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PAPERS

from the

TWELFTH ANNUAL MEETING

of the

ATLANTIC PROVINCES LINGUISTIC ASSOCIATION

University of Prince Edward Island
Charlottetown, P.E.I.
October 14-15, 1988

ACTES

du

DOUZIEME COLLOQUE ANNUEL

de

l'ASSOCIATION DE LINGUISTIQUE DES PROVINCES ATLANTIQUES

l'Université de l'Ile-du-Prince-Edouard
Charlottetown, I.-P.-E.
le 14-15 octobre 1988

Edited by / Rédaction
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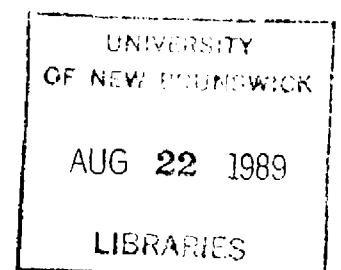
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ACKNOWLEDGEMENT

This volume has been made possible by a generous grant from the Board of Governors of St. Dunstan's University, through the President of the University of Prince Edward Island.

REMERCIEMENTS

La publication de ce volume d'actes a été rendue possible grâce à une subvention généreuse du Conseil des Gouverneurs de l'Université Saint Dunstan gracieusement allouée par le président de l'Université de l'Ile-du-Prince-Edouard.

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OTHER PAPERS PRESENTED / AUTRES COMMUNICATIONS PRESENTÉES

In addition to the papers printed here, the following were also presented at the Twelfth Annual Meeting of APLA/ALPA:

En plus des articles publiés dans ce volume, les communications suivantes ont été faites au 12^{ème} colloque annuel de APLA/ALPA:

Sandra Clarke. **Sociolinguistic Implementation of Phonological Change: The Case of St. John's English.**

Lilian Falk. **Verbal Constructions with if: A common variant in Nova Scotia English.**

Anthony B. House. **Code-Switching in the Novels of Jack Kerouac.**

Ruth King. **Doubly-filled COMP in Prince Edward Island Acadian.**

Irene Mazurkewich. **The Acquisition of Lexical Parameters by Second Language Learners.**

Barry W. Miller. **Existential Constructions in Tagalog.**

The program also included a workshop, **The Sounds of Atlantic English**, led by Murray Kinloch.

De plus, le programme comptait une conférence animée par Marray Kinloch intitulée, **The Sounds of Atlantic English.**

Old Wine into New Bottles: The Potential of an Electronic OED

Donna Lee Berg

Centre for the New Oxford English Dictionary
University of Waterloo

I am very happy to have the opportunity to speak to you about the New OED Project and the research potential of an electronic *OED* for scholars.

I have entitled my talk "Old Wine into New Bottles" because it seems to me that our undertaking at the University of Waterloo is very much like decanting the fine old wine of the *OED* from its old print bottle into a new and infinitely more versatile electronic container. What I would like to do today is to give you a non-technical description of what the project is all about and the kind of thing that you might be able to do if you were at Waterloo now - and what might be possible in future. In addition to giving you information, I hope this hour will also be an informal opportunity to *get* information from you on the expectations that you as scholars have of an electronic *OED*.

One of the functions of the Centre for the New OED at Waterloo is to serve as a focus and a kind of information centre for the project. We try to encourage interdisciplinary participation (particularly from the humanities and social sciences) through our program of visiting fellowships, our annual conference, and our publications. Our motivation for encouraging scholars to visit and use the *OED* on line is not purely charitable - we also benefit greatly from the input that such visits give to our researchers and technical team. They *need* this kind of response in order to design tools that are appropriate for the use of you as scholars, not simply to produce software that they, as computer scientists, *think* that you as scholars should find useful!

I don't know how much you know about the overall project, but I am aware that there is a certain amount of misinformation circulating about what we are doing and what will be done in future. It is my belief that it is impossible for scholars to consider the research potential of the dictionary in electronic form without an understanding, first, of the project and Waterloo's role in it and, secondly, something about the database structure. To begin with, very briefly, I would like to give you some of the background of the University of Waterloo's involvement with the project and perhaps clear up a few misconceptions.

As you know, the *OED* is the great historical dictionary of the English language which attempts to record all words that have appeared in written English since the year 1150. One of the unique features of the *OED* and its *Supplement* is its nearly two and a half million quotations which support entries and illustrate the usage of words over time. The dictionary consists of twelve volumes which are a consolidation of the 125 fascicles originally published between 1884 and 1928, and a four-volume *Supplement* published between 1972 and 1986 - 16 volumes in all. The statistics in Fig. 1 indicate the magnitude of the work and the size of the database.

	OED	Supplement	Total
Pages	15,487	5,601	21,088
Main Entries	252,259	69,372	371,631
Subentries	98,555	44,103	142,658
Quotations	1,861,212	560,415	2,421,627
Cross Refs	474,582	99,467	574,049
MBytes (raw text)	401	129	530
MBytes (with indices)	882	282	1,164

Figure 1. Size of the OED

The dictionary is the "flagship" of Oxford University Press and also something of a national monument. But, even before the *Supplement* was completed, Oxford University Press recognized that it had a dilemma. The main volumes were badly out of date and although the *Supplement* helped by adding new words and new uses for old words, it was not practical, either for users or the press, to continue to issue supplements. Also the old hot metal printing plates were in bad condition and the typesetting process had to be changed. A machine-readable version of the dictionary could be used not only to drive a typesetter, but also to integrate the dictionary and the supplements, to create a database whereby the dictionary could be updated and revised on an ongoing basis, and, finally, to provide an electronic version of the *OED* for users.

Initially when Oxford University Press (OUP) began to plan the project in 1983, they thought that one organization might undertake the conversion of the dictionary to electronic form, as well as develop the database design and software. It soon became apparent that this was an unreasonable expectation. What evolved was a three-way split of responsibilities, with Oxford, of course, retaining complete control over the text and any lexicographic revision of it.

The first partner in the venture was an American firm, International Computaprint Corporation, who were given responsibility for data conversion - that is, converting the text to machine-readable form. This involved manually entering the 21,000 densely printed pages of text (equal to about 350 million individual characters or keystrokes). The job was undertaken by a battery of typists and was completed, with a remarkably low error rate, in 18 months. Data entry was followed by two rounds of proof-reading by over 50 free-lance proof-readers, many of whom were spouses, relatives or friends of the *OED* staff. Incidentally, the possibility of automatically entering the text by optical scanning was discarded because of the multitude of type fonts and the unevenness of the print.

The second partner was IBM (UK) who contributed equipment and expertise to the process of integrating the main volumes and the *Supplement*. About 75 percent of this task could be done automatically, although it was certainly far from straightforward. This task has now been completed and the print version is in its final stages.

The third partner was the University of Waterloo which was awarded the job of developing a database from the machine-readable text and creating software to access it. The objective was to produce a facility that would allow the press to undertake the immense task of editing and updating the dictionary on an ongoing basis, and also to provide for the publication of an electronic version of the dictionary. No money exchanged hands under the original agreement, but the university retains the rights to the database design

and the software, both of which are general tools that can be applied to any large text file. Waterloo's involvement began in 1984 and the Centre was established in 1985.

Before describing the database and software, I'd like to clarify a few more points. Not infrequently we receive inquiries which assume one of two things - either that we have a more up-to-date version of the *OED* than the print version, *or* that we are adding lexicographical information to the dictionary. I would like to emphasize that the text we have on line at present is identical to the print version of the original *OED* and its *Supplement*. Also, additions or changes to the text can only be made by Oxford University Press - we have no lexicographers on our staff, although OUP lexicographers visit Waterloo from time to time to consult with our computer team. In fact, at the present time, Julia Swanell, Editorial Co-ordinator for the *OED*, is visiting for approximately three months to provide input on the editing and user interface systems that are being developed. Oxford itself maintains an ongoing file called NEWS (a convenient acronym for New English Word Series) which consists of new entries compiled by a small editorial group, but this file is not generally accessible.

Early next year (March 31, 1989), OUP is scheduled to publish the 20-volume print edition of the integrated *OED* and *Supplement*. This will be called the *Oxford English Dictionary, 2nd ed. (OED 2e for short)*, not the New OED which seems to have been OUP's original idea. What could now be considered as the New OED is the database which, while incorporating the same text as the dictionary, provides for vastly improved means of accessing the information it contains.

The *OED, 2d edition* will, as I have said, integrate the main dictionary with the supplements. In addition, some 5,000 new words and new uses of old words will be added to the text. No major revision is being undertaken although some obvious changes are being made by the two co-editors, Edmund Weiner and John Simpson, who are jointly undertaking the final reading of the entire text of the dictionary (except for quotations) as the proofs come from the printer. These changes include omission of references to obsolete countries and currencies and some of the more blatant examples of cultural bias, such as the frequent references to "savages" and "uncivilized" nations. One of the most infamous examples of the latter among Oxford lexicographers is the definition of "canoe" which includes the phrase - "used generally for any rude craft in which uncivilized people go upon the water". Waterloo expects to have the *OED 2e* on line early in the new year.

Once this edition of the combined dictionary and supplement is published, Oxford University Press will undertake a major revision of the dictionary with the objective of producing the *OED, 3rd edition* in print for the year 2000. As you can imagine, a complete revision of the dictionary is a massive undertaking. Scientific and technical definitions will require major overhaul, as will a number of other subject areas. For example, as linguists, you are probably aware that James Murray, the principal editor of the dictionary, had a theory about the evolution of language which was consistent with the optimism of Victorian science. Language, according to Murray, had progressed in an orderly fashion from concrete to abstract - from simple to complex - and you will find instances in the dictionary where the quotations are not arranged chronologically, but rather in an order that supports this theory. OUP is only too aware of the need to revise etymologies and the linguistic nomenclature. The Press must also tackle the considerable job of standardizing abbreviations, especially the many variations which presently exist for authors and works. These inconsistencies are a major stumbling block for anyone searching the dictionary electronically since the software cannot *infer* information; it can only search for what exists in the text. And the bibliography is somewhat of a nightmare that needs to be completely checked against the citations.

Some time in the 1990's, between the publication of the 2nd and 3rd editions in print, the Press hopes to make generally available an electronic version of the integrated dictionary, probably on a CD-ROM (that is, a compact disk for use on a personal computer) although some other technology may be developed by that time. I should point out that how and when the dictionary is published or distributed, whether in print or electronic form, is solely the responsibility of the press. By the terms of the agreement, we are permitted to make the database available for research purposes to scholars at Waterloo (after a non-disclosure agreement is signed), but we cannot release it for use elsewhere or extract and distribute large amounts of data from the dictionary without Oxford's permission.

There is one further source of confusion that I should mention. Some of you may be aware that earlier this year, a CD-ROM containing the twelve main volumes of the dictionary became available. This has created confusion since it is sometimes assumed that it incorporates our software - which it does not. The two disks (now one disk) were originally distributed by Tri Star and R.R. Bowker (publisher of library reference materials such as *Books in Print*), and the disk is presently available from Oxford University Press, New York. These two firms are affiliates of International Computaprint Corporation which was responsible for converting the dictionary to machine-readable form. Tri Star had existing software that could be used with the dictionary and they proposed the idea of producing the CD-ROM to Oxford who viewed it as a relatively simple and economic way of sounding out the market for CD-ROM products. The CD-ROM searches within eight components or fields including quotations, authors, definitions, etymologies, etc. It can probably fill the needs of many users, but it does not provide facilities to search the dictionary in the depth that many scholars would like. The Waterloo database is structured so that searches can be made on many more components of the dictionary - and some very complex searches can be conducted.

Of course, as I have pointed out, the Waterloo database is designed not only to meet the needs of users, but also to provide OUP with facilities for implementing the major revision of the dictionary. In addition, it has the potential of permitting the press to select and modify parts of the *OED* to produce spin-off dictionaries or reference works in print or in electronic form. This in itself can benefit the academic community by making available specialized types of dictionaries and other reference materials.

Perhaps the major feature of Waterloo's database design is the way in which it employs the remarkably consistent structure of the dictionary. The dictionary's original editor, James Murray, established a system for entries that was designed to both impose order and save space (he was constantly criticized by OUP for the length of the dictionary which far exceeded anyone's expectations in size). Murray employed particular typefonts to indicate specific components of entries - for example, quotation dates appear in bold face, authors in small capitals, works in italics, etc. In other words, the typefonts are often used to indicate components within entries.. Originally, when International Computaprint keyed in the text, their typists inserted additional "tags", or identifiers, mainly to indicate typographical changes for the automated typesetting process, but also as markers for some 15 structural elements. Eventually with the help of computer programs developed at Waterloo, the tagging done by International Computaprint was expanded so that almost every identifiable component or structural element of a dictionary entry has "tags" preceding and following it (end tags are needed to indicate to the computer where one component ends and another begins). These tags were based on an analysis Oxford's lexicographers made of dictionary entries in which they identified around 40 possible structural components. In effect, the lexicographers wrote a descriptive (not prescriptive) syntax or grammar for dictionary entries. A parsing program

developed at Waterloo was then used to transform the text into a generalized mark-up system (SGML). Waterloo's unique "grammar-defined" database makes use of the hierarchical and nested structure of *OED* entries. The term "grammar-defined" is derived from Chomsky's generative grammar and the concept that it most clearly relates to is that of a finite state grammar generating an infinite number of text structures. The computer can also use the grammar to build automatic methods to unscramble these structures efficiently. It is not essential that users comprehend the complexities of the database model; what is important to bear in mind is the concept of searching a tagged hierarchy of structural elements in which subordinate elements are nested within more comprehensive elements which, in turn are nested with larger components, etc.

