive passage giving an account of what they had seen. The fact that the film was silent elicited considerable descriptive language, including many relative clauses. In data from 28 native speakers it was found that the vast majority of the relative clauses were attached to sentence-final NPs, and this result was highly significant statistically. Closure is again supported.

In a series of text counts (Prideaux in press), the location and structure of relative clauses were tabulated for both fiction (150 pages) and non-fiction (50 pages) texts. The tendency for non-interrupting relative clauses to dominate was again statistically highly significant, strongly supporting closure.

In all the studies discussed to this point, data have been cited from English, and it might therefore be suspected that the tendency for non-interrupting relative clauses to be more frequent and easier to process is a language-specific property of English, or it might even be suspected that there is a universal tendency for object NPs to be more available as relative clause hosts than subject NPs. In order to demonstrate that neither of these possibilities is correct, it is important to examine languages whose structures differ in important ways from that of English.

Japanese and Korean, both of which are SOV languages, constitute ideal contrasts to English, since both have relative clauses which precede the modified NP. Closure predicts that sentences with relative clauses attached to the subject NP, the non-interrupting structure, should be both easier to process and more frequent, than those with the relative clause modifying the object NP, thereby interrupting the main clause. Thus, structures such as (5a) should be easier to process than those like (5b), where RC represents a relative clause.

(5) a) RC+S O V
b) S RC+O V

To test this prediction, Prideaux (1982) carried out an experiment in which sentences with structures like those in (5) were presented to native speaker of Japanese, whose task it was to make acceptability and naturalness judgements of the stimuli. It was found that the non-interrupting structures like (5a) were judged significantly easier and more natural than the interrupting structures of (5b). Choi (1978) reported a similar finding for Korean. Even in the area of language acquisition, it has been reported that Japanese children have far more difficulty with interrupting structures than with non-interrupting ones (Harada et al. 1976; Kawashima 1980).

These studies considered together suggest that it is not the grammatical role of the modified NP which is crucial, since this changes across languages, but rather the location of the relative clause. In summary, there exists a wealth

of empirical evidence supporting the closure strategy.

4.CONCLUSION

The studies cited above, plus many others not discussed here, demonstrate the important role played by closure in actual language processing, including both production and comprehension. There is even evidence that closure is important as a guiding principle in language acquisition. Moreover, the closure strategy is not limited in application to one language only; rather it seems operative in languages as diverse as English and Japanese. A universal tendency is just what one would expect if the strategy has its source in the human cognitive constitution rather than in specific language properties.

An acceptable model of language processing -- one which purports to account for the actual skills, steps, and operations involved in real language production and comprehension -- must reasonably be held accountable to the evidence adduced above. The existence of so much evidence in support of the closure strategy therefore suggests that the strategy models of language processing represent real language processing more satisfactorily than the direct incorporation models, which do not in principle permit access to such strategies. At this point, then, it can be concluded that present evidence supports the strategy models and fails to support the direct incorporation models, in spite of the many unsolved problems associated with each.

FOOTNOTES

1
This research was supported in part by SSHRCC grants 410-80-0343, 410-82-0154, and 451-83-1834. I am endebted to Anita M. Copeland, Terry Cox, Isabel Heaman, Barbara P. Harris, Erica Hofmann, Joseph F. Kess, and Henry J. Warkentyne for useful comments, as well as to the Editors for their helpful guidance. I am especially grateful to the Department of Linguistics at the University of Victoria for providing me with space and support during a part of my study leave.

2
While the notion of a 'category mistake' is often attributed to Wittgenstein 1953, it appears that he himself never actually used this term. See Bartley 1973: 164.

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Theme-Rheme Structure and the Article in Sorbian

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Sorbian, as spoken today in the southeast corner of the German Democratic Republic, is the remnant of a once territorially much larger group of early Slavic dialects which spread between the Elbe and Neisse rivers from the sixth to the twelfth centuries. After the twelfth century, rapid German colonization progressively decimated the Sorbian language area with resulting bilingualism, first among the educated, later as a massive phenomenon. This long period of bilingualism has left unmistakable traces in all domains of the Sorbian linguistic system, one of them being the acquisition of an article, a feature otherwise alien to Slavic grammatical systems.[1] There is virtually no specialized literature on the syntax of the article in Sorbian, perhaps because its usage is restricted to the dialectal and colloquial spheres as well as to an abundant church literature since the sixteenth century. There is no question, however, that the degree and kind of integration of the article in Sorbian is of considerable interest to the general linguist and the sociolinguist alike. From a general linguistic point of view, the intersection of variables resulting from the addition of an article to other syntactic means of expressing definiteness can shed more light on the general theme-rheme structure of languages. For the sociolinguist, the use of the article by different generations of Sorbian speakers can provide valuable data about the nature and evolution of bilingualism.

The use of the article in the Indo-European language family appears to be a syntactic innovation. As Lakoff (1972:174) states:

> In the earliest stages of most languages of this family, there were no articles (though demonstratives did exist, and the morphological shape of the articles developed from them). In some of the languages only the definite article developed; in others, both. In one or two, like Russian, neither has developed. But the trend is to a system containing both a definite and an indefinite article.

Thus, the demonstrative pronoun ille 'that' in Latin developed ultimately into the definite article le in French; the numeral unus 'one' resulted in the indefinite article un 'a'. In English, a weakened form of that eventually yielded the definite article the, while one developed into a(n).

Among the Slavic languages, only Bulgarian and Macedonian have developed a fully integrated grammatical article, although Proto-Slavic had a way of marking definiteness morphologically by the postponed element -i, originally an anaphoric pronoun (Vaillant 1942). The use of an article has also been noted in some styles and dialects of other Slavic languages (see, especially, Krámský 1972). The use of the definite article and , to a lesser extent, an indefinite article, is found in Sorbian in the earliest written sources from the sixteenth century. The definite article takes its form from the original demonstrative pronoun *tъ 'this', as in tón (Lower Sorbian ten), ta, to (cf. Russian tot 'that'). The indefinite article, if used at all, is homophonous with the numeral jedyn (Lower Sorbian jaden) 'one'. Perhaps to compensate for the decrease in deixis of tón, Sorbian has developed new lengthened versions for the demonstrative pronoun, such as tutón or tónle 'this'. As distinct from the language of the written documents from the sixteenth well into the twentieth century, the use of an article is not recommended in the contemporary Sorbian literary languages. The article is widely used, however, in colloquial Sorbian and in regional dialects (see, for example, Šewc-Schuster 1968:124 and Janaš 1976:203).

There can be little doubt that the article arose in Sorbian under the influence of German since language contact and bilingualism of some form or another must be assumed for a very early period in an area roughly east of the Saale and west of the Neisse rivers. It is less clear, however, to what extent the use of an article in Sorbian mirrors that of the article in German, and how the acquisition of an article was integrated with other means of expressing definiteness, specifically with the theme-rheme structure of sentences in Slavic languages. Trying to answer this question provided the incentive for the present investigation which continues previous research

into the degree of integration of the article in the grammatical system of Sorbian (Schaarschmidt 1983).

The method consisted of contrasting sentence by sentence Sorbian translations of German texts, and German translations of Sorbian texts, as well as bilingual versions of stories. In order to have some meaningful way of evaluating the contrastive results, the 'Markedness Differential Hypothesis' (Eckman 1977) was applied to determine the relative ease/difficulty of the integration of the definite article in the speech of Sorbian bilinguals.

It was found, as suspected, that the Sorbian definite article was not used idiosyncratically or in free variation, except possibly in some small subpart of the data analyzed, and here variables, such as style and emotive-expressive functions, may play a role. It was also found that there was no one-to-one correspondence between the use of the article in Sorbian and that of an article in German. This is not surprising in light of the fact that the use and functions of the article vary considerably in those languages that possess this overt category (see, especially, Naylor 1983). The deviations in article usage between Sorbian and German were furthermore not random, but followed from a hierarchy of markedness (in the typological sense) with respect to the integration of the article in Sorbian. Specifically, the more marked a given function of the article in German, the more often the article was found to be absent in the Sorbian text, and vice versa.

At the lower end of the spectrum, Sorbian generally lacked the article when its function in German was that of a purely grammatical marker, a relatively marked function in terms of typological markedness. This was the case especially with prepositions, for example (SI 1:165,169):

(1) (a) Die Kinder fahren mit dem Bus in die Schule.
'The children go to school by bus.'

(b) Te dźěći jědźeja z busom do šule.[2]

At the other end of the hierarchy, the article was found to be virtually

obligatory in Sorbian when its meaning was close to that of the demonstrative pronoun, a relatively unmarked function (SI 2: 197,204):

(2) (a) Wir sahen uns zuerst die Räume, die grossen Häuser mit den Bildern und mit der künstlerischen Arbeit an.
'At first we viewed the rooms, the large houses with with the pictures and the art work.'

(b) My wobhladachmy sebi najprjedy te rumnosće, te wulke chěže z tymi wobrazami a z tym wumĕwskim dźĕwom.

In between these two points in the markedness hierarchy, there are several other variables determining the use or non-use of the definite article in Sorbian. At one point, there is indeed a somewhat grey zone where the use or non-use of the article appear to be in free variation (SI 2: 175,180):

(3) (a) Na ja, was nun? Gehst du in die LPG?
'Well, what now? Will you join the co-op?'

(b) Nó haj, što nĕk? Póńdźeš do LPG?

(4) (a) Ich habe mich entschlossen und bin in die LPG gegangen.
'I made up my mind and joined the co-op.'

(b) Sym so rozsudźiwa a sym šwa do toh' LPG.

Even in this example, the context and stylistic factors may be responsible for the choice of toh' (< toho) in (4 b).

Other variables include generational differences: the article is used more frequently by speakers of the older generation than by those belonging to the younger generation, a difference which is sufficiently wide to be statistically significant. Thus, in some dialect texts, the article in all those cases where it is possible shows twice the frequency for an older-generation speaker born in 1886 (the data were recorded in the late sixties and early seventies), as compared with two younger-generation speakers born in 1929 and 1938, respectively (see, especially, Protze 1974:409-10). Thus, descriptions of the use of the article may vary considerably depending upon the age group of the dialect speakers interviewed.

Last, but not least, the article in German is multifunctional, and it is unlikely that all of its functions can be subsumed under one common denominator or invariant (see especially, Behaghel 1923:31-134). The multifunctional nature of the German article is reflected in Sorbian usage as well, although not all of the functions in German find a reflection in Sorbian and, vice versa, Sorbian shows a few functions which German lacks.