To give you some idea of the structure of entries and what tags consist of, Fig. 2 outlines a very simplified grammar for a dictionary entry, showing some of the major entry components. As noted, each structural element has a beginning tag and an end tag (preceded by an oblique stroke) enclosed in angle brackets. By recognizing these delimiters, the computer can search within sections of entries and compare across entries.

Two methods have been developed at Waterloo for accessing the database. The first is GOEDEL, a fairly complex programming language, which enables our technical team to do sophisticated and selective extractions from the text. GOEDEL, incidentally, is named for the Austrian mathematician Kurt Goedel and our computer scientists have opted for the spelling G-O-E-D-E-L, rather than the "O" umlaut since this gives us perhaps the only famous mathematician who has O-E-D embedded in his name. (However, I must say that I do not think this name is as clever as that of an editing and proofing system used at Oxford University Press in the integrating process which is called OEDIPUS LEX).

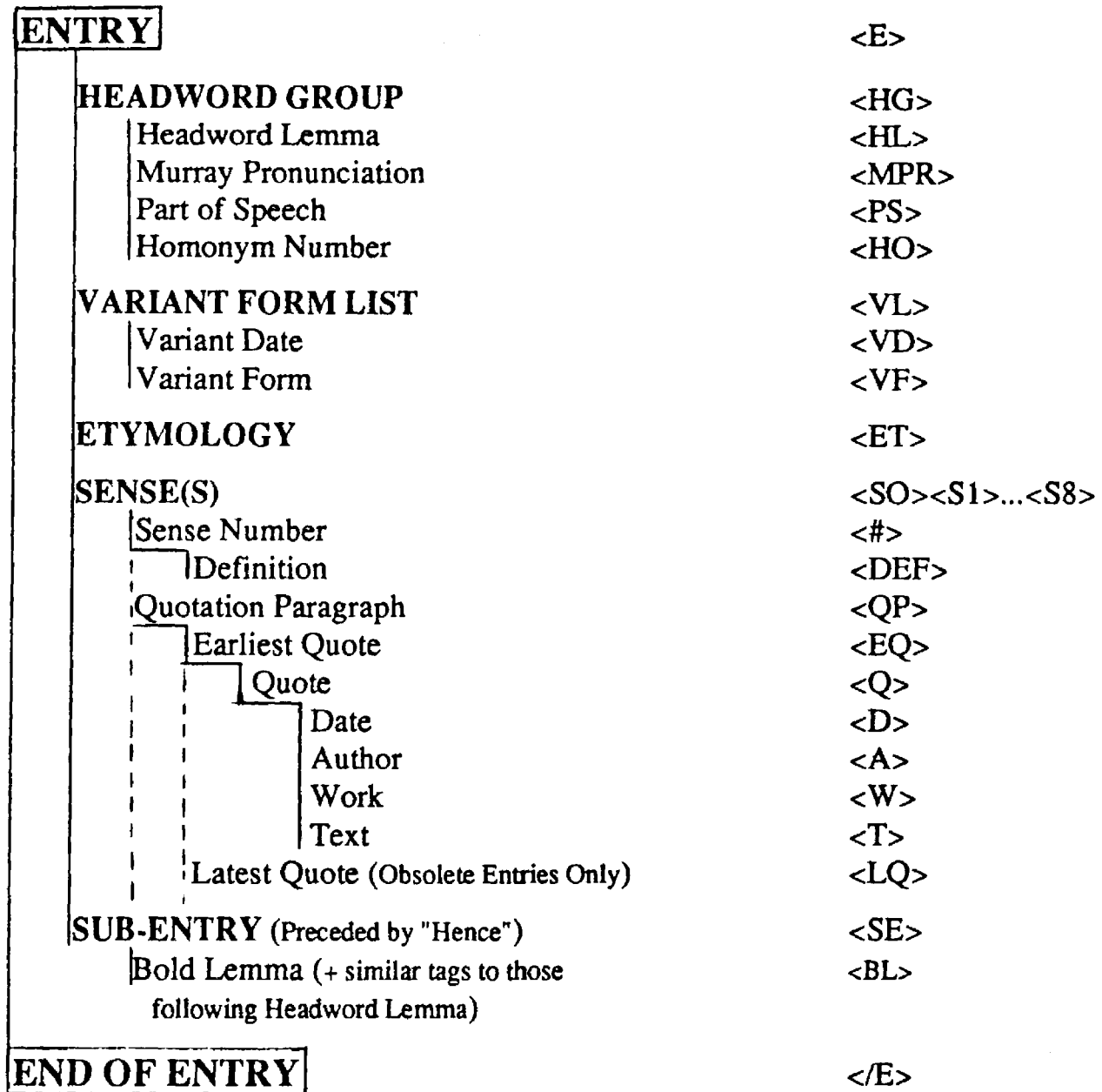
If you were a visiting scholar at the Centre and wanted to create a kind of mini-dictionary using only selected entries, or portions of entries, our programmers might help you by using GOEDEL. A very practical application of the database and GOEDEL's capabilities is presently underway. We have recently been able to speed up the compilation of the *New Shorter Oxford English Dictionary* by producing draft entries for the *NSOED* style from the large *OED* database. The GOEDEL program to do this enables the computer to select only certain entries which meet the *Shorter* requirements and to both eliminate certain components of these entries and to incorporate stylistic changes.

The software that you as a researcher would be more likely to use however is PAT (short for Patricia trees, an algorithmic concept employed to expedite the searching process). PAT reads text from left to right and it views both the text of the dictionary and the tagging as one long string of characters; it knows nothing about the dictionary's structure in the way that GOEDEL does, although it sometimes appears to. In fact, PAT is actually quite stupid, but it appears clever!

To help you understand how PAT works and what the tagging concept means to accessing information in the dictionary, Fig. 3 gives a short entry for a homonym of the verb "slate" (which I chose at random because it contains a good cross section of common elements) as it appears in print in the dictionary. Fig. 4 shows the tagged version of the same entry as it appears in the database. Short as it is (some entries of course run to many pages), it is a good example of the way the Murray format conserves space, but unfortunately the format contributes little to ease of comprehension.

A comparison of the grammar outline in Fig. 2 with the tagged entry for "slate" will give you an idea of how the tagging works. In addition to structural tags, it will be noted that typographical tags (in lower case letters) are also included. These frequently identify special characters such as Greek letters, italics <i>, superscript <sup>, etc.

SIMPLIFIED STRUCTURE OF OED ENTRY WITH COMMONLY OCCURRING TAGS



NOTES:

1. This structural chart (or simplified grammar) indicates the order in which components of an entry usually appear. It should not be assumed that tags within the five main groups are necessarily exclusive to that group. For example <PS> and <MPR> may be used within a sub-entry <SE>. Also there are a number of tags which appear within entries but not necessarily in a consistent structural pattern. For example, cross references <XL>, labels <LB> (usage, geographic, etc.) and cited forms <CF> may be found *within* several main groups. In the case of the third group (Etymology), it is difficult to define a structural pattern, but tags such as <CF>, <PS>, <HO>, etc. occur frequently.
2. Note the list includes only "begin tags", each of which will have a matching "end tag" enclosed in angle brackets and preceded by an oblique stroke, e.g., </E>, </HG>, </HL>, etc. The tagging system thus delineates structural elements which, in most cases, can be searched for within the context of any higher level of structure, e.g., author within quotation paragraphs or author within entries.

Figure 2

Slate (slɛ't), *v.*³ *north.* and *Sc.* Also 4-5 slayt, 6-7 *Sc.* slait. [ad. ON. **slaita*, corresponding to OE. *slétan*: see SLEAT *v.*¹]

1. *trans.* To incite or set on (a dog). Also const. *on, at, against* (a person, etc.).

13.. *Metrical Rom.* (Vernon MS.) in Herrig *Archiv* I.VII. 266 þei sayh beestes..and þei hem bayted Wip houndes þat þei on hem slayted. c 1375 *Sc. Leg. Saints* xxx. (*Theodora*) 657 þat seynd..slaytyt þaim full fellonly, & bad þai suld þat hure wery. 1501 *DOUGLAS Pal. Hon.* i. xxii, Diane..him in forme hes of ane hart translait. I saw (allnce) his houndis at him slaitit. a 1568 *BALNEVIS* in *Bannatyne MS.* 393 Thairfoir had bound thocht scho be found, Or dreid thy doggis be slaitit. 1787 *GROSE Prov. Gloss.* s.v., To slate the dog at any one. 1796 in *Pegge Derbichisms* (E.D.S.) 63. 1828 *CARR Craven Gloss.* *Slate*, to set on, to incite. 1876 *Mid-Yorksh. Gloss.* 126 I'll slate my dog against thine.

2. To bait, assail, or drive, with dogs. Also *fig.* Hence *Sla'ting vbl. sb.*

13.. *K. Alis.* 200 (Laud MS.), þer was..Of Lyons chace, of here baityng, A-bay of bore, of hole slatyng. 1684 *Yorkshire Dial.* (ed. 2) 43, I did Slate him back than with our Dog. *Ibid.* 106 *To slate a Beast*, is to hound n Dog nt him. 1755 *Guthrie's Trial* 143 (Jam.), It is much to be lamented, that people professing his name, should be so slaited and enslaved by transgression as many are.

Abbreviations	<i>v.</i> ³	verb, homonym number 3
	<i>north.</i>	northern dialect
	<i>Sc.</i>	Scottish
	4-5	14th-15th Centuries
	ad.	adaptation of
	ON.	Old Norse (Old Icelandic)
	OE.	Old English
	*	Indicates form of word not actually found, but of which existence is inferred
	<i>trans.</i>	transitive
	const.	constructed
	<i>fig.</i>	figurative
	<i>vbl. sb.</i>	verbal substantive

Plus a number of abbreviations for authors and works, e.g. (Jam.) for "in Jamieson, Scottish Dictionary".

Figure 3

slate v.

<E><HG><HL>slate</HL><MPR>sl(i)e&mac.</i><su>l</su>t</MPR>, <PS>v.</PS>
 <HO>3</HO> </HG><LB>north.</LB> and <LB>Sc.</LB> <VL>Also <VD>4-5</VD>
 <VF>slayt</VF>, <VD>6-7</VD> <LB>Sc.</LB> <VF>slait</VF>. </VL><ET>ad.
 ONor. <CF>*sleita</CF>, corresponding to OE. <CF>sl&ae.&acu.tan</CF>: see
 <XR><XL>sleat</XL> <PS>v.</PS><HO>1</HO></XR></ET><p><S4><#>1</#> <S6>
 <DEF><PS>trans.</PS> To incite or set on (a dog). Also const. <CF>on</CF>,
 <CF>at</CF>, <CF>against</CF> (a person, etc.).</p></DEF><QP><EQ><Q><D>13..
 </D> <W>Metrical Hom.</W> (Vernon MS.) in Herrig <W>Archiv</W> LVII. 266
 <T>&Th.ei sayh beestes..and &th.ei hem bayted Wi&th. houndes &th.at &th.ei
 on hem slayted. </T></Q></EQ><Q><D>C. 1375</D> <W>Sc. Leg. Saints</W>
 xxx. (<W>Theodora</W>) 657 <T>&Th.at feynd..slaytyt &th. alm full felonly,
 &. bad &th.al suld &th.at hure wery. </T></Q><Q><D>1501</D> <A>Douglas
 <W>Pal. Hon.</W> <sc>i. </sc>xxii, <T>Diane..him in forme hes of ane
 hart translait. I saw (allace) his houndis at him slaitit.</T></Q><Q><D>A. 1568
 </D> <A>Balnevis in <W>Bannatyne MS.</W> 393 <T>Thairfoir had bound
 thocht scho be found, Or dreid thy doggis be slaittit. </T></Q><Q><D>1787</D>
 <A>Grose <W>Prov. Gloss.</W> s.v., <T>To slate the dog at any one. </T>
 </Q><Q><D>1796</D> in Pegge <W>Derbicisms</W> (E.D.S.) 63. </Q><Q><D>
 1828</D> <A>Carr <W>Craven Gloss.</W>, <T><i>Slate</i>, to set on, to
 incite. </T></Q><Q><D>1876</D> <W>Mid-Yorksh. Gloss.</W> 126 <T>I'll slate
 my dog against thine.</T></Q></QP></S6></S4><p><S4><#>2</#> <S6><DEF>To
 bait, assail, or drive, with dogs. Also<LB>fig.</LB> Hence </DEF><SE><BL>
 slating</BL> <PS>vbl. sb.</PS></SE></p><QP><Q><D>13.</D> <W>K. Alls.</W>
 200 (Laud MS.), <T>&Th.er was..Of lyons chace, of bere balyng, A-bay of
 bore, of bole slatyng. </T></Q><Q><D>1684</D> <W>Yorkshire Dial.</W> (ed.
 2) 43, <T>I did Slate him back than with our Dog. </T></Q><Q><W>Yorkshire
 Dial.</W> 106 <T><i>To slate a Beast</i>, is to hound a Dog at him. </T></Q>
 <Q><D>1755</D> <W>Guthrie's Trial</W> 143 (Jam.), <T>It is much to be
 lamented, that people professing his name, should be so slaited and enslaved
 by transgression as many are.</T></Q></QP></S6></S4></E></E>

Figure 4

As I have said, all of the tags consist of abbreviations between angle brackets. Since PAT does not differentiate between text and tags, it can search on both the text itself and on any of 40 or so structural tags which are used in the dictionary, and it can also search *within* tag delimiters which the user can define. For instance, it can find all the occurrences of a word within all definitions or it can find the abbreviation for Dutch, for example, within etymologies. Further, it can combine this ability with Boolean logic (such as *and*, *or* and *but not* conditions) to perform some very intricate searches - for example, it can search for all words derived from Dutch which first came into the language in the 16th Century and for which the first cited use is not by Shakespeare. PAT also does proximity searches and has a facility called "signif." (for significant) which, in effect, finds the most frequently occurring words and phrases after, for example, a certain tag, such as the one for author, i.e., <A>. Thus, it is possible to generate a list in descending order of the most frequently occurring authors (or to be more precise the most frequently occurring abbreviations for authors) or of the most frequently occurring titles after the tag <W> for work. As you can see, the tagging can play a very important role in searching the dictionary database.

One particular feature of PAT is that it is extremely fast because when matching a word or phrase, it checks an index of word or phrase starts or prefixes, rather than reading the entire text from left to right. Further it can search as quickly and easily for entire phrases or sentences as it can for single words or prefixes of words.

What is the research potential of the *OED* database for scholars? To some extent that is a question that the individual researcher has to answer. Rewarding use of the *OED* database depends partially on the imagination and ingenuity of the user and in part on comprehending the database principles, *but* it is also important that the prospective researcher knows what the dictionary contains and recognizes its limitations and idiosyncracies. The software is very efficient, but it cannot produce information which is not in the text. This may sound obvious, but there is sometimes an expectation that PAT will make *semantic* distinctions when, in fact, it is purely a *syntactic* tool. Therefore, if you wish to search for an author or a work in the quotation text, or for a source language within the etymology, you must realize that the dictionary, while relatively consistent in its structure, can be wildly inconsistent in the form of its abbreviations. Since the software can only match what it is instructed to match, it is up to the researcher to be aware of all possible variations. For example, the computer cannot infer (that is without being programmed to do so) that the *OED* in most cases cites Melville's *Moby Dick* as *Whale* (from *Moby Dick: the Story of a Whale*), or that Sir Walter Scott appears as Scott, W. Scott, Sir W. Scott, or that Shakespeare's *Comedy of Errors* appears as Com.Err., C.Err. and Err., nor can it differentiate between the three Trollopes - mother, brother and novelist, all of whom are sometimes simply cited as Trollope.

The type of linguistic research which has been conducted with the database thus far has tended to concentrate on loan words, although we recently had a linguist who has been extracting infantine forms (babytalk overlapping colloquial). Her approach was through the definitions. She searched for certain keywords or phrases, such as "nursery", "children's game", etc. Another visiting fellow used the database in his study of productive derivational affixes. Among other things, he was able to use the etymologies and first and last quotations to indicate the pattern of usage within individual centuries. Incidentally, just before I left I checked the occurrences of the label "Canad." for Canadian which occurs only in the *Supplement*. The label appears 184 times and includes such all-Canadian words as Ogoopogo, Social Credit, micky, and yuck.

On a non-linguistic level, as a sociologist, I have been researching obscure Victorian sciences and sciences in general that had their beginnings in that era. Since sciences, unfortunately, are not consistently labelled, I have been working from the definitions in a relatively simple fashion - that is, by searching within the time period I have specified for definitions containing the prefix "scien" which picks up "science" or "scientific" as in "the science of" or "the scientific study of".

None of these studies is straightforward - all involve the kind of ingenuity and creativity that I have indicated is frequently necessary. The *OED* is not in itself a simple reference tool. Computer technology can break down the complexity of the dictionary and restructure the content to extract information that would otherwise be unavailable (at least, not without thousands of hours of manual work), but it must always be remembered that it can only deal with what is there.

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AN EXPERT SYSTEM SHELL FOR LEXICOGRAPHIC RESEARCH

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This paper is an informal presentation of LEXIC, a dictionary editing shell combining a relational database and an expert system using both forward and backward chaining for consultation, which will be contrasted with LEXPERT, a dictionary prototype in the form of a diagnostic expert system.

This is not an in-depth introduction to shells in general nor to databases or expert systems. I will assume from my audience little or no knowledge of these and supply concise working definitions. I apologize to those who already have practical or theoretical training or information on the various topics. Personally, I started working with expert systems and relational databases this year, in January, while looking for a computerized application of my work in semantics presented as a doctoral dissertation (Doctorat d'état) at the Sorbonne in 1987. This should eventually result in a computerized prototype of sense assignment using production rules.

I.

Both LEXIC and LEXPERT are written in a dialect of Prolog from Borland, known as Turbo-Prolog (Borland 1988), a declarative and relational language used in artificial intelligence. Both programs run on micro-computers and the system requirements are a PC-XT, or AT or compatible, with 640 Kb of memory and either a 360 Kb, or hard disk drive, running under PC or MS-DOS version 2.xx or higher.

Artificial Intelligence is well publicized, but probably misleadingly. It is generally defined as a discipline concerned with the concepts and methods of symbolic inference by a computer and the symbolic representation of the knowledge used in making inferences (Feigenbaum and McCorduck, in Townsend 1986:243).

A declarative language, such as Prolog, differs from standard languages which are known as procedural, that is using formal algorithms in which all steps of a given procedure are detailed. In a declarative language, the knowledge about a domain is expressed in an objective form in a symbolic language; problems are solved by stating a goal for which the computer must determine an attribute value (Townsend 1986:245).

A relational language or database is one in which a relation is said to hold between individual entities or a class of entities. A relational construct asserts that the relation represented, as in (1), by the relation name (like, for instance) holds between the arguments [Paul and Janet, for instance] (Malpas 1987:2). A grammatical category can be conceived as a relation-

ship between the word and the type of category, as in (2):

- (1) like(paul, janet).
- (2) category(page, noun).

A database in that particular case will contain known facts expressed as clauses stating a relation between arguments and rules about a domain. A rule is a conditional statement (the head and the body are connected by an IF operator) expressing a relationship between facts, in other words, a clause about other clauses (Townsend 1986:244, 248). If like(Paul, Janet) is a clause a rule could be reciprocal feeling(Paul, Janet) IF like(-Paul, Janet) AND like(Janet, Paul), as shown in (3) or as in (4), the synonym relation:

- (3) reciprocal_feeling(paul, janet) :-
 like(paul, janet),
 like(janet, paul).
- (4) synonym("incendiary", "inflammatory") :-
 meaning("incendiary", "tending to excite or inflame"),
 meaning("inflammatory", "tending to excite or inflame").

A shell is defined here in relation to expert systems, loosely defined as a language. It will permit the construction of powerful systems with a minimum of programming. The knowledge engineer or the user can concentrate on the knowledge and knowledge relationships without having to be concerned with inference control and other programming aspects, but is limited to whatever features and inferences control the shell supports (Townsend 1986:250).

In the case of LEXIC, for instance, you can load the existing database, save it, display it, enter new data, delete existing data, consult the database using forward or backward chaining, or a micro-expert system, and display the reasoning path in order to try new and more efficient queries or to edit and amend the database.

Writing a new database (to include pronunciation, for instance) will require some programming knowledge - but very little if you are using Prolog. Modifying the inference mechanism (such as combining forward and backward chaining) will necessitate more extensive knowledge and some practice, but knowledge of other programming languages is not mandatory and could be detrimental in learning Prolog, because of its non-procedural nature.

Expert systems such as LEXPERT presented here are almost as much publicized as Artificial Intelligence, and probably as misleadingly. An Expert system can be summarized as an <intelligent> computer program that uses knowledge and inference proce-

dures to solve problems that are difficult enough to require significant human expertise for their solution (Feigenbaum, in Townsend 1986:245). «Intelligent» should be understood as using an interactive approach (some user input, even as sketchy as yes or no) and natural language to produce solutions involving some form of reasoning or decision.

In a typical rule-based system such as LEXPERT the knowledge about a domain is expressed in rules that describe relationships between facts (Townsend 1986:249). In Prolog, the size of a production rules expert system is subject to available memory, but rules can be translated as knowledge base clauses in order to be stored on disks. LEXPERT and LEXIC are both prototypes, that is preliminary versions, representing a much smaller domain than would a final system (Townsend 1986:249).

Prolog uses primarily backward-chaining reasoning (reasoning here means using rules to infer new facts from existing facts). Backward-chaining is a type of reasoning process which begins at a specified goal state and works backward in an attempt to prove the specified goal (Townsend 1986:243, 249).

For instance, in order to prove reciprocal feeling(Paul, Janet) in (BA) the system will have to prove like(Paul, Janet) and like(Janet, Paul). Similarly, the synonym relation in (4) is true only if the two meaning relations are true. This can be done automatically or interactively, the two facts will then be expressed as rules requiring from the user a positive answer to conditional questions such as «Does Paul like Janet?» and «Does Janet like Paul?». A negative answer will result in denying the truth of the relation. Comparatively, a database query can be phrased as reciprocal feeling(X,Y), with the system listing all possible answers according to the content of the clauses section of the program; another query, stated as an external goal, could search for synonyms, as in (5):

(5) meaning(X, "tending to excite or inflame").

Forward-chaining is a reasoning process that begins with known facts and works forward, trying to find a successful goal state. Forward-chaining involves more participation from the user but less decision-making; for instance, LEXIC requires the user to type his word twice but supplies only one answer at a time in the order it was entered in the database, while backward-chaining (the standard process in Prolog, requiring no special inference mechanism) will prove the goal true only if all the conditions are individually satisfied. The inference mechanism or engine is the part of an expert system that infers new facts from existing facts using rules in the database, and also controls the flow and order of the inference (Townsend 1986:247).

The various constraints and advantages, material as well as

intellectual, cannot be fully discussed within the limits of this paper, but their relevance to dictionary making and semantic research can be briefly illustrated through the description of the two system prototypes.

LEXIC

LEXIC is both a lexicographic database facility and an expert system shell. It allows consultation of the knowledge base using two different techniques (forward and backward chaining), as well as consultation through a diagnostic-type expert system. The backward-chaining and forward-chaining knowledge bases and the expert system knowledge base can be edited, that is, enriched, updated and trimmed down. The various knowledge bases are grouped in a general database that can be loaded (in order for the system to function), saved or displayed. Saving is necessary since Prolog uses a dynamic database in RAM and adds consultation facts to the database; for the sake of efficiency these have to be deleted.

LEXIC is menu-driven, the main menu listing the main functions. Editing which could be carried out on the entire knowledge base with very few changes is presently divided in two sub-menus: the Enter menu and the Deletion menu.

The Enter menu allows you to add words to the knowledge base together with their meaning or meanings, their grammatical category, their synonym and their etymology. This is done by pairs. Each pair is a predicate (a relation name such as meaning, synonym) with two arguments [the word and its attribute in a fixed order, as in (6):

(6) category(quirk,noun).

The Enter entries function is further divided into an Entering complete entries function for the micro-expert system shell and a sub-menu for entering forward-chaining clauses, with a function describing general entering instructions. The Forward-chaining clauses menu follows a pattern similar to the one used for the backward-chaining consultation of the knowledge base, with the following exception: relations are described with a specific predicate (meaningf, synonymf, etc.) and excludes the category relationship.

The Deletion menu follows the pattern of the Enter menu, but includes a consultation facts deletion function and one that allows you to delete complete entries, which are used by the micro-expert system shell.

The Display data menu lets you display all the words, all the words and all their meanings, all the words and their synonyms, example sentences and etymologies, as well as all complete

entries. In a complete system, this function should be modified in order to select words according to their initial letters or syllables, or various criteria.

The Forward-chaining consultation menu allows the user to find meanings, synonyms, illustrative sentences and etymologies by specifying the word. This menu could be modified to make it possible to connect synonyms with meanings, meanings and etymologies, etc. The functions list only single selections; in order to exhaust the listings, the inference mechanism has to be re-triggered by entering the word or by pressing n for <no>. Again this can be modified to fit a user's needs.

The Backward consultation menu leads to the micro-expert system shell, that is, the rule-based consultation, allowing the user to benefit from features similar to those found in LEXPERT, with the exception that the various components of the entry are its conditions, to be satisfied through questions addressed to the user. The Backward-chaining functions will return a meaning, a category, an example, a synonym or an etymology for every word entered, depending on the number selected. Answers here are exhaustive, and the system will prompt you for <another?> after displaying all the solutions corresponding to your query; when n (<no>) is pressed, the menu will appear again, allowing you to exit, return to the main menu, select forward-chaining or the rule-based consultation. The inference mechanism is Prolog's own and does not need to be expressed. Assigning a value is carried out through the unification process, which is a pattern-matching process, matching the word entered with the existing arguments through a clause containing two variables.

The Rule-based consultation function also prompts the user for a word which is matched with the first item in an entry clause, following the satisfaction of five conditions covering the present aspects of all entries in the knowledge base phrased as natural language questions, as in (7):

(7) <Is <quirk> a <noun> (y/n)?>

A no will make the system branch out in a decision tree. For instance, if you answer no to (8), the next question will have switched to the other meaning recorded for the same category.

(8) <Does page mean a written record (y/n)?>

The Display reasoning function makes it possible to trace your query by listing the questions that were asked and your answers. At this point, it does not tell you whether a given meaning is listed or not, but displays the content of the dynamic database, that should be erased afterwards to allow the system to function properly. For instance, your query will have failed if

you answered no to «Is needle a verb?» since there is no noun for that word in the prototype database. While the Display reasoning function does not actually tell you there is no noun, the explanation is obvious.

The prototype database can be expanded to the limits of RAM available. It can also be adapted to accommodate a disk-based knowledge base, but this requires considerable familiarity with the language (Borland 1988:315-330). (9) shows a small intermediate-type database using list processing conditions, in a synonym program where the inference engine takes care of the rules (in Turbo Prolog rules cannot be made part of an independent database). An external database requires the rewriting of a program.

```
(9) rule(1,"bravade","fanfaronnade",[1,2])
    rule(2,"bravade","défi",[1,3])
    rule(3,"balbutier","bafouiller",[4,5])
    rule(4,"houleux","orageux",[6,7])
    cond(1,"le mot signifie bravoure")
    cond(2,"cette bravoure est fausse")
    cond(3,"cette bravoure est insolente")
    cond(4,"l'on parle de quelqu'un qui ne bégaye pas
                                                d'habitude")
    cond(5,"le verbe s'emploie sans complément")
    cond(6,"le sens est «agité»")
    cond(7,"le mot s'emploie avec «débat»")
    data_file("jo.dba")
    topic("synonyme")
```

LEXPART

LEXPART is a lexicographic expert system prototype based on the principle of a diagnostic system and can identify subsenses and help identify the reasons of a failure in the consulting process. It is not as involved as LEXIC and its main application is restricted to the discrimination of various meanings through specific conditions. It is a development tool for semanticists and lexicographers. Instead of using entry components to select relevant entries as in the LEXIC micro-expert system shell, LEXPERT uses sense components or sense aspects to determine a satisfactory equivalent or paraphrase.