To cover all of this territory in one paper would be an exercise in futility. The present paper will therefore limit itself to the question of the extent to which the article in Sorbian has taken over the functions of other syntactic means of expressing definiteness, especially word order, and which are typical of an article-less language where definiteness is said to be expressed covertly (Birkenmayer 1979:149). Methodologically, the best way to investigate this question seemed to be to contrast colloquial or dialectal usage of the article with literary Sorbian since the latter nowadays prohibits the use of an article.

Although it seems clear that the article alternation in a text cannot be fully equated with the theme-rheme progression (Nikolaeva 1979:170), one of the basic functions of the definite article is to denote known, old information, while the indefinite article denotes unknown, new information. The same information in a text can be conveyed by word order, for example, in Slavic languages where known, old information precedes unknown, new information.

(5) Mal'čik 'prišel.
'The boy came.'

(6) Prišel 'mal'čik.
'A boy came.'

The preceding readings will only work given an identical intonational configuration in both sentences, as indicated here by the apostrophe before the second element in each Russian sentence.

The generalization made above can be expressed in the form of two ordering

rules applying to linearly unordered structures.[3]

(7) [[DEFINITE, MASCULINE, HUMAN [BOY]] , CAME]
1 2 ⟶ 1 & 2

(8) [[-DEFINITE, MASCULINE, HUMAN [BOY]] ,CAME]
1 2 ⟶ 2 & 1

The feature [DEFINITE] in these rules is perhaps best understood as a symbol which may stand for a number of variables including the traditional notion of definiteness. To define this symbol here would go beyond the scope of the present paper (but see Chvany 1983). In any case, the basic functioning of rules of the type (7) and (8) has been described for Russian (Pospelov 1970 and Fursenko 1970) and seems to be operative in other Slavic languages as well. Thus, in Polish, a discourse consisting of two sentences (9) can become ungrammatical if the order of elements is changed in one of the two sentences (10):

(9) W pokoju siedziała dziewczyna. Wszedł chłopiec.
'There was a girl sitting in the room. A boy entered.'

(10) W pokoju siedziała dziewczyna. *Chłopiec wszedł.

The definiteness of chłopiec 'the boy' in sentence (10) is acceptable here only if some other discourse segment with prior mentioning of the boy is understood (see also Szwedek 1973:206).

In Sorbian, the rules for ordering elements work in essentially the same way as in Russian and Polish, if we ignore the tendency to place the verb at the end of the sentence, not only in subordinate clauses, as in German, but, as distinct from German, in main clauses as well. Thus, in Sorbian, an indefinite noun phrase will generally follow a definite one (see, in this report, Šewc-Schuster 1976:107-19):

(11) W zahrodce róža kćeje.
'A rose is blooming in the garden.'

(12) Róža kčeje w zahrodce.
'The rose is blooming in the garden.'

Since one cannot really talk about definiteness or the definite article without also saying something about indefiniteness or the indefinite article, a few words will be in order here about the indefinite article in Sorbian.

As Civ'jan (1976:182-92) has shown in his study of Modern Greek, the indefinite article is a marked category in the sense that it carries advance information. Therefore, its occurrence is limited (1:3 in the texts studied as compared with the occurrence of the definite article). The indefinite article marks the appearance of every new object in a discourse and is thus a kind of boundary signal for text segments which are more or less semantically complete units. The term 'new object' is defined here as a singular object not known contextually in the progression of a text. Plural objects, proper names, and objects known consituationally, although new in a given text, do not require an indefinite article.

Perhaps this can be best illustrated by the following Sorbian popular tale (SV 9-10):

(13) Na jenym twarjenju do kamjenja wurubany jedyn mnich.
On a building into masonry carved a monk

Hay tón šćen tam dźens widźeć.
Yes he still there today to-see

Te twarjenjo je słušało mnicham. Něk cyrkej słuša
The building is belonged to-monks Now church belongs

ewangelskim, ale mjenuje so pšec "Mniša cyrkej".
to-Protestants but is-called always Monk's church

Te su tam wjac moli zamazali a z pucom
It are there several times smeared and with plaster

zamjetali. To šitko zaso wotpada a tón mnich
covered This all again fell-off and the monk

tam zaso jo.
there again is

There is a monk carved into the masonry of the building. Yes, one can still see him there today. The building belonged to the monks. Now the church belongs to the Protestants, but it is still called "Monk's Church". It was bedaubed several times and covered with plaster. All this fell off again, and the monk is there again.

In general, Sorbian avoids the use of an indefinite article, and where it is used, its function cannot always be clearly differentiated from that of the numeral jedyn 'one'. However, in the above text, the function of jedyn is clearly that of an indefinite article introducing new, unknown information (jene twarjenjo 'a building' and jedyn mnich 'a monk'.)

Where a new noun phrase in a given text refers to an object which is consituationally known, the use of the indefinite article is not required. This is most commonly the case in folk tales where known mythical figures act like proper names, such as wódny muž 'water sprite' in the beginning sentences of two Sorbian folk tales, with (15) being Lower Sorbian and (16) Upper Sorbian (SV 61 and 25, respectively):

(15) Wo Borkowach bydlił wodny muž ...
'In Burg there lived a water sprite ...'-

(16) W Komorowje boł wódny muž ...'
'In Commerau there was a water sprite ...'

After the introduction of the two new objects twarjenjo 'a building' and mnich 'monk' in (13), they are then referred to by the definite article (te and tón, respectively), or by the anaphoric pronoun which in dialectal speech has the same form as the definite article. In this pronominal function, there is little fluctuation in the texts studied, and Sorbian dialectal usage shows complete agreement with the German usage of the article der (die, das) as an anaphoric pronoun, while literary Sorbian prescribes wón, wona, wono (wone). The assumption made in a number of linguistic studies that articles and pronouns are merely superficially distinct manifestations of a single underlying category works particularly well for Sorbian where, dialectally, articles and pronouns are not even superficially distinct (see also Postal 1966 and Sommerstein 1972). A rule, such as (14a), which deletes

the included, specific subset of a generic nominal under conditions of referential identity in some context, expresses this generalization for article/pronoun creation. A lexical rule (14b) will then spell the generic features as either tón, for dialectal speech, or wón, for the literary language.

(14) (a) $[[[\underbrace{\text{MASC, HUMAN } [\text{ BOY }] \text{ X}]}_{1} \; \underbrace{[\text{SAME, MASC, HUMAN } [\text{BOY }]}_{2} \; \underbrace{\text{Y}}_{3}]] \longrightarrow 1 \not{\emptyset} 3$

(b) $[\text{ MASC, HUMAN }] = \left\{ \begin{matrix} \text{tón} \\ \text{wón} \end{matrix} / [\text{ Dialect }] \right\}$

In languages which have both variable order of the type discussed in (5) and (6) and a system of articles, the alternation definite article/indefinite article would seem to be redundant. Thus, in German, the sentences (17) and (18) read with a normal, non-contrastive intonation, mark the known/unknown alternation by means of both word order variation and article alternation.

(17) In der Stube sass ein Junge.
'A boy was sitting in the living room.'

(18) Der Junge sass in der Stube.
'the boy was sitting in the living room.'

Since Sorbian, like other Slavic languages, can use word-order variation much more freely than German for expressing the known/unknown distinction, one wonders whether the use of an article is not simply a redundant concomitant feature of such variation in Sorbian dialects, or whether word-order variation has become more restricted. Our preliminary analysis of the dialect data shows that rather the opposite is the case, i.e., the addition of a definite article would seem to allow a broader range of word order variants than is otherwise possible in literary Sorbian. It must be emphasized, of course, that the present investigation is just the beginning of a more comprehensive examination of this problem. It is very important, for example, to include the variable of intonation in a more comprehensive study. Nevertheless, in the two examples below, a comparison between dialect data and the literary standards of Upper and Lower Sorbian would seem to indicate that, ceteris

paribus, the choice of a definite article allows an additional word order variant not usually found in the given contexts in the literary language.

Consider first the following passage from Upper Sorbian dialect data (19b) contrasted with the same passage (19c) in the literary language (SI 1:139,144):

(19) (a) In alter Zeit sind die Leute zu Fuss auf die Wiesen gegangen ... dann kamen die Räder auf, dann sind wir mit den Rädern dorthin gefahren ... und jetzt fährt auch der Bus in die Stadt, vier oder fünf Mal jeden Tag. Da kann man immer mit dem Bus fahren.

'In the old days people went to the meadows on foot ... then bikes appeared, and we went there by bike ... and now there is also a bus going into the city, four or five times a day, so one can always go by bus.'

(b) W starych časach su ludźi cufus chodźili na łuki ... pon su přišli te kolesa, pon smy z kolesami jězdźili tam ... a nět dźe tež bus do města štyri o pjać moli kóždy dźeń. Da móžeš přecy z busom jězdźić.

(c) W starych časach su ludźo pěši chodźili na łuki ... potom su kolesa přišli, potom smy z kolesami jězdźili tam ... a nět dźe tež bus do města štyri abo pjeć króć kóždy dźeń. Tuž móžeš přeco z busom jězdźić.

It should be noted that auxiliary verb forms, such as su 'are' in (19b) and ordujo 'will be' in (20b), are not counted in determining the theme/rheme positioning in Sorbian. Thus, in (19b) the noun phrase ludźi 'people' is considered to be preverbal, as is ta gus 'the goose' in (20b).

The phrase in question in (19b) is su přišli te kolesa 'the bikes appeared' which corresponds to literary Sorbian su kolesa přišli. The noun kolesa 'bikes' is in this context understood to be known by contrast since the preceding sentence made reference to pěši 'on foot'. The postverbal positioning of te kolesa appears to be a direct consequence of the use of a definite article here, thus nullifying the normal theme/rheme positioning. That positioning is also possible with the article, i.e., su te kolesa přišli, without any apparent difference in meaning.

The same situation exists in the dialect passage (20b), taken from Lower Sorbian (SD 3:12-13):

(20) (a) Und vor der Kirmes muss noch der Sand gefahren werden ... und dann wird noch die Gans geschlachtet ... und ein Korn wird auch gekauft ... und am Sonnabend dann werden die Kuchen gebacken.

'And before the kermis the sand must still be hauled ... and then the goose will be slaughtered ... and a corn schnapps will also be bought ... and then on Saturday the cakes will be baked.'

(b) A prjoz teje kjarmuše yšći musy byś ten pjesk wezony ... a pen teke yšći ordujo ta gus zašlachtowana ... a jaden korn ordujo teke kupjony ... a sobetu pen ordujo pjacone te mazańce.