It is a simplified model of the semantizing process as discussed in my on-going research on meaning assignment (Choul 1987b), and can be used to help design finely tuned analytic definitions, reproducing a model of how the meaning process actually works.

LEXPART will also display the user's queries at the user's request in order to allow him to detect where he mixed incom-

patible elements, in case of a failure or an unexpected solution.

A typical production rule is given in (10), where the main goal to be evaluated is meaning is("To have or express doubt"), with two types of conditions. The word is predicate is a sub-goal in the form of a sub-rule, with a condition requiring a positive or negative answer, and is used for the sake of economy and efficiency since it applies to more than one rule. The positive predicate states a condition specific to a given head.

```
(10) meaning_is("To have or express doubt") :-
    word_is("query"),
    word_is("verb"),
    word_is("intransitive"),
    positive(" Does it refer to questioning"),
    positive(" Is it rarer than <ask> and <question>"),
    positive(" Is it also more formal"),!.
```

(11) illustrates a general condition as a sub-rule, where the head is a label and the body a string in natural language.

```
(11) word_is("verb") :-
    positive(" Is the word a verb"),!.
```

The expert system prototype uses some 40 rules to discriminate between more than twenty meanings belonging to three words: object, page, query. In a more refined system, (10) could be broken down into two different rules. In a translation aid program prototype presented at the Canadian Association of Applied Linguistics (Choul 1988), the word successful corresponds to more than 30 different French translations, each represented by a rule with several conditions.

LEXPERT uses actual lexicographic material borrowed from three single-volume English dictionaries, but could be modified to describe actual contextual uses, from a given corpus. Since it is not a shell, expanding the domain requires some knowledge of logic programming. But this programming activity should not be left to programmers alone. Prolog offers linguists and lexicographers the opportunity to write programs directly, with relatively little training.

II.

Basic Prolog features emphasize the similarities between Horn's clauses used in production rules (Gram 1986:359) and the meaning assignment rule (Choul 1986, 1987a) applied to dictionary testing and used for the description of meaning and the semantizing process. Horn's clauses are specific formulas of first order logic which state that P0 is satisfied if P1 et P2 and Pn are satisfied, which translated into Prolog will be expressed as

(12):

```
(12) p0(A1,A2,...An) :-
      p1(B),
      p2(C),
      ...
      pn(N).
```

Prolog, in the case of a dictionary entry, will make the listing of a whole entry (the head of the rule) dependent on the satisfaction of each item in that entry (the conditions making up the body of the rule).

Once the word is entered, the user is asked a series of questions which are conditions in a decision-making process between various sub-entries available. This rule model is also valid for a given subsense, selected as a function of its various semantic components in the form of questions.

The assignment rule (Choul 1986:35; 1982:50), which was written as in (13), can be reformatted according to the Prolog conventions to read as (14):

```
(13) ambience/pleasant_(PLACE):=CHARACTER
```

```
(14) sense_of("ambience","character") :-
      context(after),
      feature(paradigm).
```

```
context(after) :-
      positive(" Is it preceded by an appreciative epithet").
```

```
feature(paradigm) :-
      positive(" Is it the quality of a place").
```

Although the first formula seems more concise and more formal due to the assignment symbol, the second set of representations is a more reproducible expression of the assignment process and possesses a more general validity. The format will apply to any sense described by these two criteria and only the natural language strings will change. Note that the order of arguments in the relationship predicate has to be established once and for all.

In an expert system such as LEXPERT or in a standard Prolog program, the order of the production rules is essential, since the unification mechanism works in a top-down manner. Typically, the rules having the greatest number of conditions should be first, so that when one fails, the system moves down to evaluate the equivalent one in the next rule. Similarly, the not predicate has to be evaluated last in order to be efficient. The not predicate is still expected to succeed (Delahaye 1988:38-46).

This means that, for the system to work elegantly and economically, a meaning assignment program should start with the most plausible and frequent meaning values.

(15) shows the general format of a semantizing rule as it appears in SERS, a program for analyzing meaning derived from my work in semantics. Future research will attempt to use this prototype as the basis for an Interactive Semantic Analyzer. The number of conditions applicable will vary depending on the number of branches in a decision tree required to discriminate between the various subsenses or meanings assignable to a given expression. Some are dependent on others and a few are optional. These strictly semantic conditions could be combined with entry component conditions in order to give a more complete and detailed lexicographic description of a lexical item.

```
(15) is_assigned_meaning("<dériver>", "/être déporté/"): -
    condi(floating),
    condi(position_before),
    condi(position_after),
    condi(position_in_between),
    condi(referential_positive),
    condi(referential_negative),
    condi(contextual),
    condi(syntagmatic),
    condi(modular),
    condi(semio_modular),
    condi(morphological),
    condi(interdefinition),
    condi(parametric).
```

The floating condition is a lexico-semantic condition describing the co-presence of a given feature. The three position conditions represent the actual cooccurrence of lexical items for an expression. The referential positive condition accounts for the isosemic or feature redundancy in a context, linked with the actual referring to an object in the extra-linguistic universe, while its negative counterpart takes on the description of non-referring or non-literal expressions such as metaphors or idioms. The contextual condition deals with the domain of application of a lexical item, comparable to the said of found in dictionaries. The syntagmatic condition applies to compound expressions such as phrases and idioms in their material aspect. The modular condition accounts for meaning discrimination in verbs and deverbals and can involve prepositions. The semio-modular condition includes semantic features in the verb module. The morphological condition takes into account the incidence on meaning of prefixes, suffixes, gender and number. The interdefinition condition makes it possible to make up a feature for a given description. Finally the parametric condition deals with the stabilized form of idioms and sentences. It subordinates meaning to a fixed

form.

All conditions are in turn rules where the body can be made interactive, according to the basic format in (16), but in the analyzer version this could be automated, that is, satisfactorily evaluated by the presence of a matching clause in the program, which could be represented as (17):

```
(16) condi(floating):-
      positive(" Is the <A> feature present in the context
              (o/n) ?",floating).
```

```
(17) condi_floating(FEATURE):-
      feature(WORD,CONTEXT_VALUE).
```

As it can be seen, the use of Prolog for lexical analysis offers both flexibility and specificity in the design of meaning descriptions and dictionary entries, whether as part of a data- or knowledge base or as production rules. One of the more striking advantages is the readability of rules or clauses due to their closeness to natural language. Instead of having to list all the steps of a given procedure, as in classical computer languages, Prolog allows you to write your program not as an algorithm but as a problem to be solved by the system through the unification process that can be channeled by an inference engine.

More specifically, I hope to have given a glimpse of the immense descriptive potential of Prolog and expert systems for semantics and lexicography. If in the past the rejection of formal logic as a model for the description of meaning has been a recurring theme in my work (Choul 1979; 1987b), logic programming ironically brings a powerful and rewarding practical confirmation to the principles of the meaning assignment theory I have been developing over the years.

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Post-Fowlerism: The Problems of a Usage Guide for Canadians

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ABSTRACT

The paper provides the rationale for the production of a descriptive guide to standard written English usage for Canadians and describes The Canadian Dictionary of English Usage based on the Strathy Corpus of Canadian English, the current major project of the Strathy Language Unit at Queen's University, Kingston, Ontario.

In 1981, the Department of English of Queen's University received a bequest from the estate of a local businessman, Mr. J.R. Strathy, to support the production and subsequent revisions of "an authoritative guide to correct written and oral communication in Canada" (will of J.R. Strathy) and to promote interest in the correct use of English in this country. Queen's University set up the Strathy Language Unit to carry out this task. Dr. W.C. Lougheed, director of the Unit from 1981 until his retirement in 1987, set the computer systems in place for the production of the guide (see Lougheed 1987) and began much of the required preliminary work.

The project team will research, write and compile a comprehensive dictionary of approximately 2500 entries describing standard written Canadian English usage. The entries will generally focus on items where the existence of variation causes doubt about appropriate usage. Most of the variants in question are common to many standard varieties of world English. However, some problems of usage are particularly Canadian, and discussion of these items will contrast Canadian usage with British and American norms (see Algeo 1988). The introduction will contain a discussion of the nature and function of standard languages, of Canadian English in the context of other world Englishes, and of regional variants of Canadian English. The introduction will also discuss "the myth of Uniform Correctness," as John Algeo has called it: the belief that where variation exists, only one variant is "correct." This and other widespread beliefs about correctness in language will be discussed in the context of the controversy among linguists, lexicographers, writers and teachers about whether usage advice should be descriptive or prescriptive. The introduction will defend the editor's decision to produce a descriptive, rather than a prescriptive dictionary.

The Strathy dictionary of usage will differ from other usage guides in three main ways: it will be written from a Canadian perspective, its examples will be drawn from a wide range of published Canadian English, and its entries will be based on an analysis of contemporary Canadian writing rather than solely on the opinions of its compilers, of other usage guides, or of a "usage panel" (see Creswell 1975, 1986 for critiques of usage panels). It will attempt to describe clearly what Canadian users of standard written English do, rather than what "experts" say they ought to be doing. Nonetheless, since what these experts have said has had a widespread impact on language attitudes, where appropriate, reference will be made to their opinions, and where necessary, their arguments will be contested. The project's most original contribution to scholarship will be its description of Canadian English usage based on the analysis of data collected from a computer corpus of published Canadian English (for the similar use of a corpus to compile a learner's dictionary, see Sinclair 1987).

That Fowler's Dictionary of Modern English Usage is being revised for the 1990s by Robert W. Burchfield is evidence of the continuing demand for advice on usage. Yet, since the 1960s, with the rise of linguistics as an academic discipline, the legitimacy of fulfilling this demand has been questioned. Linguists typically feel that their role is to describe language; they have been debated by those, often writers, editors, or teachers, who feel that prescriptive rules are necessary to preserve the precision and "purity" of the language. The ongoing "language wars" between the descriptivists and the prescriptivists erupted in earnest in the United States with the publication of Merriam Webster's Third New International Dictionary (1961), which avoided traditional prescriptive usage labels (see Sledd and Ebbitt 1962, Wells 1973, Creswell 1975, Finegan 1980, and Baron 1982.) The first and most serious problem of producing any dictionary of usage is how to do so in a way that does not simply duplicate the prejudices of the past.

In the early 1970s the sociolinguistic studies of William Labov in the United States focused on the disputed territory. Labov showed that the ability to use standard English was linked to above-average socio-economic status and made it clear that those whose language was judged non-standard were often severely disadvantaged. The prescriptivist view that some forms of language are "purer" and "more correct" than others was proclaimed invalid by many egalitarian-minded linguists, some of whom argued that to insist that the standard be the language of public education was a form of oppression. Certainly the methods employed to teach the standard language to children with non-standard dialects and accents often only succeeded in making them feel ashamed of their own language. (See Willinsky 1984 for a Canadian example.) Labov's discoveries were so effective, in fact, in switching the spotlight from the centre to the margins, that

Aleksandr Svejcer remarked in 1978 that "most of the present-day linguistic research in English has been limited to "outgroups". As a result, Standard English has been driven into a marginal position" (1978:6).

Those few who have studied language standardization, while taking into account its negative impact on "outgroups," generally begin by pointing out that in a world dominated by "information technology," the need to communicate is crucial: "the inherent variability of language would be a threat to communication if it were not held in check by an equally inherent normative tendency to maintain rule-governed standards of usage" (Haas: 19; see Bartsch: 123; Fishman). Recent studies of the use of the standard language as a class weapon and as a tool of imperialism nonetheless conclude with a recognition of its positive social functions (Milroy and Milroy 1985: 99; Kachru 1985: 27). Whatever its negative uses have been, the standard language will not go away, nor will the social and economic advantage of those who master it.

Considerable prejudice nonetheless remains among linguists against anything that smacks of prescriptivism, with the result, as Anthony Kroch remarks, that "unfortunately, rejection of prescriptivism as a basis for analysis is generally coupled with disregard for it as an object of study" (1978:45). In a discussion of what he terms "the myth of linguistic relativism," James Sledd comments that "foolish judgements [on usage] are predictably commonplace, for the refusal of so many linguists to risk even informed and tentative judgement guarantees that unexamined dogmatism will prevail" (Sledd: 260). Clearly, we need to return to an new look at usage without the blinkers of prescriptivism, and to do that we need to understand prescriptivism better.

Thomas Creswell's Usage in Dictionaries and Dictionaries of Usage (1975) analyses in twenty well-known British and American guides the treatment of 318 usages identified by the American Heritage Dictionary as problematic and concludes that their arguments for particular usages show no consistency. Since their opinions vary so dramatically, he argues, the "experts" cannot justify their claim that their opinions are more authoritative than the usage of published writers. W.H. Mittins' survey of the usage attitudes of 500 British respondents, mostly teachers, concludes "In few human operations can such a mixture of tradition, prejudice, myth and irrelevance be found (1970: 14).