Here the extra word order variant ordujo pjacone te mazańce 'the cakes were baked' stands out even better due to its contrast with preverbal constructions, such as musy byś ten pjesk wezony 'the sand must be hauled' and ordujo ta gus zašlachtowana 'the goose will be slaughtered'. The existence of this typical rheme order in the same context with theme orders shows that the use of the definite article is clearly not a redundant feature in Sorbian, but one which in fact cancels out the usual theme-rheme sequencing.

Conversely, the definite article can apparently be omitted where preposing already indicates that a noun phrase is the theme, for example, ludźi in (19b). The data are not sufficient to advance this as a general hypothesis, but it seems that a rheme may not necessarily have to be postposed when the overt indefinite article is present, e.g., jaden korn ordujo teke kupjony 'a corn schnapps will also be bought' instead of teke ordujo kupjony korn, provided that jaden is indeed the indefinite article here, and not the numeral 'one'.

The phrase nět dźe tež bus do města 'now there is also a bus going into the city' in (19b) is somewhat problematic because bus seems to be indefinite here, yet the German version has a definite article. Replacing der Bus 'the bus' with ein Bus 'a bus' does not seem to make any difference here, at least

for this writer, so perhaps the English translation is a more accurate rendering of the Sorbian text. In any case, a phrase with ten bus 'the bus' preposed, as in nětten bus tež do města dźe 'now this bus also goes to the city' has quite a different meaning because the implication here seems to be that a given route was extended to include the city, while in (19b) an entirely new route could be involved.

In summary, the use of an article in Sorbian does not appear to be a mere redundant addition to the covert means of expressing definiteness, but actually allows more flexibility in the choice of variants for the sequencing of syntactic elements in terms of the theme-rheme progression in discourse. It may well be the case that these dialectal variants, which are not normally found in the literary language, carry additional meanings and functions which, when combined with intonation, make the syntax of dialectal and colloquial Sorbian very different from that of literary Sorbian. The answer to this question must be left for a future study.

It will be appropriate to conclude this paper on a sociolinguistic note concerning the relationship between the use of the article in Sorbian and the degree and kind of Sorbian-German bilingualism. In a study of the Lower Sorbian langauge, Juro Krygař (1956:57) notes in 1675 that 'naša rěc znajo pśi wěcownikach artikl' (our language uses an article with nouns). In a footnote, the editors state that the educated of that time acquired Sorbian on the basis of German, which explains their desire to place an article before nouns. What seems to be implied in this note is that article usage is possible only when Sorbian has ceased to be a first language for bilingual speakers and is therefore learnt via German. That statement also seems to imply that those Sorbs who were uneducated learned Sorbian first and German second, or not at all, and thus did not use any article. It is of course impossible to provide any direct verification of this claim about language use in the seventeenth century, except perhaps through a study of tales, but there appears to be some indirect evidence in favour of this statement.

The widespread use of an article in colloquial Sorbian and the dialects

among the older generation of speakers interviewed in the 1960's would seem to be in line with the view that, among the literate Sorbs (and most of them were), Sorbian was learned through German. In fact, the entire Sorbian language area had been shrinking considerably since the late nineteenth century, with some dialects becoming completely extinct by the 1930's, thus making many Sorbs in effect monolingual, i.e., German-speaking.

After 1945, when Sorbian had begun to be taught intensively in schools, with some schools using only Sorbian as a means of instruction, the language again acquired a status close to that of a first language, if not that of a first language, for most of the speakers born in the late twenties and the thirties. As a result, less mixing occurs, and the younger generation uses the article with considerably less frequency than the older generation. The prohibition against the use of an article in the literary language must thus be considered not a purist trend in its entirety, but a reflection of the changing usage by the new 'native' speakers of Sorbian.

FOOTNOTES

[1] Actually, "Sorbian" is the generic term for what some linguists consider two distinct languages, viz. Upper Sorbian with appr. 65,000 speakers and Lower Sorbian with appr. 25,000 speakers. For the purpose of the present study, this distinction can be safely ignored since the usage of the article shows identical patterns in both Upper and Lower Sorbian in the texts investigated.

[2] The transcription of dialect data is that used in the primary sources. Specifically, w is used for either w or ŵ in those dialects where ŵ has a bilabial pronunciation.

[3] The format of the rules given in this paper follows Sanders' equational grammar notation, with square brackets indicating sets of syntactic-semantic features and the ampersand (&) denoting a linear order relation. See, in this respect, Sanders 1972 and Sanders 1975.

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Persuasive Language in Advertising and Televangelism

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Although 'persuasion' has been given a variety of definitions over the years, a composite of the most common meanings for the term would define 'persuasion' as the process of inducing a voluntary change in someone's attitudes, beliefs or behaviour through the transmission of a message (Bettinghaus, 1968; Anderson, 1978). The pre-eminent means for transmitting a persuasive message is language, and in the modern world the mass media offer the largest and most accessible audiences. Television, in particular, provides a well-developed example of the use of spoken language for persuasive ends. There is, however, a tendency to consider persuasion as primarily an instrument of such obviously contrived ventures as commercial advertising or classical oratory. Such a naive conceptualization overlooks the fact that persuasion is also a normal part of other media presentations which also employ persuasive means to achieve well-defined goals. This paper is an attempt to refine our understanding of the wider role of language in the persuasion process by examining the broadcasts of television evangelists. More specifically, this study consists of an examination of the promotional segments of these broadcasts to determine if the linguistic features already established for television advertising (see Lakoff, 1981, and Geis, 1982) can also be found in another form of language used to persuade, namely, televangelism.

Unfortunately, there is currently no generally accepted theory which deals with the process of persuasion (see Himmelfarb & Eagly, 1974, and Reardon, 1981, for an overview). The complexity of the persuasion process is attested to in both the variety and number of process models put forth, none of which has yet been able to account for even a major portion of the experimental results of persuasion research. Some experimental work has been conducted specifically to determine whether certain linguistic devices or stylistic features might have an impact on persuasion. Unfortunately, this research

has generally suffered from a lack of comparability between operational definitions of the variables studied, resulting in findings which have tended to be mixed and difficult to interpret in relation to one another (Reardon, 1981). For example, while there is some evidence to indicate that metaphor and simile enhance the persuasive impact of a message (Reinsch, 1977), a series of experiments conducted to test the effects of other stylistic features failed to uncover any consistent effects of message style on persuasion (Sandell, 1977). One consistent result of research on the effect of linguistic style, however, has been to show that the persuasive impact of a message is affected by style insofar as the style of the message is perceived by the recipient to be similar to his own (Giles and Powesland, 1975; Sandell, 1977). Thus, it has been found, for example, that even though speakers with a standard or prestige accent are generally accorded more credibility and their arguments are judged to be more sound, a recipient with a non-standard accent will nevertheless be more persuaded by a message delivered in the register which most closely resembles his own (Giles & Powesland, 1975).

Looking specifically at the language of television advertising to date, three major studies have been conducted which focus specifically on the language used in this advertising type. The first of these (Leech, 1966) was published almost two decades ago and used data taken from various types of advertising found in Great Britain. The second (Lakoff, 1981) notes that an essential identifying feature of persuasive communication in this genre is its quest for novelty of expression, and offers the following evidence from examples of television advertising (see Lakoff, 1981, p.37):

1. lexical novelty or neologism (e.g., devilicious)
2. morphological or syntactic novelty (e.g., the soup that eats like a meal)
3. syntactic innovation
   a) absence of subjects and verbal auxiliaries (e.g., Tastes good! And nutritious too!)
   b) odd uses of the definite article (e.g., Next time I'll buy the Tylenol. Diaper keeps moisture away from baby's skin)

4. semantic anomaly (e.g., Cleans better than another leading oven cleaner)
5. pragmatic novelty (e.g., conversation in mini-dramas: "Fill it to the rim""With Brim")

Lakoff accounts for this extensive use of linguistic novelty as follows. First, anything neologistic, because it violates Grice's fourth conversational maxim, the Maxim of Manner, draws attention to itself, thus increasing the impact of the message (see Grice, 1975). Second, through this violation of the Cooperative Principle, neologism forces the hearer to interpret, and therefore, to participate in the discourse. According to Lakoff, this active role played by the hearer, in turn, enhances learning and retention, and consequently also persuasion.

The third study (Geis, 1982) examined approximately 800 American television commercials collected between 1978 and 1981 to determine not only what linguistic features might characterize this form of persuasive communication but also what the viewer might be expected to understand from what is said. Among Geis' findings was the recognition of two general approaches taken by advertisers in their language use. The first was considered by Geis to be a manipulative use of language in that the impact of the message does not depend on the recipient's conscious evaluation of its content. A common technique cited involves the frequent repetition of the product name with little or no supporting argumentation given as to the merits of the product itself. In the second type of persuasive language, the viewer is presented with a message whose impact derives from his evaluation of the arguments or claims which it contains.

Results of Geis' subsequent analyses of the commercials studied indicate that a number of linguistic techniques are common to a large proportion of television advertising. Included among these are the following (see Geis, 1982, p. 139):

1. The use of imperative structures to make suggestions (e.g., Try Ex-Lax pills, the overnight wonder)

2. The use of adjectivalization processes (e.g., buttery, creamy, crispy)
3. Rhetorical questions (e.g., Why hasn't someone invented a better tooth-brush?)
4. Elliptical comparatives (e.g., the new Chevette has more head room, more seat and legroom, more trunk room)
5. The use of count nouns as mass nouns (e.g., a lot more Chevette for a lot less money)
6. The terms introducing and announcing to attract viewer attention (e.g., Introducing the first roast beef sandwich big and tasty enough for Burger King)
7. Product names which constitute mini-advertisements for the product (e.g., Soft & Dri deodorant)

Probably the major finding of this research, however, was that advertisers favour indirect means of making claims for their products. That is, rather than making explicit assertions as to the value or effectiveness of their product, they invite the reader to infer this information through a process of conversational or conventional implicature. Conventional implications derive from the actual semantics of a sentence in terms of lexical meaning and the semantic component inherent in structures much as questions and imperatives. For example, the question Who ate the cantaloupe? conventionally implies, among other things, that someone ate the cantaloupe. In Geis' analysis, conventional implicatures also include logical entailment relations, since they have in common the fact that if the entailed or implied proposition of a sentence is cancelled, the result is a semantically anomalous sentence. For example, consider the following sentences and the result of cancelling the implied and entailed propositions, respectively.

Who ate the cantaloupe?
*I know that no one ate the cantaloupe, but who ate the cantaloupe?
John read a book and Mary went home.
*John didn't read a book, but John read a book and Mary went home.

Geis has explained the use of conversational and conventional implicature

in advertising on two grounds. First, by adhering to a literal interpretation of what is said, advertisers protect themselves from prosecution for what might be indefensible claims. Second, the viewers' cognitive defenses are much less likely to be stimulated by that which is not asserted directly. However, since the claims made in this way are strongly implied through the same techniques of conversational implicature that are regularly used in ordinary discourse to facilitate conversation, viewers will generally derive the intended interpretation, but with less counterargumentation. Thus, it is hypothesized that this approach to making claims could actually make the message more persuasive in effect than direct claims stated explicitly.

Through a close examination of the actual claims made, Geis discovered that the literal strength of these claims is often severely mitigated through the use of modal verbs such as can, might, may, could and help. However, Miller and Johnson-Laird (1976) found that people often do not attend to certain modal elements in states of idle listening. Since television viewing is generally a passive state, many of the claims used in television advertising thus actually appear to the majority of viewers to be much stronger than they actually are.

Generally, then, Geis concluded that people untutored in logic do not tend to evaluate arguments on the basis of their logical validity. Rather, they apply the regular rules of conversational implicature in the interpretation and evaluation of arguments presented to them. This fact, combined with both the relatively inattentive state which characterizes television viewing and the real-time limitations on the messages presented in television advertising, serves to make viewers much less sensitive to the detection of faulty argumentation or weak claims.

Our research attempted to determine whether the kinds of linguistic devices said to characterize effective persuasion in television advertising could also be found in another type of language use intended to persuade. The data used for purposes of comparison were taken from the broadcasts of television evangelists, also known in the popular media literature as the 'electronic church'.

Televangelism differs from the kinds of religious programming produced by mainline churches such as the Lutheran, Catholic or Anglican denominations in several important ways. While televangelists share with mainline churches the fact that it is a stated purpose of all religious broadcasting to recruit converts, they differ in the degree to which this goal is pursued. For televangelists the use of television is a matter of 'fulfilling the great commission' of ensuring that every person on earth has the opportunity to hear the gospel (Hadden & Swann, 1981, p.90). In keeping with their view of God as a very active participant in world events, television and the other mass media are seen as God's provision of the means by which to carry out His will. Televangelists must also pay for their broadcast time, while television stations have traditionally donated the time used by the mainline denominations. Furthermore, because the televangelists' ministries are not supported by an established network of churches, these ministries depend upon the financial support of their audiences for their very existence (Hadden & Swann, 1981). Hence, televangelists must secure not only regular viewers but also sufficient contributions from them to carry the costs of their television broadcasts. Donations, however, are not always solicited directly. Instead, the ultimate goal of securing financial contributions is very often pursued by first simply getting the viewer to respond to the program. Various inducements such as gift offers, prayer requests and telephone counselling are commonly offered as reasons for the viewer to respond, and if he responds, his name will automatically be placed on a computerized mailing list through which subsequent appeals for contributions are sent. It is through these computerized mailing lists that a great deal of the actual fund-raising for televangelists is done (Hadden & Swann, 1981).

The programs themselves are generally fast-paced and highly entertaining. They are characteristically divided into a series of short segments which include songs, a variety of speakers, interviews, film clips, and typically a sermon. The five programs used for this study had in common the use of several of these segments specifically for purposes of promoting the ministry, the program itself, or the items or services offered. It was during these segments that viewers were also asked either to write or to telephone the

ministry in order to receive the aforementioned goods and services or to make a contribution to the ministry. Thus, in addition to the religious issue of attempting to gain converts, the programs of televangelists also contain persuasive attempts of a more secular nature. That is, televangelists seek to persuade their audience to become regular or frequent viewers of the program and/or to respond to the program. Furthermore, although every segment of the broadcast could be considered to contribute to an overall persuasive effect within the programs used for this study, certain segments were identifiably persuasive in intent since they were devoted specifically to the promotion of the program, the ministry or the various items or services offered.

The data for this study were taken from the promotional sections of five of the most popular televangelistic programs. Popularity ratings were determined through audience statistics for 1980 provided by Arbitron (see Hadden & Swann, 1981), and the five programs selected on this basis were, in rank order, Oral Roberts and You, You Are Loved (evangelist, Rex Humbard), The Hour of Power (evangelist, Robert Schuller), Jimmy Swaggart, and The Old Time Gospel Hour (evangelist, Jerry Falwell). The particular broadcasts used for this study were taped on one of two consecutive Sundays, January 17 and 24, 1982.

The promotional segments isolated for analysis were defined as those parts of the program which contained appeals for viewer response or promotion of the ministry or the program itself. The data taken from these segments were restricted to include only those speech samples that were directed specifically toward the viewing audience. That is, conversations and interviews were not included in the analysis since these could not be assumed with confidence to be intended to persuade. The data were further restricted to include only the audio portions of the programs studied, thereby eliminating the non-verbal component of communication from analysis.

The data from each of the programs were searched for occurrences of the linguistic features discussed by Lakoff and Geis as characteristic of persuasive

language in television advertising, as well as for other features described in the introductory pages of this paper. Any given feature had to occur in at least two of the programs to be considered worthy of note. Specific examples found in the data were then compared with those of television advertising to determine the degree of similarity or the types of differences that occurred within the general categories set up either by Lakoff or Geis.

As mentioned earlier, an essential identifying feature in Lakoff's analysis of persuasive television advertising was the extensive use of novel terms and expressions. While the use of such terms and expressions did not occur frequently in the data, every broadcast surveyed did contain at least one example of a novel use of language.

Two instances of lexical novelty were found in the data. In both cases existent lexical items were used to construct terms for concepts unique to the ministry in which they were used. One of these, possibility thinking, was coined by Robert Schuller to refer to the positive outlook espoused by his ministry as a way of life to be followed in conjunction with the teachings of Christianity. The meaning of the term is relatively easy to derive from the lexical meanings of the items within the compound and the context of the program. This may be contrasted with the term seed faith, used by Oral Roberts to refer, essentially, to donations to his ministry (Hadden & Swann, 1981). Here the referent of the term is not transparent, given the meanings of the lexical items which comprise it. Furthermore, references to seed faith during the course of the program serve to disambiguate its meaning only in very oblique ways. Nevertheless, given the fact that seed faith is discussed exclusively as a means by which someone can obtain miracles from God, it would appear from the data that the use of this term actually constitutes an attempt to re-frame the concept of donation as something which benefits the giver, while obscuring any potential gains to be derived by the recipient of the donation.

Several instances of morphological or syntactic novelty also occurred in the speech of televangelists. Here existent terms were either used as

belonging to a different part of speech class or they were set out in unusual syntactic environments. Some examples of morphological or syntactic novelty found include the following (each of the numbered quotations in the examples is taken from the broadcast of the evangelist whose name follows it):

1. God wants to bless and prosper you. (Oral Roberts)
2. We're going to believe God for those letters that have come to us saying Rex, at prayer time, pray for me. (Rex Humbard)

In examples (1) and (2) above, the novel use of prosper and believe results in a functional condensation, since the more conventional way of saying (1) would be God wants to bless (you) and make you prosper. Similarly, the actual meaning of (2) might be expressed grammatically in a sentence such as We're going to believe that God will answer the requests contained in those letters that have come to us. In this case, the condensation also involves a change in the semantic component, since the most likely interpretation of this sentence is not completely expressed in the actual terms used.

Syntactic innovation in the form of an absence of subjects and verbal auxiliaries was also found in the speech of televangelists.

3. Well, a real good song - "Cast Your Bread Upon the Waters." (Oral Roberts)
4. Talks about a better place, a better land. Entitled "Heaven For Me." (Jimmy Swaggart)
5. Thousands of people together here for one of America's most positive and inspirational programs. (Robert Schuller)

The environments in which these instances of syntactic innovation occurred are similar in that they were all introductions. In (3) the name of a song was introduced immediately after it had been sung, while (4) and (5) preceded the items introduced, a song and the program, respectively.

Aside from the metaphorical use of language, two of the programs surveyed also contained instances of semantic anomaly.

6. As president of my corporation I am faced with many problems. Some of them are positive, some are negative. (Robert Schuller)
7. To provoke a soul-winning conversation. (Jerry Falwell)

Both these examples contain violations of the semantic selectional restrictions on nouns. In (6) the attributive adjective positive is used to describe problems, while in (7) the verb provoke is used with the direct object conversation. In both cases it is the conventional meaning of the noun which contributes to the anomaly. Problems are conventionally considered to be undesirable and therefore negative. Making a distinction between positive and negative problems involves an elimination of the negative connotation on the noun itself, making it affectively neutral. Similarly, the conventional meaning of conversation is that it is a cooperative exchange between speakers, while the verb provoke implies a level of confrontation or aggression on the part of the agent. The use of the modifier soul-winning in this case may soften the impact of the anomaly by suggesting that there is a class of conversation which can or must be provoked. Nevertheless, the use of conversation in this context remains anomalous, unless one redefines its meaning to include such talk exchanges as arguments or disputes.

Generally, then, it would appear from the data that televangelists, like television advertisers, utilize various types of linguistic novelty in their persuasive speech. In some of the cases found, (e.g., seed faith, to believe God for ... letters semantic anomaly), the linguistic novelty also contributed to a change in the conventional or connotative meaning of the terms used or the items referred to in this way. The only types of novelty identified by Lakoff which were not found in the data were odd uses of the definite article and pragmatic anomaly, a type of novelty found to occur in the somewhat stilted conversation of mini-dramas in advertising. Since the data used did not contain interviews or conversations, the absence of pragmatic anomaly is to be expected. The fact that the definite article was not used in odd ways by televangelists points to a difference between the two types of persuasion. Since the speech of televangelists tends to be less scripted and therefore more natural than that of advertising, it is not unexpected that this type of syntactic innovation is a feature which characterizes advertising language specifically.

Television advertising sees the frequent repetition of product names as one common manipulative use of language which seems to function mostly in getting the hearer to remember the name (see Geis, 1982). For example, the morpheme yum is mentioned 24 times in one 30-second commercial for the product Bubble Yum. The fact that the promotional segments in the programs used in this study varied in length from 4.7 (Oral Roberts) to 17.4 (Jerry Falwell) minutes, however, made it virtually impossible that any name could be repeated at an average rate of 48 times per minute throughout these segments and still maintain some semblance of normal language use. Bearing in mind the duration of the segments contained in the current data and the conversational nature of the language used, a 'high rate of repetition' was operationally defined as any name which was mentioned an average of at least twice per minute, during the course of these segments. Results of a subsequent search of the data are set out in Table 1 below.