Clearly, the arguments of past usage guides must be examined sceptically, but they cannot simply be ignored, because they are the arguments that users of the dictionary will have been taught to believe. Further, where efforts at codification are aimed at improving the reader's understanding, they deserve support. Finally, the history of a particular usage affects meaning. R.J. Baker's discussion of Robert J. Hall Jr.'s famous Linguistics and Your Language (1960) notes that for a speaker of

the standard, "the distaste, hostility, snobbery etc. aroused by ain't are part of the meaning of ain't. . . . That the hostility to ain't is arbitrary is as irrelevant as the fact that it is socially induced. All meanings are arbitrary and socially induced" (1961: 305). Archibald Hill makes the same point: "the late Albert H. Markwardt was quite right in saying that attitudes towards words are part of their history, and that the user of them has the right to know what the attitudes are, and who holds them. . . . (Hill 1980: 255).

To believe that one can produce a study of standard English usage is not to believe that standard English can be definitively described: "standard English does not exist in any objective form but is redefined each time it is used" (Conklin 1983: 99). However, analysing a large sample of recently published English at least allows us to make some progress toward the goal of describing a particularly problematic area of standard English. As Peter Trudgill notes, "SE can be characterized by saying that it is that set of grammatical and lexical forms which is typically used . . . by educated native speakers" (1984: 32; see also Stephenson 1977; Strevens 1985; Chambers 1985). These forms can be discovered by looking at what such educated writers have written. Argument may break out on a new front from those who feel that the writing in Maclean's and the Globe and Mail is not standard--indeed letters to the editor in these journals often argue this. But as Renate Bartsch points out, if so-called "norms" are erected that in fact are far from the usage of the middle class, "then the standard language cannot fulfil its very purposes; its normalizing and unifying force with respect to linguistic usage diminishes, because it is no longer accepted by the (relevant parts of) the population: the standard language is then felt to be too rigid, too antiquated, and too strange" (92). Further, the standard is not homogeneous: different genres reveal different usages (see Biber 1987). Thus, the dictionary will indicate the source and genre of each example, and comment where certain usages seem to be found only in certain genre categories.

Creswell concludes Usage in Dictionaries and Dictionaries of Usage (1975) with the recommendation that future writers on usage should base their work on computer corpora. His final words stress that to describe usage accurately requires more than pushing buttons on a keyboard:

"It must be emphasized that the judgments produced by the use of the Brown corpus or of other corpora to be developed are not the judgments of a computer but those of an examiner of language who, through the use of the material entered into the computer, becomes a true expert on language. . . . Once a printout . . . is produced, it must be examined item by item by the human examiner. The conclusions reached . . . are his own, arrived at after careful analysis of the set of occurrences delivered by the computer for each item studied. But the conclusions are based on fact, subject to verification, and to objective assessment of reliability. Surely this is the only

truly sound way of producing expert, authoritative statements about written usage" (1975: 139-40).

The primary innovation of the dictionary is the use of a corpus upon which to ground its descriptions. The Strathy Computer Corpus of Canadian English now contains 2.5 million words, and is projected to contain 5 million words. Sample corpora, like the Brown Corpus of American Written English, and the Lancaster Oslo/Bergen (LOB) Corpus of Written British English are best suited for studies of common words and grammatical structures, the majority of which will occur within a million words of running text. Both the Brown and the LOB corpora contain randomly chosen texts of the same year, 1961, falling into the same 15 generic categories. Both corpora contain 500 excerpts of about 2000 words each, or about a million running words in all (Johansson 1978). However, the Strathy Unit's project requires a wide range of examples of both common and uncommon usage. Therefore the Unit set up a monitor corpus like the COBUILD database at the University of Birmingham (Renouf 1987). It consists of the complete texts more appropriate for lexicographical work (Sinclair 1982). Nonetheless, the Strathy Corpus uses the generic categories set up for the Brown and LOB corpora (with the addition of Feminist Writing and Computing). Copies of these databases are owned by the Unit, permitting comparison of American, British and Canadian usage in different genres, although the LOB and Brown corpora, given the speed of change in lexis and usage, are somewhat out-of-date. The Strathy Corpus is supplemented by two Canadian online databases to which the Unit subscribes, InfoGlobe (The Globe and Mail, and The Northern Miner) and QL Systems (The Kingston Whig-Standard, Hansard Oral and Written [Parliamentary] Questions, and Canada Press Newstext), each with several million words of text.

Research into Canadian English has lagged behind research into American and British English. The Strathy dictionary will be cautious in applying findings from other Englishes to Canadian English, with its different history and social context. Information drawn from the corpus and the on-line databases will be supplemented by the most recent linguistic research in Canadian English. Recently, the Unit has published Writings on Canadian English, 1976-1987: A Selective, Annotated Bibliography, edited by W.C. Lougheed (1988) and it and its predecessor (Avis and Kinloch 1978) are on a database in the Unit. The Unit holds copies of the important items in these bibliographies and has a collections of works on usage, lexicography, and world Englishes.

Lesley Milroy and Beatrice Lavendera have drawn attention to some of the theoretical problems inherent in talking about semantic variation and in variation between standard and nonstandard forms (see Lavendera 1978; Milroy 1987: 162-167). Although the Strathy dictionary will only incorporate a few examples of usage in entries, it is hoped that some statistical data will be generated for the more important entries. To give

overall occurrences of all variants assumed to be equivalent, followed by a breakdown of their occurrences in each of the genres. should allow for some discussion of how genre affects variation. The Strathy Unit is involved in planning for a sample corpus to be collected in 1991 in collaboration with the Survey of English Usage at the University of London. The project, it is hoped, will include corpora of all the major varieties of English, allowing for much better analysis of important variations among standard Englishes.

Some final difficulties in producing a usage guide for Canadians were raised by Ian Pringle (1986): how do we know which items in our database were written by Americans, since quite a few stories appearing in Canadian newspapers and magazines come from U.S. wire services. How much material published in Canada has been edited by someone educated outside Canada, or, more likely, by a Canadian using an American or British style guide? Some of these issues are considered in Editing Canadian English (Burton: 1987; see also Warkentyne 1986: 170-71). Clearly, some care has to be taken to omit as many obviously non-Canadian items as possible, for example, items taken directly from American wire services. Finally, however, it has to be accepted that in Canada, as in all other English-speaking countries, some degree of mixture between British standard features and American standard features will prevail. In fact, "it is the particular combinations of these features which set apart Canadian English" (McConnell 1979:3). Those Canadians in professions that require a clear usage decision--teachers, writers, editors and publishers--base their decision on the complex factors involved in any linguistic choice. We should be wary of prejudging what is Canadian by deriving our information only from the written equivalent of dialectology's "oldest living inhabitant."

To insist that there should be one and only one correct usage for Canadians is to ignore the variation between American and British forms that is the mark of Canadian English. In fact, it can be argued that Canadians are traditionally more tolerant of linguistic variation than those from many other cultures, simply because of our past: "A large swathe of our history involves the establishing of diverse languages within our national borders, and a fair chunk of our legislation involves preserving them" (Chambers 1986: 3). The Strathy dictionary will make every effort to ensure that linguistic autocrats will not be able to use it as a bludgeon, but that users will find in it information, authoritative in Creswell's sense of the word, that will permit them to find the best solution for their particular usage problem.

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The Genitive Case in Modern English

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Genitive Case in Old English

The substantive in Old English, just like the substantive in Modern German, had four cases: nominative, accusative, genitive, dative. Nothing remains of this declension in Modern English, except a few traces of the morphology of the genitive singular. In the singular the genitive had the s that is common to all the Indo-European languages:

(1) on Agustes monþe = "in the month of August"

while the inflection of the genitive plural was in -a:

(2) hiera fif = "five of them"

fiftig wintra = "fifty (of) years"

In Modern English, whether the substantive be singular or plural, there is only the singular morpheme 's to mark the so-called "genitive":

(3) the boy's book

the children's hour

a men's shop

It is obvious, in fact, that this 's of Modern English is not an inflection, and that the substantive in Modern English has really no cases, such as one finds in Old English, for the following five reasons.

1. In the Indo-European languages there is cumulation, in the morphology, of the categories of case and number: there is one single indivisible marker, for the genitive singular (Latin regis, of the king) and another indivisible marker for the genitive plural (L. regum, of the kings). Such forms as children's, men's, which would have two inflections,

would be impossible, unthinkable.

2. The 's is attached to the noun phrase, rather than to the substantive.

One says

(4) a passer-by

two passers-by (with plural inflection)

a passer-by's opinion (with genitive marker)

After consultation I find that most native speakers are happy with

(5) two passers-by's opinions

It often happens, in fact, that 's is attached to an element of the noun phrase which is not itself a substantive:

(6) someone else's opinion

It's always the guy going off's fault (Don Cherry, CBC)

the possibility of chance alone's producing such a result (McCall's)

Maurice Holder kindly supplied me with the following, heard on the radio:

(7) He is the girl who died's father

One of them's father is ...

Each's grasp of the nation's problems ...

Halliday (1985:115) also points out that the -s genitive may be used very subtly to obtain focus: "This is one of the fundamental principles governing the deployment of the resources of word order variation. I can think of no better illustration of the power of word order in English, and of how word order considerations can override other tendencies in the grammar, than that provided by the house of a friend of mine's roof." Commenting on the frequency of such forms as "the paper's edge", Svartengren (1949:151) also comments "a collection of all the edge combinations in 1000 pages of text would show a majority of of-gens., which is only natural as in very many cases the genitive word is more important than

its headword."

3. The Old English usage is often impossible in Modern English:

(8) to anginne ~~pas~~ crafte = "to a beginning of that skill"

*to a beginning that skill's

4. This "genitive" is used as subject or object of a verb, or as a complement of any preposition - usages that are impossible for a true genitive case:

(9) My friends are a strange lot. My brother's are worse.

My cough is bad. Anne's is worse.

Bowring's is a department store

Bowring's are having their sale next week

When in London we visited Selfridge's and Harrod's

It only took ten minutes to go from Joan's to Angela's.

5. The fact that there is only one single genitive marker whereas in Old English there was an inflection for genitive singular and another inflection for genitive plural indicates that the "genitive" of Modern English is a unitary element, a clitic attached to the noun phrase and not a inflection belonging to the substantive.

Syntactic cases

There are syntactic cases in other modern Indo-European languages. In French, for example, as I have indicated elsewhere (Hewson 1980), the contraction of the preposition à, de and en with the definite article (en + le > au, through syncretism) is a morphological marker of the three syntagmatic cases of Modern French. There is also the proof of syntax: these are the three prepositions that it is necessary to repeat (Grevisse 1959:848):

- (10) au père et à la mère
 du père et de la mère
 en mon nom et au vôtre

whereas one can very well say

- (11) devant mon père et ma mère
 après mon père et ma mère
 avec mon nom et le vôtre

In the examples in (10) the conjunction is between two syntagmatic cases; in the examples in (11), it is quite simply between two substantives, which both depend on the preceding preposition. The prepositions devant, avec, après, etc., never become part of the phrasal noun (article + substantive) as do the prepositions à, de, and en.

In English there seems to be only one syntactic case, and it should be noted that there are important constraints on this "genitive" with a non-numerical substantive (or so-called "mass noun"):

- (12) an instance of generosity vs. *a generosity's instance
 the ounce of butter vs. *butter's ounce
 the taste of butter vs. butter's taste

whilst the usage with a numerical substantive is completely normal:

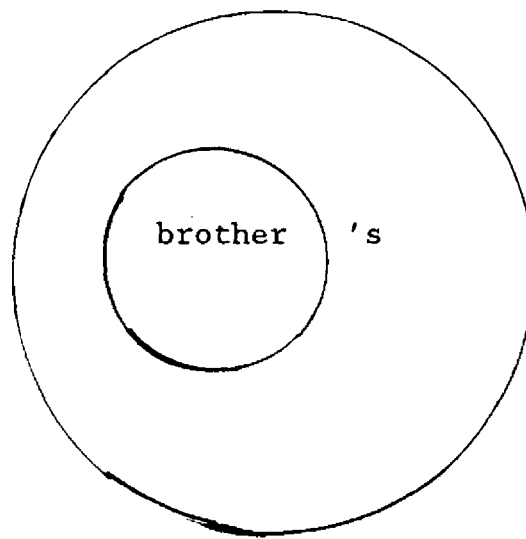
- (13) the book of a boy vs. a boy's book
 the work of a day vs. a day's work.

The deciding factor in these constraints is purely cognitive: the possessive can only be used of elements that are represented as units. It can only be used with elements that are not represented as units when the reference is to the whole (which is of course a unit of a different order): all butter has fundamentally the same taste, but not all butter has an ounce, nor does all generosity have an instance. Consequently if butter means

"all butter" it can take a possessive; otherwise such non-numerical nouns cannot take a possessive. (This is just another of the endless demonstrations that can be made that all syntax is based on meaning, and that the proposal to separate syntax from semantics is an error that misrepresents the realities of language).

The Function of the Possessive

The fact that the possessive form of the noun phrase can only be formed on an element that represents a unit suggests that the function of this 's (as with the other -s markers of modern English) is as a marker of transcendence: in this case it represents the area of influence or possession which transcends and encloses the unitary element represented by the noun phrase. The grammarian Curme has suggested, for example, that "the central idea of this case is in a sphere" (1931:11), and he proposes that my brother's house means, literally "the house in the sphere of my brother" (1931:78), which means "the house situated in the sphere of influence of my brother". This "sphere of influence" is an area which goes beyond or transcends the unit represented by the existence of my brother that which is, at the same time determined by this entity:



The Locative Usage

The fact that the "genitive" of English represents the outlying or surrounding zone or sphere of influence of the substantive to which it is attached means that it is useful for representing the locative sense; the place where the entity named by the substantive is situated. These locatives function like normal substantives, being able to serve as subject, object and so forth:

(14) Taylor's is just round the corner

On the way home we visited Robert's

Rosalie's is open

At New Year's the family has a reunion

In the last of these examples there is a location in time: around the time of the New Year.