TABLE 1

Frequency and Rate per Minute of Highly Repeated Names by Evangelist

Evangelist	Name	Frequency	Rate
Oral Roberts	Oral	15	3.2
Rex Humbard	Rex	20	2.1
	God	19	2.0
Robert Schuller	Schuller	25	3.1
Jimmy Swaggart	Swaggart	15	2.5
Jerry Falwell	Faith Partners	34	2.1

In three of the programs studied, only one name was repeated more than twice per minute, and that was the name of the evangelist. In Rex Humbard's program the evangelist's name was still the most frequently mentioned, but God was also mentioned an average of twice per minute. One exception to the trend of mentioning the evangelist's name more frequently than any other was found in Jerry Falwell's Old Time Gospel Hour. Here it was the name of the regular contributors to the ministry, the Faith Partners, which was repeated most frequently, at a rate of 2.1 times per minute. In many cases, the name was not mentioned in isolation, but rather as a part of a larger name for a product,

group or institution belonging to the ministry.

Unlike most television advertising, televangelists' programs involve the promotion of more than a single identifiable 'product'. Included among these are the program itself, the group comprised of regular financial contributors, and the various items or services offered during the program. An examination of the names given to these various 'products' showed that, as with the names used in television advertising, many of them do, indeed, convey information which could function in helping to promote them. Perhaps the most interesting of these are the names given to the groups comprising regular financial contributors to the ministry.

8. The Faith Partners (Jerry Falwell)
9. The World Outreach Partners (Jimmy Swaggart)
10. The Prayer Key Family (Rex Humbard)
11. The Possibility Thinkers' Club (Robert Schuller)

All of these names have been constructed from noun compounds which function as prenominal modifiers + a head noun. By referring to the contexts of the programs, the particular choice of lexical items used as modifiers in describing the group can be seen as a type of assertion as to its nature or value. Secondly, all of these head nouns have in common the semantic feature < +belonging>. Two of the names describe the group as partners, one is called a family, while the other is a club. That is, these lexical items could be said to contribute to the impression that the regular contributors to a ministry are all part of a close or even exclusive group. The impression of belonging is supported by an assertion made by Jerry Falwell that one of the items sent to the Faith Partners in return for their monthly contribution would make them 'a part of the inner circle'. Similarly, the term club tends to connote not only belonging but also exclusive access to those who are members. In the case of Robert Schuller's Possibility Thinker's Club, the implication of exclusivity is reinforced by the fact that members receive I.D. cards identifying them as such, even though membership in this club is an automatic result of simply pledging one's monthly support.

Another characteristic feature of television advertising is the use of claims whose literal strength has been mitigated through the insertion of modal verbs such as may, can and help. In the case of televangelists' speech, however, it was found that although claims were also used extensively, this type of mitigation was not. In fact, only two instances of mitigation were found, neither of which used modal verbs.

12. (Through the people just mentioned) probably we're getting in more Bibles than anyone else (to China). (Jimmy Swaggart)
13. When you consider the fact that we're on nearly 400 television stations, 500 radio stations, reaching literally the potential every household in North America, and throughout Australia, the Phillipines, the islands of the sea - many parts of the world. (Jerry Falwell)

In (12) the claim is mitigated through the use of the adverb probably while (13) contains two types of mitigation. The adjective nearly definitely applies to the phrase which immediately follows it, but its scope may also include the number of radio stations mentioned. In either case the literal strength of the claim is severly reduced, since it is the speaker's judgment that the actual number is close to 400; it could conceivably vary between 250 and 399 and still make the claim literally true. The second type of mitigation is found in the awkward construction literally the potential every household where the insertion of the modifying phrase the potential significantly weakens what would otherwise be a very strong claim indeed.

Many of the claims made by the televangelists contained no attempt to mitigate their literal strength.

14. (Andre Crouch, the guest singer is) Loved by thousands, yes by millions. (Oral Roberts)

Some of the claims made by televangelists could be classed by subject into types. One such type contained an assertion as to the personal participation of God in furthering the work of the ministry.

15. God has called Rex and given him a vision of a world-wide outreach to searching and starving souls. (Rex Humbard)
16. God had made it possible for us through a network of effort that I can't describe to you (to get Bibles into China). (Jimmy Swaggart)

Another type of claim mentioned the number of people actually converted or 'reached' by the ministry in its outreach efforts.

17. Thousands get saved on a regular basis. Watching, listening to our television, radio programs. (Jerry Falwell)
18. As Rex led them in prayer, literally hundreds of thousands acknowledged Jesus Christ in their hearts and minds. (Rex Humbard)

One common feature of television advertising is the prevalence of speech forms which convey information that must be interpreted through processes of conventional or conversational implicature. Conventional implicature derives from the conventional meaning of the words in an utterance and the semantic component entailed in its structure. Conversational implicature, on the other hand, also utilizes such information as is provided by the context, shared background knowledge and beliefs, as well as the Cooperative Principle and conversational maxims set out by Grice (1975). In the language of televangelists, many instances of claims and assertions were found which required some measure of conventional or conversational inference in their interpretation.

19. Father, help each one here and millions watching by television to prepare to meet God. (Jerry Falwell)
20. Our way of saying thanks for helping to proclaim God's word to millions of needy people. (Jerry Falwell)

Sentence (19) conventionally implies the proposition millions are watching by television. This can be demonstated by the test for conventional implicature, cancellation, which results in the anomalous sentence *Millions are not watching by television, but help each one here and millions watching by television. Similarly, (20) conventionally implies that we proclaim God's

word to millions of needy people. This sentence also contains the conversational implication -- by the Maxim of Relation -- that the needy people referred to are in need of God's word, not food or money or shelter. This demonstrates a feature also found in television advertising, namely, that conventional and conversational implicature often occur together in the same utterance or string of utterances which form an argument. This interaction of the two types of implicature is further exemplified in the following set of utterances from Oral Roberts' program.

21. What we've built here in the City of Faith is a medical centre with the most advanced design and technology of any medical centre in the world. But more important, we've brought together people from all over the country who believe in medicine AND believe in prayer. And THAT is really what makes the difference.

The final sentence in this set conventionally implies that there is a difference between the City of Faith and other medical centres in the world, and further, that this difference can be attributed to something already referred to. By referring to the linguisitc context of the preceding utterance (including the stress on and and the Maxim of Relation), it can be shown that this sentence further implies through conversational implicature that the difference referred to can be attributed to the additional feature of belief in prayer. For many people, this might conclude the inferences that they would draw from these utterances. For those who are familiar with Oral Roberts' ministry, however, there is another proposition implied in these utterances which depends on shared background knowledge and beliefs. The necessary background information is the fact that Oral Roberts himself is a known faith healer. He not only began his television ministry as a faith healer, but continues to conduct healing services in his untelevised meetings throughout the country (Hadden & Swann, 1981). A listener who is aware of these facts and who shares Oral Roberts' belief in faith healing might also infer that the way in which a belief in prayer 'makes the difference' in the City of Faith is through invoking God's help in healing, or more succinctly, through faith healing. Most of the cases of conversational implicature found in the speech of televangelists are similar to those of television advertising in that they require that inferences be drawn on the Maxim of

Relation.

Another indirect speech form employed by television advertisers favours vague language in the statement of propositions which might otherwise be subject to empirical verification. Television advertising can thus make assertions or claims about their product which sound good, but which are literally so weak as to have virtually no empirical consequences. This was also found to apply to the speech of televangelists where the use of vague speech forms often results in sentences which give the hearer latitude in interpretation of referents used. Certainly it would be difficult to dispute any of the claims or assertions listed below.

22. When Oral Roberts founded a university in 1968 he was looking for a special kind of student. A person who wanted to make a difference. Since that time, Oral Roberts University students HAVE made a difference. O.R.U. competes with the best. Write the Director of Admissions ... And find out just how special YOUR life can be. (Oral Roberts)
23. Something good is going to happen to you. (Oral Roberts)
24. This devotional guide can be the key to your new year. Last year's guide was a life support to possibility thinkers around the world. The new guide will be equally helpful. (Robert Schuller)

Another linguistic feature found to be common in television advertising was the process of constructing adjectives from other parts of speech. The language of televangelists was found to be similar to that of television advertising as these processes were also used extensively, though the kinds of adjectives formed differed considerably. First, unlike television advertisers, televangelists did not generally employ -y suffixation, except in such common terms as daily, weekly, and monthly. Second, although nouns were frequently used as adjectives in prenominal position, the compounds constructed this way did not generally function as similes. Rather, there was a marked tendency in all five programs to use various types of adjective formation in constructing noun phrases which consisted of a long series of modifiers

followed by a head noun.

25. this brand new for 1982 daily devotional guide (Robert Schuller)
26. my fiftieth anniversary that I've been in God's work golden medallion (Rex Humbard)
27. soul-stirring Bible preaching (Jimmy Swaggart)
28. an old-fashioned spirit-filled revival service (Jimmy Swaggart)
29. the television radio ministry Old Time Gospel Hour (Jerry Falwell)

From these examples it can be seen that various parts of speech were used as prenominal modifiers, including a phrase in (25) and a clause in (26).

Adjectivalization processes in television advertising have been discussed (see Geis, 1982) as a means by which a literally subjective description gives the appearance of being stronger than it actually is. This interpretaion is supported by other findings (Fowler & Kress, 1979; Bolinger, 1980) that adjectives placed in prenominal position give the appearance of classification to descriptions which may in fact be the speaker's evaluation. The use of prenominal modification to make subjective attributions seems to apply to some but not all of the cases above. For example, one might question the attribution of soul-stirring to the preaching referred to in (27). However, as can be seen in (29), the use of such prenominal modification and adjectivalization processes does not necessarily contain a subjective component. There are two things which all of these instances of adjectivalization have in common. First, the noun phrases constructed in this way all form a complex of descriptive assertions about the noun. Second, the fact that these descriptive terms all precede the noun means that a hearer must process and retain a series of attributes before he is informed of their referent.

Another feature of television advertising is the use of imperative structures to carry the force of suggestions. Although advertisers do not have the necessary authority over their audience to actually command them, they still utilize the sentence structure of commands to direct their audience

to the desired course of action. This was also found to be the case for televangelists, for in every program studied, direct command structures were used extensively. Consider the following examples.

30. So call the toll-free number now, and say "I'll give a gift of fifty dollars or ten dollars a month for five months", let me send you this gold medallion. (Rex Humbard)

31. So join that Faith Partner team. (Jerry Falwell)

In the literature of speech act analysis, all speech acts which essentially constitute an attempt by the speaker to get the hearer to do something are called directives (Searle, 1975a). Some directives, such as commands, require that the speaker have authority over the hearer for their successful performance of that act. If the condition of relevant authority does not hold, however, then any directive a speaker might issue, regardless of surface form, can only be interpreted as carrying a force weaker than that of commanding. Since a system of constitutive rules for distinguishing between such weaker directives as requests, suggestions, pleas and entreaties has not yet been developed, however, the ascription of actual force remains largely a matter of interpretation.

Both televangelists and television advertisers use structures normally associated with direct commands to issue directives whose force is weaker than that of commanding. In the case of televangelists, however, the force of a directive was also found to be conveyed through a variety of other surface structures. It was possible to identify a total of nine distinct surface structure types used by televangelists to direct their audience to some course of action. All of these had in common the fact that they predicated a future act of the audience, but they differed considerably in the actual structures used. Six of the types isolated were, in fact, indirect directives.

According to Searle (1975b), the successful communication of the intended force of an indirect directive involves an understanding of not only the felicity conditions mentioned above, but also the context of the utterance

and the basic principles of conversation. The types of indirect directive found in the data all shared the fact that they predicated a future act of the audience, but they differed in the degree to which contextual factors were required for their interpretation. The following is a listing of the types of directives found in the speech of televangelists, with examples from the programs surveyed.

DIRECTIVES SET IN THE FORM OF COMMANDS

I. Simple command structures

32. Tell them that you'd like to pledge your support each month. (Robert Schuller)

II. Command structures whose predicate contains a statement which the audience is directed to repeat.

33. Call ... and say "Jerry, I want to be a Faith Partner. I want to pray regular (sic) for this ministry. I want to give monthly". (Jerry Falwell)

III. Command structures embedded in a conditional structure.

34. If you haven't got the first and second week incoming, do it quickly and then get the third week in. (Oral Roberts)

INDIRECT DIRECTIVES

IV. Indirect directives embedded in a conditional structure.

35. If you ... are thinking about Liberty, then you need to write to Liberty Baptist College. (Jerry Falwell)

V. Directives set in the form of a yes/no question.

36. Will you pay? (Jimmy Swaggart)

VI. Directives set in the form of "Why not" questions.

37. Why not join me and be a member of Dr. Schuller's Possibility Thinkers' Club? (Robert Schuller)

VII. Embedded directives set in the surface form of an assertion about the speaker.

38. We're asking our Faith Partners everywhere ... to double your (sic) monthly committment. (Jerry Falwell)

VIII. Embedded directives, as above, directed at God.

39. And then we're asking God to give us new Faith Partners. (Jerry

Falwell)

IX. Directives whose stated source is God or the Bible.

40. God has called us to complete this task together. (Rex Humbard)

In general, results of the research here reported lend support to most of the categories set out by Lakoff and Geis as characteristic of the persuasive use of language with reference to television advertising. In particular, the use of indirect speech forms and vague language were found to occur not only in the presentation of claims and arguments, but also in other kinds of speech acts, such as assurances and predictions (e.g., And believe me, these messages really help. Something good is going to happen to you), as well as in the issuing of directives. There was also strong support for Geis' finding that product names often have more than a referring function and can themselves carry information that might aid in their promotion.

With reference to the use of linguistic novelty, however, the findings were less unequivocal. Lakoff considered the use of novel terms and expressions to be an essential identifying feature of persuasive discourse. Although some examples of most types of linguistic novelty isolated by Lakoff were also found in the televangelist data, the fact that this type of device was not used as extensively in these messages as some of the other categories discussed would suggest that these findings should be considered to lend only weak support to Lakoff's interpretation of the importance of novelty to persuasive discourse.

Several categories isolated by Geis or Lakoff, however, did not occur in the data used for this study. These were as follows: 1. the terms introducing or announcing used to attract viewer attention; 2. the use of count nouns as mass nouns; 3. rhetorical questions; 4. elliptical comparatives; 5. odd uses of the definite article; 6. pragmatic anomaly. The absence of these features from the data indicates that these particular types of language use do not necessarily characterize language intended to persuade and, furthermore, may in fact be artifacts of one particular style of persuasive language use, that of television advertising.

The findings of this research seem to confirm the importance of implicit information in the language used to persuade, particularly in a context where recipients of the message are predominantly passive. However, the fact that only persuasive messages from one context were examined leaves open several questions which might be addressed in future research. For example, are recipients of a message actually more likely to accept presupposed or implied information without counterargumentation than that which is explicitly stated? Further, how do the present findings apply to conversational persuasion? That is, would the information conveyed using the linguistic devices found to be common among these two types of televised persuasive messages be less likely to be questioned or counterargued against in a setting in which the recipient can participate more overtly? Finally, how does the use of language for persuasion compare with other types of language use, such as, for example, expository discourse in which the intention is less to persuade and more to inform? It is through answers to questions such as these that we may come to understand more fully the impact that language can have in the persuasion process and, by implication, the structure and function of the persuasive mode of communicative interaction.

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The Effects of Subject Thematization on the Tonal Pattern of Japanese Sentences

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1.0 INTRODUCTION

It is widely held by students of Japanese that some, but not all, Japanese sentences contain a theme or topic occurring at, or near, the beginning of the sentences. However, there are two prevailing views on what constitutes a theme or how it is recognized. One interpretation is that given by Susumu Kuno (1975), and the other is elaborated by Samuel Martin (1975).

For Kuno, generic and anaphoric sentence-initial noun phrases marked by the enclitic particle wa are thematic or contrastive. Noun phrases preceding the contrastive wa have greater accentual prominence than those preceding the thematic wa. Considerable attention has been focussed on wa when it occurs with the subject noun phrase in which instance it contrasts with the subject-marking particle ga. This contrast can be illustrated by paraphrasing the translation 'That book is red' of the following Japanese sentences. (ano 'that', hon 'book', akai 'is red')

Ano hon ga akai.
'It is that book that is red.'

Ano hon wa akai.
'Speaking of that book, it is red.'

Sentence constituents, other than subject noun phrases, can also be thematized by wa attachment and preposing to the sentence-initial position.

In Martin's view, thematization does not depend on wa attachment to preposed sentence elements. A sentence-initial phrase is thematic only if followed by a major juncture, regardless of which enclitic particle occurs with that

phrase. The relative height of the pitch contours of the two phrases on either side of the major juncture is its primary phonetic feature (Martin 1970:432). In the presence of a major juncture the pitch peak of the second phrase is as high as, or higher than, that of the phrase preceding the juncture. The post-junctural peak is higher for tonic phrases (i.e., phrases containing accented lexical items) than for atonic phrases (i.e., comprised of unaccented lexical items). In addition to relative pitch height, major juncture is accompanied by a slowing of tempo and blocking of phonetic assimilation. Martin also describes a pitch differential between the low-pitched final syllable of an initial tonic phrase and a lexically low-pitched initial syllable of the post-junctural phrase, the latter being somewhat higher. In the absence of juncture, there is no such pitch differential.

Recent studies reported by Neil Gallaiford (1983 a,b) on pitch declination or downdrift in Japanese show that amongst a large set of unrelated and uncontextualized Japanese sentences read by informants, the mean values of the fundamental frequency (Fo) peaks of three- and four-word sentences decline on each successive peak, the first one being the highest. In longer sentences, however, the Fo declination line is more frequently broken so that, for example, the third peak is higher than the second. This suggests that each stretch of utterance corresponding to an unbroken pitch declination line constitutes a single accent phrase and that the resetting of the declination line signals an accent-phrase boundary.

In order to determine if the accent-phrase boundary observed in the previous experiment corresponds to Martin's major juncture, we designed an experiment by which we could elicit sentence utterances with and without thematic elements, and then measure and compare their fundamental frequency contours. The utterance of thematized sentences was elicited by placing them into a context where the thematic elements were clearly anaphoric, yielding Martin's 'subdued theme' and also satisfying Kuno's condition for thematization. The experimental procedure followed is similar to that used by Sorensen and Cooper (1977,1980) in their studies of fall-rise patterns of English.

2.0 METHOD

2.1 The Subjects

The subjects for this experiment were ten female native speakers of Japanese who were raised and educated in the Tokyo area. These women, who were from 20 to 50 years of age, had been resident in Canada for periods ranging from eight months to 25 years. Those residing in Canada for long periods had had close contact with Japan through frequent visits. Although two were part-time teachers of Japanese, none had any special training in linguistics. The subjects were told that we were interested in certain aspects of the language, but were not told what those aspects were.

2.2 The Sentence Data

The data for this experiment consisted of four matched pairs of sentences which were recorded as part of a larger corpus with the target sentences interspersed with filler sentences. The four pairs of sentences appear in Table 1. As can be seen from Table 1, the sentences of each pair are identical in phonetic content except that the A sentences contain the subject-marking ga, whereas the B sentences have the theme marker wa in the same position.

TABLE 1

The Sentence Data

1.	A)	zoo ga	hana o	itamemasita
	B)	zoo wa	hana o	itamemasita
		elephant	nose	injured
	The elephant injured his trunk.			
2.	A)	Taroo ga	sono hon o	yomimasita
	B)	Taroo wa	sono hon o	yomimasita
		Taroo	that book	read
	Taroo has read that book.			

3. A) kanojo ga odoriko desu
   B) kanojo wa odoriko desu
   she dancer is
   She is the dancer.

4. A) Taroo ga Yokohama e ikimasita
   B) Taroo wa Yokohama e ikimasita
   Taroo Yokohama went
   Taroo went to Yokohama.