It is not unusual for locative substantives to be employed in this way; there are cases more or less parallel of the usage of chez in French, where the noun phrase with chez is treated as a simple substantive:

(15) Mon petit chez moi est à cent mètres d'ici

En rentrant nous avons passé par chez Robert

In Canadian French, referring to a corner store, one can say:

(16) Chez Rosalie est ouvert.

In Algonkian languages locative forms of nouns are often used as ordinary place names. The following are from Micmac: Plisantek (Placentia, Newfoundland); Potlotek (Port Louise, now Port Harcourt, Nova Scotia). There are many examples from elsewhere in Canada, especially from Ojibway, which has -nk as a locative marker where Micmac has -k: Temiscamingue, Kapuskasing.

Possessive usage

The possessive usage of the "genitive" stems quite naturally from the underlying notion of sphere of influence or transcendence of the individual. John's book is the book in the sphere of influence of John. It is interesting to note moreover that what is imminent is also included in the transcendent, just as the singular is included in the plural. It is for this reason that we can say John's hand, John's head, John's heart, items which are not truly transcendent to John. In short the sphere of influence includes that which is inherent, which in turn allows us to refer to butter's taste.

The Agentive Use

There is often in the languages of the world a relationship between the notion of possession and the notion of agent. The ergative case of so called ergative languages is often, at the same time, a genitive case. In Inuktitut, for example, it is the genitive case which marks the agent of the transitive verb. In the Algonkian languages the personal prefixes which are used to mark possession are also used to mark the agent of the transitive verb. The agent is the one who is in control of the action of the verb, it is from the agent that the action stems; the agent is the one responsible, or the controller. The English "genitive" is consequently used to mark the agent of the gerund:

(17) Pym's refusing to pay was the first significant act of resistance

The chance of Ian's finishing the race were slight.

Charlie's washing the shirt caused an uproar.

We have to distinguish, in these examples, between a true gerund and a normal substantive. One can say for example

(18) Washing the shirt caused an uproar

Washing of the shirt caused an uproar

The washing of the shirt caused an uproar

but one cannot say

(19) *The washing the shirt caused an uproar.

The gerund, as a verbal, can have a direct object. With the use of the article, there is no longer any gerund, one has a true substantive, and a substantive cannot have a direct object; the use of the preposition is obligatory. We note, however, that the "genitive" is used with both the gerund and the substantive.

Other Usages

For other usages of the genitive construction, the use of paraphrase to demonstrate subtle semantic contrasts, and the investigation of the possibility of a single underlying meaning associated with this morph, the article by Shumaker (1975) may be recommended as containing much interesting discussion.

Head or Modifier?

The question must be raised whether the "genitive" is the support of the element which follows it, that is to say whether it is the head of the genitive phrase or the modifier of the genitive phrase. Or, in other terms, whether it is dependent on the following noun, or whether the following noun is dependent upon the "genitive".

The fact that it is possible to use the "genitive" alone, without the noun that follows it, indicates that it is in fact the "genitive" which is the head of the genitive phrase, the element of support, the pivot to which the following noun is dependent (as in examples (7) and

(14) above). As a normal rule of thumb in a dependency syntax, it is possible to strip the pivot of its dependent element, but the dependent element may not be deprived of its pivot without creating syntactic problems. According to this basic rule of thumb, the "genitive" is necessarily the pivot or head of the genitive phrase.

The final resolution of this question, however, is much more complex; if the "genitive" were always the pivot, it would be impossible to say

(20) a men's store

since it is impossible to use an indefinite article in front of a substantive in the plural, and in this case the reduction would not be *a men's, but a store. Here the article relates to the substantive store which is necessarily head of the genitive phrase, and the support of the genitive element. With the use of the definite article, however, the phrase becomes ambiguous:

(21) the men's store

may mean either

(22) the store of the men

where what is in question is individuals that one knows,

(23) the store for men

(a type of store). If the head of the phrase is men's, the result will be (22), and the stress will be on the word store; but the result will be (23) and the stress on men's if store is the head of the genitive phrase.

Woisetschlaeger (1983) has discussed this problem apropos of the phrase an old man's book, which can be paraphrased as a book of an old man or as the book of an old man. Woisetschlaeger criticizes earlier attempts to explain or formalize this ambiguity by attempting to prove that book is always definite, but the existence of a men's store shows

that this approach is thoroughly misguided: here the indefinite article unambiguously belongs to the noun store, and the same is equally possible of book in an old man's book. What we are looking at here is two different ways of constructing the noun phrase, alternating head and modifier.

Heads and modifiers in the Noun Phrase

The substantive, because of its internal incidence (its internal dependency), is necessarily binary by nature, in that it includes not only a characterizing element, or lexeme, but at the same time a characterized element, or referent. Within the substantive the referent is the element of support to which the lexeme is dependent, in that the noun is created by predicating the lexeme of the referent. And it is always this same referent, the element of support for the internal incidence of the noun, which serves as the element of support when the substantive in the genitive is the head of the phrase (when (21) = (22), for example). On the other hand it is quite simply the lexeme, the dependent element in internal incidence, which is exploited when the genitive is the dependent element; when (21) = (23), men's is used as an adjective.

Normally when a substantive is used an adjectival rule, it is stripped of its referent, of its internal incidence, whence the impossibility of creating a plural (it is always the referent that is plural, never the lexeme):

- (24) goose feathers = feathers from geese
*geese feathers.

The same procedure is found in compound words:

- (25) a toothbrush = a brush for the teeth
*a teethbrush

a four footed animal = an animal with four feet

*a four feeted animal.

The fact that we have a plural in a men's store, therefore, is an indication of a recycling: men's, as a plural, has necessarily an internal incidence, and has to undergo a recycling as a genitive element before it is able to be used as an adjective: cf. a man hole vs. * a men hole. It would seem to be that it is the area of transcendence engendered by the genitive which serves as a link, creating a suitable attribute for the substantive store.

Every noun phrase can be the support of an adjective or of a verb, but not normally of another noun phrase. But the "genitive" by augmenting through its area of transcendence the internal support of a substantive, makes it capable of being the support of the following noun phrase; such is the case of my brother's house.

Morphological status of the English Possessive

The written forms that we spell with -s and -s' are necessarily clitics, since they have no independent status of their own, and are not inflectios since they are not attached to specific parts of speech. In fact, as the forms children's and men's show, we are dealing with a single unitary morph, in spite of the spelling conventions. Nevertheless, it is an extraordinary clitic, since it is the only English clitic that is not a reduced form of any obvious word. Janda (1979) has made an interesting claim that these modern possessive forms can be interpreted as a re-analysis of his once the original case funtion was totally lost from English. Such sequences as John Smith his book often written on the flyleaf of sixteenth and seventeenth century volumes, and such titles as

Purchase His Pilgrimes (1625) indicate that this suggestion is certainly plausible.

Conclusion

The cases that belong to the phrasal noun are very different from the cases that are part of the substantive in Indo-European languages, and the usage of these syntagmatic cases is also quite different from the normal substantive cases. The so called genitive of Modern English is a syntagmatic case which can play the role of modifier or head to the substantive or noun phrase which follows it, thereby giving rise to a syntactic complexity that is not easy to resolve.

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The PEI Acadian Project: A Progress Report

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ABSTRACT

In this paper we present a progress report on a major variability study of Prince Edward Island Acadian French, presently in its second year. We report on the methodology, the choice of linguistic variables under investigation and the progress made to date.

Introduction

At the APLA annual meeting two years ago in Fredericton, we presented the results of a pilot study on the previously-undescribed Acadian variety spoken in Prince Edward Island.¹ Since that time we have engaged in a major sociolinguistic study of Prince Edward Island Acadian, now in its second year. This paper will take the form of a progress report: we will outline major and specific goals of the project, its methodology, and the stage we have reached in our investigations. Detailed presentation of specific findings of the study are found in King (1988) and in Robert Ryan's paper included in this volume.

Goals

The major goal of the project is the advancement of knowledge of the structure of linguistic variation in the rural context. Whereas almost all previous variationist work has been conducted in urban centres (the exceptions include Flikeid's research in Nova Scotia and New Brunswick and King's in Newfoundland), this project investigates the sociosymbolic meaning of linguistic variation in a "face-to-face" society in which traditional measures of social stratification do not apply (cf. Frankenberg 1957). In so

doing, we test the theory of linguistic variability in a context far different from the large urban centres in which it was initially developed. Since May, 1987, we have been engaged in the collection, computerization and analysis of a large corpus of natural speech, geographically and socially representative of Prince Edward Island's Acadian population. Our specific aims are the following:

(a) the description of phonological, morphological, syntactic and discourse features of Prince Edward Island Acadian;

(b) the identification, interpretation and explanation of linguistic and social constraints on variation operating within the speech community;

and

(c) the comparison of the sociolinguistic patterning we find within the francophone regions of the island with those of other Acadian varieties already investigated or currently under investigation.

Demographics

The history of Acadians in Prince Edward Island has been no less troubled than that of their counterparts in other parts of Atlantic Canada. Lack of economic and educational opportunity have been their lot over the centuries. The decline of French, both as a mother tongue and as a home language, is particularly dramatic, as is shown in Table 1. in which we see that of the 12.1% of the island's population listed as being of French origin in the 1981 census, less than half had actually learned French as their mother tongue. Only half of this latter group reported their home language as being French.

Table 1
Acadian Population Evolution, 1931-1981

	1931	1941	1951	1961	1971	1981
Total pop. PEI	88,038	95,047	98,429	104,629	111,640	122,506
French origin	12,962 (14.7%)	14,799 (15.6%)	15,477 (15.7%)	17,418 (16.6%)	15,325 (13.7%)	14,770 (12.1%)
French L ₁	10,137 (11.5%)	10,678 (11.2%)	8,477 (8.6%)	7,958 (7.6%)	7,365 (6.6%)	5,915 (4.8%)
French home lg.						3,420 (2.8%)

Source: Canadian Census for given year.

Today the francophone population of the island is concentrated in Prince County in the north-west of the island, in its Tignish region (which includes the communities of Tignish, Palmer Road, Saint-Edouard and Saint-Louis) and in its Evangéline region (which includes the communities of Baie-Egmont, Wellington, Mont-Carmel, and Abram-Village), shown in Figure 1. With the exception of the town of Bloomfield, there has been almost total assimilation to English in the geographical area between Evangéline and Tignish. While there is a substantial francophone population in the two urban centres of the island, Charlottetown and Summerside, it is heterogeneous in character. Charlottetown is the site of the federal Ministry of Veterans Affairs and Summerside is the site of a large airforce base, both of which have attracted francophones from other provinces.

Methodology

Our first task was the collection of a corpus of natural speech from the two major Acadian regions of the province, Evangéline and Tignish. Using a quasi-random, quota-sampling technique, we obtained a representative sampling stratified according to age and sex for one community in each of the two regions. All informants are native Prince Edward Island Acadians, are fluent Acadian speakers, and are of the same socio-economic class. The communities chosen were Saint-

Louis in the Tignish region and Abram-Village in the Evangéline region. The composition of the sample is shown below.

Age	<u>Tignish</u> region: Saint-Louis		<u>Evangéline</u> region: Abram-Village	
	Male	Female	Male	Female
15-24	2	2	2	2
25-34	2	2	2	2
35-44	2	2	2	2
45-54	2	2	2	2
55-64	2	2	2	2
65+	2	2	2	2

In addition to our primary sample for Saint-Louis and Abram-Village, we also plan to interview for geographic-comparative purposes a smaller sample for Rustico, where Acadian is undergoing a steady and very serious decline.

Data collection began in the summer of 1987. Since our goal was the collection of a large volume of natural speech from a relatively large number of individuals, we have made every effort to lessen the Observer Effect. Over a five-week period, a corpus of some 100 hours of tape-recorded interviews was obtained by four local, native francophone research assistants. In collaboration with two additional part-time workers they also collected a substantial amount of ethnographic data. Prior to the beginning of fieldwork, all six took part in an intensive training period in field techniques, during which time they were familiarized with the manipulation of the equipment, with interviewing techniques and with the research instruments.

Our interview format is modelled on those techniques developed by William Labov and his associates, focussing on the particular interests of the local population, with a general conversation module as a guide. Each informant was interviewed for a total of at least two hours in order that we might accumulate the amount of data per individual we consider necessary for the analysis of variation above the level of phonology. All interviews were recorded on Sony TCM-5000 cassette tape recorders equipped with two lavalier microphones, the combination of which results in near broadcast quality. The interviews were finished within a five-week period and are striking in their naturalness.

A second set of interviews with the original informants of the study was conducted during the summer of 1988 by Robert

Ryan, a speaker of standard European French. We are here following the model of Flikeid's Nova Scotia study. These insider/outsider interviews, of shorter duration, were designed to elicit a more formal speech style. In this way systematic comparison of speech styles may be effected. Insider/outsider interviews have been completed for Abram-Village; those for Saint-Louis will be undertaken in the in the spring of 1989.

The transcription of the entire corpus in modified orthography is in progress. We were extremely fortunate in finding the ideal full-time research assistant for the project, Robert Gallant, a native of the Evangéline region. For maximum efficiency of transcription, he is equipped with a transcribing machine with headphones and footpedal and types directly into a computer terminal. Accuracy of transcription is essential for quantitative research. Transcription of a two-hour interview in modified orthography by a native speaker, followed by relistening to the interview and correcting the transcript, takes 6-7 days on average.