2.3 Procedure

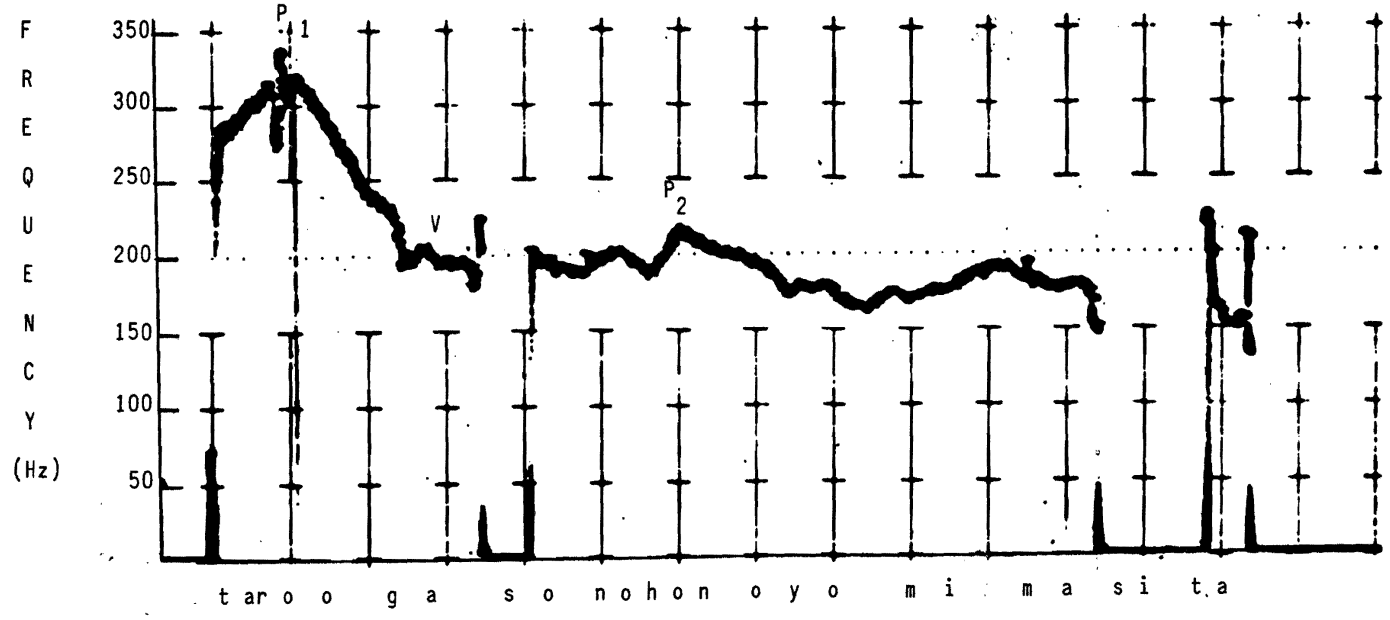
The eight target sentences, interspersed with thirteen other sentences, were written in the conventional way, using kanji and hiragana, on index cards. The cards were arranged in two different quasi-random orders with filler sentences appearing at the beginning and end of each order. Five subjects read the sentences in one order, five in the other. The subjects sat in a sound insulated room with the index cards in front of them. They heard instructions, in Japanese, over a set of stereo headphones. The subjects were instructed to read the sentences in response to prompting sentences which provided contexts for each target sentence. The contexts were designed to elicit the target sentence in a natural way.[1] Each context sentence was repeated twice. The first time the subjects heard the context sentence they were to read the associated target sentence silently to themselves. On hearing the cue sentence a second time they read aloud, or recited, the target sentence. The subjects were instructed to use a normal conversation style rather than a reading or a highly dramatic style. If a subject misread a sentence, she simply said 'repeat' and uttered it again. The subjects' utterances were recorded using a Sony ECM 200T condenser microphone, a Revox Model A77 dual track tape recorder and 1.5 mil Scotch 176 Audio Recording Tape run at 7.5 ips. The whole recording session took about 15 minutes and none of the subjects reported having any difficulty with the task. Ultimately, four subjects were re-recorded uttering the same sentences presented this time in the other order.

2.4 Measurements

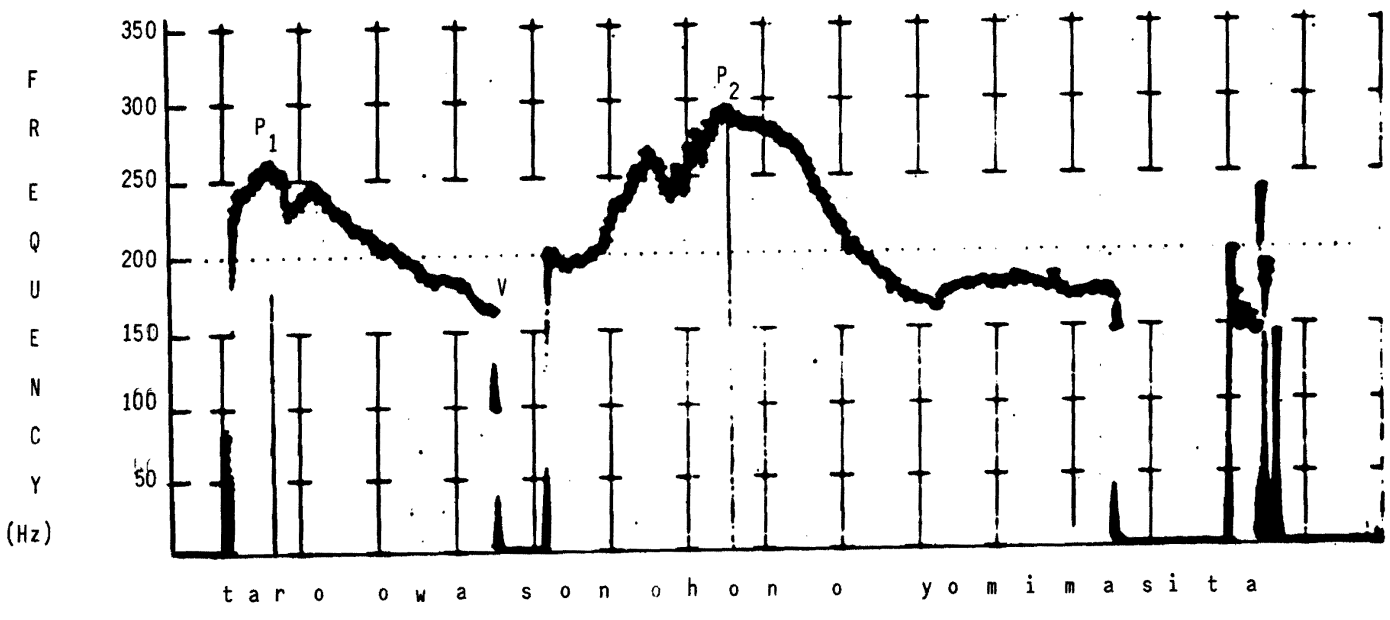
Measurements of the fundamental frequency patterns of the target sentences were obtained using an FJ Electronics Fundamental Frequency Meter (Type FFM 650), the output of which was directed to a Honeywell Model 1806A Visicorder Oscillograph. The Fo meter uses a sequence of high and low pass filters to extract the fundamental frequency of speech input and the Visicorder provides a hardcopy trace of Fo versus time. The system was calibrated using input signals of known frequency, the traces of which were used to construct a scale against which to measure the Fo traces of the target sentences. A sample of Fo trace appears as Figure 1.

Three measurements of Fo were obtained for each sentence. Since we were interested in the fall-rise pattern in Fo associated with the ga and wa enclitics, the peak in Fo (P1) associated with the initial word in each sentence was located and its frequency noted. Similarly the Fo valley (V) associated with the enclitic and the Fo peak (P2) associated with the following word were also noted. The fall-rise pattern is then defined by the fall in Fo form P1 to V and the rise in Fo from V to P2. The times of occurrence of each of these points (T1, TV, and T3) were also noted, time zero being onset of voicing in the first voiced segment in the utterance. These times were later used to calculate elapsed times between the data points in order to characterize the temporal structures of the fall-rise patterns. The total time of utterance from onset of voicing to the cessation of voicing in the last voiced segment of the utterance was also recorded.

In order to avoid selecting Fo peaks which were the result of short time perturbations in Fo associated with preceding voiceless segment (J.-M. Hombert 1978), no peak could be located within 20ms of such a segment. As well, the Fo of a possible peak had to be consistent with the values for Fo on either side of the peak. Where momentary peaks occur (duration < 10ms) an estimation of Fo was made based on values on either side.



Sentence 2A



Sentence 2B

Figure 1. Fo Traces of Sentences 2A and 2B, spoken by Subject 5

2.5 Results and Discussion

The means and standard deviations of the Fo of the peaks and valleys together with the means and standard deviations of the elapsed times from P1 to V, V to P2, and P1 to P2 for each sentence appear in Table 2. The Fo data in Table 2 reveal that there is a consistent difference in the Fo contours of the matched sentences. In general terms we can say that in the B sentence of each pair P1 tends to be lower and P2 tends to be higher than in the A sentence; there is little difference in the mean Fo of the valleys within the sentence pairs. (See Figures 2 through 5.)

TABLE 2

Means and standard deviations of Fo for P1, V, and P2, and of elapsed time from P1 to V, V to P2, and P1 to P2 for all sentences

		Fo (in Hertz)			Duration (in milliseconds)			
		P1	V	P2	P1-V	V-P2	P1-P2	sentence total
1A		260	173	236	185	263	448	1253
	$\overline{SD}$	32.6	17.0	20.3	26	66	60	65
1B		235	174	244	188	286	474	1253
		32.1	15.6	25.7	35	50	55	98
2A		288	186	225	258	266	524	1409
		34.3	17.8	29.7	51	109	120	73
2B		267	183	278	244	349	592	1393
		34.2	18.9	30.9	41	42	59	74
3A		284	169	189	334	136	470	960
		24.6	14.2	17.2	73	33	71	100
3B		269	172	231	290	238	528	916
		43.3	15.5	26.8	53	54	78	75
4A		286	176	211	279	220	499	1348
		32.0	15.0	23.5	46	45	76	82
4B		261	178	263	264	262	526	1331
		32.5	12.7	30.9	22	62	67	83

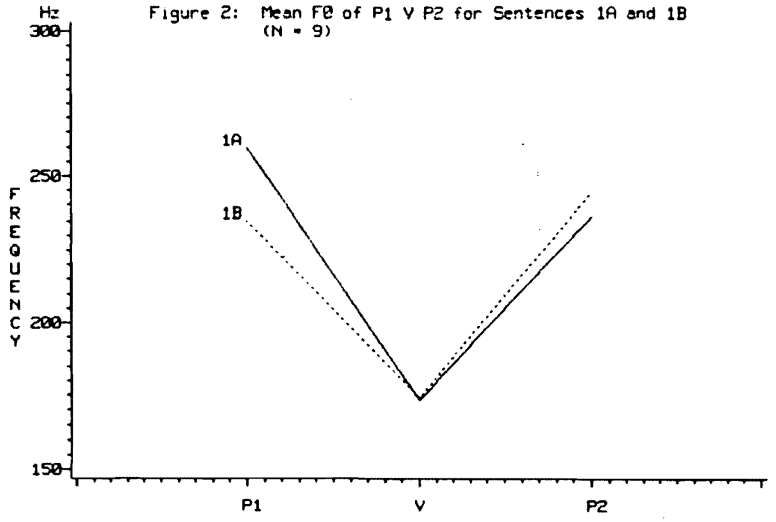


Figure 2: Mean F0 of P1 V P2 for Sentences 1A and 1B
(N = 9)

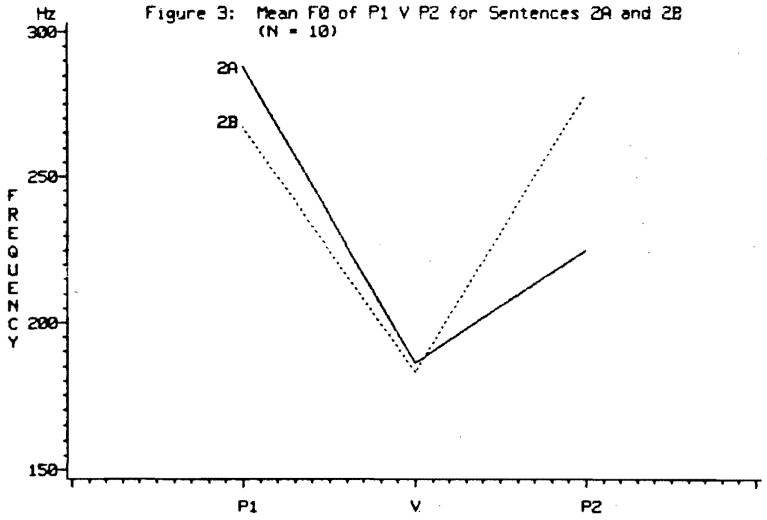


Figure 3: Mean F0 of P1 V P2 for Sentences 2A and 2B
(N = 10)

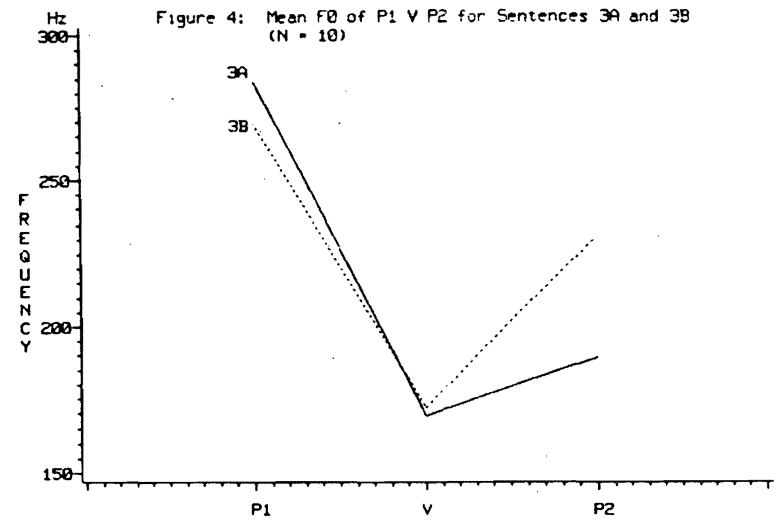


Figure 4: Mean F0 of P1 V P2 for Sentences 3A and 3B
(N = 10)

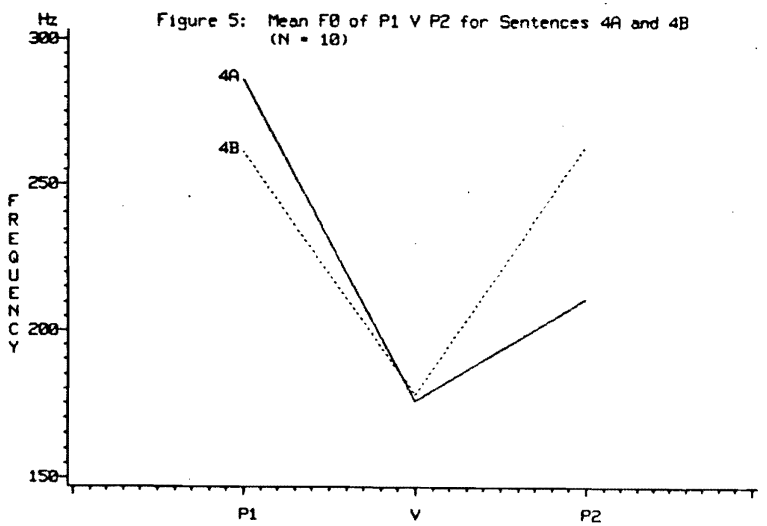


Figure 5: Mean F0 of P1 V P2 for Sentences 4A and 4B
(N = 10)

In order better to characterize the differences in the fall-rise patterns associated with the ga and wa enclitics, the changes in Fo between P1 and V, between V and P2, and between P1 and P2 were calculated in semitones.[3] We compared these changes in pitch by means of paired t-tests. We found that the difference in the pitch fall (from P1 to V) in the A and B sentences of each pair was significant in pairs 1 and 4.[4] The mean fall in pitch was greater in the A sentences than in the B sentences for these pairs. Pairs 2 and 3 showed a statistically non-significant trend in the same direction. The difference in the pitch rise (from V to P2) was significant in pairs 2, 3, and 4, but not in pair 1.[5] In the three pairs which showed a significant difference, the pitch rise was much greater in the B sentences than in the A sentences. In pair 1, which showed no significant difference, the pitch rise in sentences 1B was greater than the rise in 1A for 5 of the 9 speakers for which we had data.

Since the Fo of the valleys was reasonably stable in each pair, the shift in the fall-rise pattern seems mainly to involve an adjustment in the peaks. A comparison of the pitch changes from P1 to P2 in the paired sentences reveals that there was a significant difference in the relative heights of the two peaks in all of the pairs. This difference was significant at the 0.001 level in pairs 2, 3, and 4, and at the 0.05 level in pair 1. Out of a total of 39 A sentences, 37 sentences showed a fall in pitch for P1 to P2; 2 sentences utterances (both 1A) had a rise in pitch from P1 to P2. In slightly more than half of the B sentences (20/39) the pitch rose (or stayed the same) from P1 to P2. Of the remaining 19 B sentences, 18 had less of a pitch fall from P1 to P2 than did the A sentences. This means that in 38 of 39 B sentences pitch either rose from P1 to P2 or fell less than it did in their A counterparts.

It seems safe to say that there is a significant difference in the behaviour of pitch in sentences with thematic and non-thematic subjects. This difference in fall-rise pattern involves a lowering of the first Fo peak in the sentence and a raising of the second peak if the sentence contains a thematized subject.

As noted earlier, according to Martin major juncture is also evidenced by slowing of tempo, in addition to the feature concerning pitch contours. The mean values for the various time variables in Table 2 suggest that there may be consistent differences in the duration of the falls and rises and in the fall-rise pattern as a whole. The mean duration from P1 to V is greater in the A sentences than in the B sentences for three of the four pairs; in pair 1 the durations are nearly equal. Conversely, the mean duration of the pitch rise is greater in the B sentences for all sentence pairs. The mean duration of P1 to P2 is greater in the B sentences than in the A sentences. This greater duration of the fall-rise pattern in the B sentences does not seem to be accompanied by an increase in the duration of the whole sentence -- the mean duration of the A sentences is longer than that of the B sentences in three of the four pairs; in pair 1 they are the same. However, a closer look at the individual sentences reveals that the means are perhaps deceptive in their consistency. The speakers are about evenly divided as to whether the pitch fall takes longer in the A or B sentences. The B sentences more often have a greater duration for the pitch rise than do the A sentences, but in one-quarter of the utterances the pitch rise takes longer in the A sentences than in the B sentences (9/39). The speakers are once again about evenly divided as to whether the fall-rise pattern as a whole is longer in the A or the B sentences. In pairwise t-tests of all time variables for matched sentences only in two cases, Nos. 2 and 3, do the differences between A and B sentences reach statistical significance. The difference in the duration of the pitch rise in sentence pair 2 is significant at the 0.05 level, and the difference in the duration of the rise in pair 3 is significant to the 0.001 level. In the other two pairs, the differences are non-significant on the basis of the t-test metric. Similarly, the overall duration of the sentences was not significantly different for the matched pairs.

3.0 CONCLUSIONS

Our experiment has demonstrated that subject thematization results in the lowering of the Fo peak of that noun phrase relative to the non-thematized form. In three of the four cases examined, there is clear evidence of resetting the

Fo declination line following the theme, from which fact the presence of a major intonation or accent phrase boundary can be inferred. Sentences 1B, 2B, and 4B also conform to Martin's conditions for a major juncture in respect of relative heights of the pitch contours flanking the boundary. Evidence for the temporal characteristics associated with major juncture is less clear, although a slight tendency towards slowing the tempo was observed. A greater pitch differential between final and initial syllables of the first and second pitch contours in the case of the thematized forms was also observed, but no measurements were made.

Sentence pair 3 represents a form different from the rest. These are 'identificational' sentences (Martin 1975:239-242) and it is possible that 3B has a focussed theme (ibid:240) rather than a subdued theme, in which one would not expect a lowered Fo peak on the theme and , being a two-word sentence, no resetting of the declination line is present. However, sentence 3B shows the strongest temporal cue for major juncture, of all B sentences the mean difference in P1 to P2 duration between 3A and 3B being significant at the .0001 level. It may be that there are alternate phonetic cues for major junctures or major accent phrase boundaries where theme is concerned.

FOOTNOTES

[1] For example, the context sentences for 1A and 1B were: 1A) kyoo Ueno-doobutsu-en de, taihen na koto ga okorimasita. 'A terrible thing happened at Ueno Zoo today.' and 1B) Zoo wa genki ga arimasen ne? Doositan desyoo ka? 'The elephant is not well, is he? What happened to him?'

[2] N = 10 for all pairs except pair 1 where N = 9. Sentences 1A and 1B as spoken by Subject 1 could not be used because of poor recording quality.

3 The following formulas (based on Weitzman 1970) were used to calculate three derived measures of pitch change -- Delta1 represents the pitch change from P1 to V, Delta2 the change from V to P2, and Delta3 the relative heights of P1 and P2:

$$\text{Delta1} = 39.86*\log(V/P1)$$
$$\text{Delta2} = 39.86*\log(P2/V)$$
$$\text{Delta3} = 39.86*\log(P2/P1).$$

[4] Pair 1: $p < 0.05$, $t = -3.26$, $df = 8$
Pair 4: $p < 0.01$, $t = -3.47$, $df = 9$

[5] Pair 2: $p < 0.001$, $t = -5.22$, $df = 9$
Pair 3: $p < 0.001$, $t = -5.99$, $df = 9$
Pair 4: $p < 0.001$, $t = -5.29$, $df = 9$

[6] Pair 1: $p < 0.05$, $t = -2.54$, $df = 8$
Pair 2: $p < 0.001$, $t = -5.07$, $df = 9$
Pair 3: $p < 0.001$ $t = -5.23$, $df = 9$
Pair 4: $p < 0.001$ $t = -8.04$, $df = 9$

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