Transcription of some ten minutes of each informant's main interview in narrow phonetic transcription has been undertaken by Robert Ryan. Phonetic transcription of the Abram-Village corpus is complete and that of the Saint-Louis corpus in progress. Our part-time research assistant, Steven Zepp, a graduate student in linguistics with considerable computer skills, is working on the mainframe computerization and manipulation of the phonetic corpus. Specifically, he is working on the development of a sorting order for all complex phonetic symbols, the electronic encoding of phonetic transcriptions, production of concordances using the Oxford Concordance Program and the printing of output text using TeX, the electronic typesetter of the American Mathematical Society.² Phonetic concordances will allow the research team to identify quickly and efficiently frequency of occurrence of, and linguistic environments for, phonological variants.

Work on the manipulation and computer-assisted analysis of the individual interviews is being carried out by Ruth King. Along with frequency counts for individual lexical items, regular and reverse concordances are being produced for each individual's file.

Results

Although analysis of the corpus as a whole or even of the data for an entire community is not yet possible, we have begun linguistic analysis of Prince Edward Island Acadian-- in particular, a general overview of Abram-Village phonology -- with the aim of determining the variables which will be submitted to quantitative analysis.

A preliminary analysis of the phonology of selected Abram-Village speakers has revealed interesting vowel and consonant features demonstrating variability either within the community or in comparison to what we already know through our pilot study about the sound system of the Tignish region. For example, younger Abram-Village speakers would appear to be losing the classic Acadian rule whereby nasalized [o] is lowered (and sometimes fronted) in open, stressed syllables, creating homonyms such as bon-banc. It is highly probable that loss of this rule results from the dissemination of a more standard model of French through the school system and oral media. Another important vocalic feature is the characteristic raising of Abram-Village mid vowels, a feature which does not seem to be associated with Tignish speech. Among the most striking features of the consonant system is the assibilation and palatalization of certain occlusive consonants. The assibilation of /t/ ([t^h]) and /d/ ([d^h]), so characteristic of Québécois, would also appear to distinguish Abram-Village speech from almost all Acadian varieties thus far studied. In a separate paper in this volume, Robert Ryan discusses variable /r/ deletion in stressed, word-final position in Abram-Village Acadian.

Variables which will be submitted to quantitative analysis, primarily through the use of VARBRUL, include the following:

(a) In the case of phonological and morphological variables, we are interested in the patterns of retention versus loss of what we call classic Acadian features: e.g., phonological rules applying to vowels in open, stressed syllables, ouisme, /k/ and /g/ palatalization, use of the first person plural je -ons, third person plural -ont, etc. Phenomena which appear to be related to contextual style and/or to be associated with particular social groups will also be investigated.

(b) Syntactic variables will include patterns of que deletion (as in "Je pense (qu')il va le faire bientôt."). presence versus absence of subject pronouns (as in "(Il) faut

qu'(il) alle faire de quoi."), agreement marking and code-switching patterns. The interviews transcribed thus far are particularly rich in intrasentential as well as intersentential code-switches and will provide a good testing ground for competing theories of code-switching.

(c) In terms of lexical variation, study of the relative frequency of words of English origin and of Acadian-specific vocabulary are most important. A first look at one-word tokens of English origin reveal many more grammatical borrowings than are predicted by well-known borrowing hierarchies.

(d) Variation at the level of discourse will also be investigated through the use of quantitative methods. The widespread use of discourse markers but and so will be studied, as will patterns of tense and aspect and their relationship to backgrounding and foregrounding in the text. Complementary to our research, Gary Butler is investigating the structure of discourse variation in three Acadian communities, one of which is Abram-Village, from the perspective of the ethnography of communication. Our analysis of discourse variables will be done in collaboration with him.

Conclusion

We are pleased to report, then, that significant progress has been made on the Prince Edward Island Acadian project in the sixteen months since its inception. Our work involves the systematic description of this previously undescribed variety of Acadian, including the sociolinguistic patterning of major phonological, morphological, syntactic and discourse variables and, potentially, the identification of linguistic change in progress. The data studied thus far indicate interesting patterns of variation which analysis of the corpus as a whole should elucidate and which should advance our knowledge of the structure of linguistic variation in the rural context.

FOOTNOTES

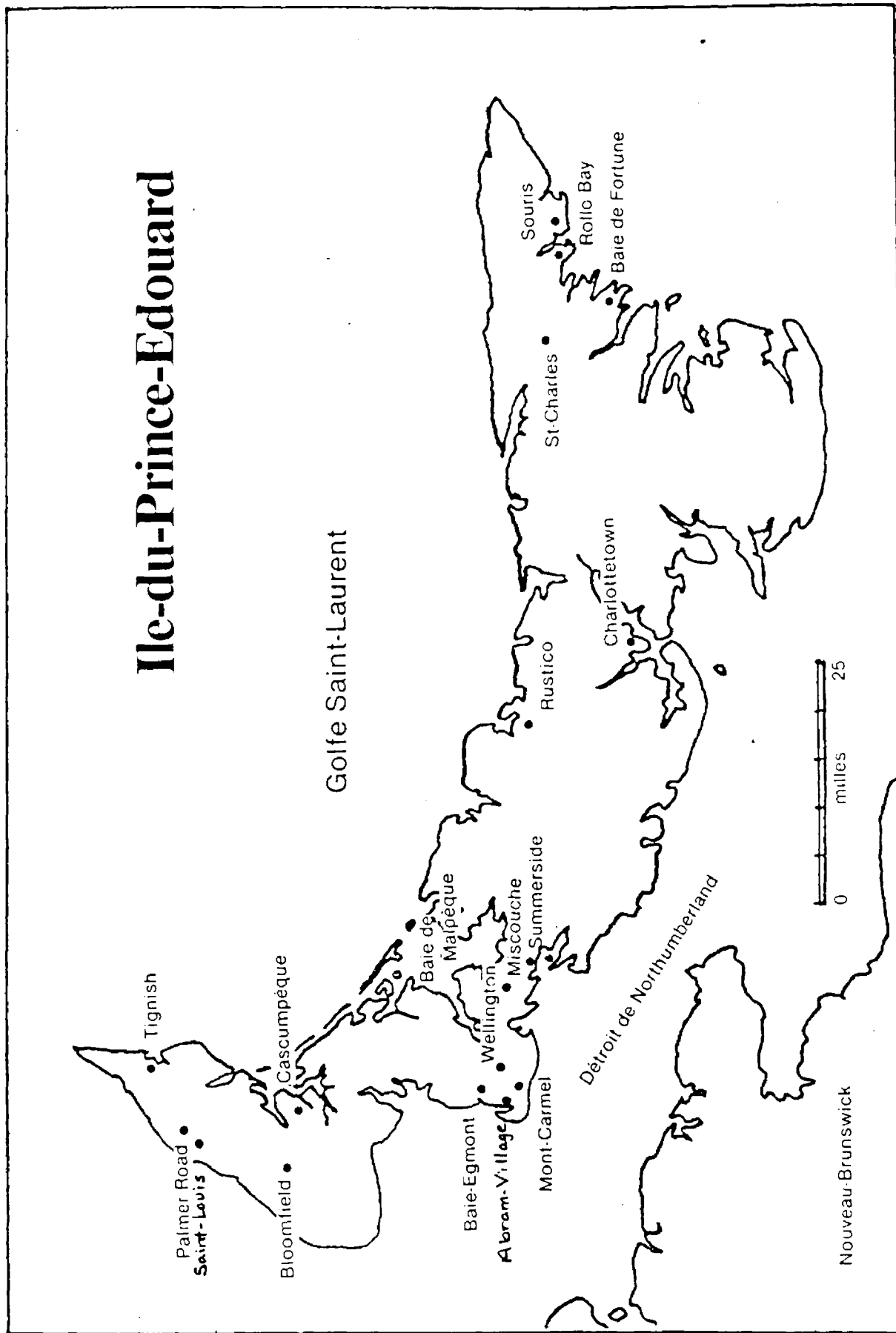
¹ We gratefully acknowledge financial support for this project provided by the Social Sciences and Humanities Research Council of Canada (research grant # 410-87-0586).

² Those involved in the production of phonetic texts using the Apple Macintosh microcomputer should note that its phonetics capabilities cannot be used for mainframe manipulation of texts because the Macintosh uses a byte's eighth bit to represent nonstandard characters whereas most operating systems store information using seven bits, reserving the eighth bit for parity.

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MAP A



Variation dans la réalisation des occlusives
dans le parler «brayon» du Nouveau-Brunswick

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RÉSUMÉ

Le français «brayon» est une variété de français parlée à Edmundston au Nouveau-Brunswick et dans la région du Madawaska. A cause du contact entre les parlers acadien et québécois, cette variété indique les changements linguistiques où certaines variantes traditionnelles acadiennes sont en voie de disparition et des varianges décrites plutôt du parler québécois sont fortement favorisées.

Tout en nous basant sur l'approche de «temps apparent» (Labov, 1976), nous avons effectué une étude sociolinguistique.

Dans cette communication nous décrivons la variation phonétique dans la réalisation des occlusives dentales /t, d/ et vélaires /k, g/.

INTRODUCTION

Le français «brayon» est une variété de français parlée dans la région du Madawaska. Le Madawaska est enclavé dans la province du Nouveau-Brunswick (Canada) et l'est du Maine (Etats-Unis) à l'angle où les deux territoires se rejoignent à la province du Québec. En 1785, au moment de l'établissement de la première colonie francophone, cette région était habitée par des Acadiens, des Québécois et des Amérindiens. Par conséquent, mêlée et éloignée géographiquement des autres régions francophones, cette population a développé un esprit d'autonomie au point où les habitants du Madawaska se disent «Brayons» plutôt qu'Acadiens ou Québécois et préfèrent appeler leur comté «la république du Madawaska».

La situation de contact des dialectes qui s'est produite est à l'origine d'une variété de français unique, qui à notre connaissance n'a pas, jusqu'à date, fait l'objet d'enquêtes

linguistiques. On s'attendrait à retrouver encore d'anciens traits traditionnels acadiens dans ce parler, surtout parmi les personnes âgées. D'autre part, étant donné la proximité géographique avec le Québec ainsi que le contact historique, il devrait y avoir aussi une influence du parler québécois sur ce parler «brayon» dans cette communauté. Plusieurs traits (ou variables) décrivent les résultats du contact linguistique (voir McKillop 1987 pour une liste détaillée). Dans cette communication nous décrivons l'affrication.

CORPUS

Dans notre étude, nous avons choisi un échantillon de 21 informateurs, tous des locuteurs natifs d'Edmundston, la ville principale de la région du Madawaska. Nous avons choisi les informateurs selon le sexe et l'âge, retenant trois groupes d'âges: les vieillards (60-82 ans), les jeunes (16-35 ans) et ceux d'âge moyen (35-55 ans). Les locuteurs ont été interviewés avec un protocole conçu pour éliciter de la variation stylistique; il s'agit de trois styles: lecture des listes de mots, lecture de dialogues et réponses aux images, groupées par thèmes spécifiques. Au total, environ 1800 occurrences de consonnes /t, d, k, g/ ont été relevées.

AFFRICATION: ASSIBILATION ET PALATALISATION

En français «brayon» les quatre phonèmes /t, d, k, g/ se réalisent par des consonnes occlusives et affriquées. Parmi celles-ci on trouve les assibilées [t^s, d^z], qui sont répandues en français québécois, ainsi que les palatalisées ou chuintantes [t^j, d^ʒ], qui sont des variantes acadiennes traditionnelles. Le tableau 1 décrit la répartition des occlusives et affriquées en trois classes où chacune des classes implique soit l'assibilation soit la palatalisation, ou les deux. Les non-affriquées se trouvent dans chaque classe.

Classe	Contexte phonologique	Variantes	Exemples
I	/tj/ + voyelle	[t~t ^s ~tʃ]	<u>tiède</u> , <u>pitié</u> , <u>moitié</u> , <u>cimetière</u> [tjɛd]~[t ^s jɛd]~[tʃɛd]
	/dj/ + voyelle	[d~d ^z ~dʒ]	<u>Dieu</u> , <u>canadien</u> , <u>diable</u> , <u>indien</u> [djø]~[d ^z jø]~[dʒø]
II	/t/ + /i,y/	[t~t ^s]	<u>tigre</u> , <u>fatigué</u> , <u>tire</u> , <u>voiture</u> [tigr]~[t ^s igr]
	/d/ + /i,y/	[d~d ^z]	<u>crocodile</u> , <u>mercredi</u> , <u>aujourd'hui</u> , <u>mordu</u> , <u>perdu</u> [krokodil]~[krokod ^z il]
III	/k/ + /i,y,e,ø/	[t~tʃ]	<u>culotte</u> , <u>queue</u> [kylɔt]~[tʃylɔt]
	/g/ + /i,y,e,ø/	[g~dʒ]	<u>gueule</u> , <u>guêpe</u> [gœl]~[dʒøl]

Tableau 1 - La répartition des trois classes

RÉSULTATS

OBSERVATIONS LINGUISTIQUES

Le tableau 2 décrit la variation dans la réalisation des consonnes en question.

	réalisations [t] [t ^s] [tʃ]			[d] [d ^z] [dʒ]			N (nombre d'occurrences)	
Classe I	12%	85%	3%	19%	75%	6%	862	
Classe II	/ti, di/	4%	96%	--	6%	94%	--	182
	/ty, dy/	44%	50%	--	0%	100%	--	174
	réalisations [k] [tʃ]			[g] [dʒ]				
Classe III	94%	6%		95%	5%	630	1 848	

Tableau 2 - Taux d'occurrence des variantes selon la classe lexicale

Dans la première classe, classe dans laquelle on peut retrouver toutes les trois variantes: assibilée, palatalisée, et dentale, on note que les lexèmes se reproduisent en général avec la variante assibilée. Quelques lexèmes qui semblent retenir la variante palatalisée sont: Dieu (50% de [dʒ]), diable (24%), acadien (10%) et cimetière (17% de [tʃ]), tiens (6%), appartient (5%), chrétien (5%). Dans la deuxième classe où se retrouvent seulement deux variantes: assibilée [t^s, d^z] et dentale [t, d], on voit le même phénomène: c'est la variante assibilée qui prédomine. Seulement un environnement, /t/ devant /y/, semble favoriser la variante dentale [t] (voiture, ceinture, couverture). Quant à la troisième classe où sont groupés tous les vocables comprenant les occlusives vélares /k/ et /g/, le nombre d'occurrences des variantes palatalisées est très bas. A part quatre lexèmes - culotte (15% de [tʃ]), queue (14%) et guêpe (17% de [dʒ]), gueule (10%) - les variantes vélares prédominent dans cette classe.

OBSERVATIONS SOCIOPHONÉTIQUES

L'analyse de la distribution des variantes démontre qu'il n'y a pas de contraintes stylistiques de la variation. Par contre, on observe deux tendances intéressantes quant à l'interaction entre les facteurs âge et sexe. Pour ce qui est des variantes traditionnelles acadiennes, elles apparaissent chez les

locuteurs âgés et d'âge moyen, la prononciation [tʃ] étant plus fréquente chez les locutrices d'âge moyen et la variante [dʒ] étant employée le plus fortement chez les hommes âgés. Quant aux variantes assibilées, les jeunes hommes mènent l'usage de la variante [t^s] et les jeunes des deux sexes mènent l'usage de la variante [d^z]. En ce qui concerne les variantes dentales [t, d], c'est chez les hommes d'âge moyen qu'on rencontre les occurrences les plus élevées.

DISCUSSION ET CONCLUSION

Le résultat le plus important qu'on peut tirer c'est que toutes les occlusives sont relativement stables à Edmundston avec peu d'indication de changement en cours.

Le fait qu'il y ait peu de lexèmes avec une prononciation palatalisée, que les locuteurs moins jeunes gardent cette prononciation et que les locuteurs plus jeunes emploient la prononciation assibilée, pourraient tous être des indications qu'une évolution phonétique a déjà eu lieu dans le parler «brayon». Cette évolution se serait faite dans le sens suivant: les variantes palatalisées [tʃ, dʒ], qui n'ont laissé que quelques vestiges seraient passées aux variantes assibilées [t^s, d^z] et vélaires [k, g] dont la présence régulière prédomine maintenant. Cependant, puisqu'aucune étude n'a été faite sur le brayon à date, nous ne pouvons que supposer que les occlusives dentales et vélaires ont en effet subi cette évolution phonétique.

Il apparaît aussi que le processus linguistique de cette évolution semble être celui du modèle de «diffusion lexicale» (Trudgill et Chambers 1980), selon lequel un changement affecte les lexèmes un à la fois. Il ne reste que quelques mots qui n'ont pas encore subi le changement soit vers les variantes assibilées soit vers les variantes dentales et vélaires.

Pour trouver une explication plus approfondie de ce comportement linguistique, il serait nécessaire d'effectuer une étude plus détaillée que la nôtre car ce sont, peut-être, divers autres facteurs qui peuvent influencer le choix des variantes. Une des questions saillantes à poser est la suivante: comment l'attitude vis à vis les parlars acadiens et québécois influence-t-elle la notion de prestige chez les Brayons? Ce serait très intéressant d'apprendre pourquoi les Brayons adoptent les variantes assibilées [t^s, d^z] du parler québécois quand ils se disent si fiers d'être «Brayons», ces citoyens du Madawaska!

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Negatively Speaking:
a sociolinguistic feature of Newfoundland Speech
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ABSTRACT

Native Newfoundland speakers oftentimes use the negative declarative ending in a tag question when extending an invitation. Where one might expect to hear, 'Would you like a cup of tea?', you often hear, 'You don't want a cup of tea, do you?'. This use of a negative proposition ending in a tag question does not signal that a negative response is expected. The invitation, I propose, is really quite positive in intent. The use of the negative here signals, instead, the social features of politeness and possibly inferior position to the addressee.

0. Introduction

Reviewing a corpus of performance data, currently more than 15,000 words of tape-recorded speech, the frequent use of the negative declarative ending in a tag question became apparent.

Examples of this type are:

1. You're not very happy these days, are you?
2. You won't be there tomorrow night, will you?
3. You can't stay for supper, can you?
4. Things aren't going very well, are they?
5. We didn't succeed like we thought, did we?

Most of this corpus has been transcribed, noting, in particular, primary and mid stresses, and whether the final contour rises or falls. The general context is casual speech of relaxed conversation between two or three members of the same extended family.

Because contextual information is crucial when interpreting the function of tag questions, I narrowed my analysis from the category of negative propositions ending in a tag question to the specific social context of extending an invitation. An example of this context is:

3. You can't stay for supper, can you?

This limited social context makes it much easier to investigate a range of possible meanings without having to worry about contextual variation.

Using several examples similar to the one above and taken from the performance data, I investigated what possible meanings might be interpreted from them by a small group of native Newfoundland speakers. Based on these findings three potential dimensions for meaning were established: i) the person is not really extending an invitation, s/he is simply being polite; ii) the person does not want the bother of fulfilling the invitation; iii) the person is speaking from a position of inferiority to the addressee. The responses to these interpretations ranked accordingly: politeness was highest, inferiority was next, and unwillingness a close third. The number supporting the third interpretation was surprising in view of the hypothesis proposed.

These three interpretations, allowing space for other possible interpretations, were then presented in a questionnaire format, using Osgood's et al. (1977:56ff) semantic differential scale to check meaning and intensity of meaning. This technique was used with the view of eventually factor analyzing these dimensions in a broader study. An example of the scale used is:

polite 1 2 3 4 5 6 7 not polite

The range of values varies from very polite to not very polite, allowing position '4' as one of neutrality.

1. Structure

Before considering the questionnaire's findings, it is important to analyze the structure of the particular type of tag question used in terms of meaning, because tag questions relate to other aspects of discourse. In doing so, we need to focus on, at least, three aspects: the type of the tag forms involved, the range of forms realized, and the social context in which the tag question occurs (Holmes, 1982:41).

i) type: The type of tag form considered here is the negative declarative ending in a tag question, and defined by the social context of extending an invitation. Examples taken from the corpus are:

- 6) You don't want a cup of tea, do you?
- 7) You can't stay the night, can you?
- 8) You wouldn't like a bit of cake, would you?

These are labelled checking tags because they have five characteristics: i) they have operator-plus-subject in that order, 'don't you? do you?'; ii) the operator is the same as the operator of the preceding statement, 'don't - do, can't - can'; iii) the subject of the tag is a pronoun which either repeats, or appropriately substitutes for, the subject statement, 'you-you'; iv) where the statements are negative, the tags are positive, or vice versa; and v) the nuclear tone of the tag

occurs on the auxiliary, and either rises or falls (Quirk et al., 1972:390-1).

The present data focuses only on occurrences of propositions with negative predicates. In other types of tags the negative may be found in the subject, 'subject, none'; 'objective complement, ... has no sense'; or 'adverbial, hardly'. The negative forms of the operators are usually anomalous verbs, 'don't/can't' etc.. Examples with the negative in the tag also occur in the performance data:

- 1) You can stay for awhile, can't you?.
- 2) You'll have a cup of tea, won't you?

The negative expression in these tags, however, is not as strong as that where the negative is found in the proposition. The invitation is far more direct and positive here. As well, the terminal contour varies between falling and rising, whereas in the negative proposition ending in a tag question the final contour always falls.

ii) function: Tag questions are aimed generally at eliciting responses from the addressee. Both linguistically and socially they also act as a "hedge" (G. Lakoff, 1976) on the illocutionary force (Searle, 1976) of the utterance to which it is attached. The hedge softens the strength with which the illocutionary point of an utterance is presented. For speakers who are expressing politeness and especially speaking from an inferior position, the hedge, that is, the tag question is a very natural device. Using the negative with the hedge further down plays the illocutionary force of the utterance, emphasizing even more the politeness or inferiority of the speaker.

Lyons believes that checking tags have a definite effect upon the illocutionary force of an utterance as well; they may even be seen as elliptical sentences. Because when such tags are attached to declarative sentences with the same 'tropic'¹ and expose the same proposition, they produce single sentences whose characteristic illocutionary force is that of asking a question and not simply posing one (Lyons, 1977: 749-64).

iii.) social context: In normal conversations most utterances are multifunctional; they may be assigned to more than one category. A tag question, for example, might signal uncertainty, politeness, group identity, or inferiority. It is the social context, therefore, which notes the primary function of the tag question. The following factors, in particular, emerged as significant in the analysis of social variables: status of the speaker and addressee, intimacy or social distance, and role of the speaker and addressee in the social context (Holmes, 1982:44).

Speakers in the performance data represent three dialect areas: the Northern Shoreline, the Southern Shoreline, and the St.

John's dialects. All three have been isoglossed on the Avalon Peninsula of Newfoundland (Seary et al. 1968). The status of the speakers varies from 'blue to white collar' workers; none have post-secondary education, and in many cases only partial secondary education has been achieved. The intimacy or social distance is that among members of an extended family, while the role of the speaker is that of host and of the interviewer as guest.

2. Meaning

Two aspects of the meaning of an utterance should be considered when analyzing tag questions of the declarative type. The first of these is modal meaning which expresses certainty, conviction, or belief by the speaker to the addressee; the second aspect is affective meaning which expresses attitudes to others. The declarative with a negative proposition signals affective meaning, the speaker is expressing an attitude to the addressee. In view of the social context of extending an invitation the speaker is signalling politeness, and by using the negative in the proposition with a tag question, the speaker's attitude is expressing negative politeness.

When noting the structure of the examples given I said that these tag questions were of declarative form in the proposition, and interrogative form in the tag. Since the proposition is the dominant part of the structure, one might argue that the whole clause is a kind of declarative, for example:

8) You wouldn't like a bit of cake, would you?

It is the clause, 'You wouldn't like a bit of cake,' that carries the message, and not the tag question, '... , would you?'. Since the proposition is expressed in the negative, '...wouldn't like...', one might also argue that the whole proposition is negative, and that the message is not altered by the use of the positive interrogative, '... , would you?'.

However, I believe that tagged clauses are really in some way equi-distanced between these two main types of sentence structures. It is very important, therefore, that we explore the meaning over and above the structure to decide exactly what message is being sent out.

It is generally accepted that what a person says is evident more in the fine linguistic details of the utterance, than it is in what the person overtly claims to be doing. In the context of using a negative when extending an invitation, we are dealing with negative politeness. This type of politeness is essentially avoidance-based, recognizing and respecting the addressee's freedom of action and not wanting to interfere. Such politeness is characterized by self-effacement, formality, and restraint; it functions as a hedge on the illocutionary force of an utterance

and softens the utterance with the intention of giving the addressee an 'out', permitting him to feel that his response is not coerced (Brown and Levison, 1978).

3. Questionnaire

The questionnaire, as noted, was designed to consider three potential factorial dimensions: politeness, willingness, and inferiority. Informants questioned numbered 112 altogether, and were analyzed according to sex and location - rural or urban. By sex, 77 are females and 35 are males; by location, 51 are from rural communities and 61 are from the urban community, St. John's. All respondents are native Newfoundland speakers.

i) politeness dimension: Table 1 below shows the percentages of responses for each of the various categories. Total means all respondents together, f(emale), m(ale), r(ural), and u(rban).

Table 1: Valid cases 112 Missing cases 0

		<u>positive</u>	<u>neutral</u>	<u>negative</u>
total:		47.3%	17.9%	34.8%
sex:	f.	48.1	16.9	35.1
	m.	45.7	20.0	34.3
place:	r.	41.2	21.6	37.3
	u.	52.5	14.8	32.8

Overall, 11.2% of the respondents interpreted an invitation using a negative proposition ending in a tag as expressing politeness. Females varied little from males with 11.6% and 10.2% respectively. Only 3.5% of the rural respondents noted politeness, compared with 17.6% of the urban respondents.

ii) willingness dimension: Table 2 shows the percentages of responses for this dimension.

Table 2: Valid cases 112 Missing cases 0

		<u>positive</u>	<u>neutral</u>	<u>negative</u>
total:		33.9%	18.8%	47.3%
sex:	f.	29.9	22.1	48.1
	m.	42.9	11.4	45.7
place:	r.	37.3	23.5	39.2
	u.	31.1	14.8	54.1

Together, 12.0% of the respondents thought that the invitation signalled more unwillingness than willingness. 16.3% of the

females saw it as more negative than positive, compared with 2.5% of the males. Only 1.7% of the rural respondents interpreted it as being negative; whereas, 20.5% of the urban respondents thought it was.

iii) inferiority dimension: Table 3 shows the percentages for this dimension.

Table 3:		Valid cases 112	Missing cases 0	
		<u>positive</u>	<u>neutral</u>	<u>negative</u>
total:		41.1	22.3	36.6
sex:	f.	49.4	20.8	29.9
	m.	22.9	25.7	51.4
place:	r.	39.2	27.5	33.3
	u.	42.6	18.0	39.3

Totally, 4.0% of the respondents saw the speaker as being inferior. Although 17.4% of the females agreed with this view, 25.4% of the males did not see such a person as inferior. Both rural and urban respondents saw the person as inferior with 5.3% and 2.9% respectively.

4. Conclusion

If we return to the abstract at the beginning of this paper, we will see that I proposed three features for the use of a negative proposition ending in a tag question when extending an invitation in Newfoundland speech. Let us consider each of these features in view of the questionnaire results.

i) 'The use of the negative proposition does not signal that a negative response is expected.' Responses to the questionnaire, however, do not confirm this. The use of the negative in this context appears to signal that a negative response is probably expected.

ii) 'Such invitations are quite positive in intent.' The opposite response was given; respondents with a ratio of 1 to 1.4 viewed such invitations as negative.

iii) 'The use of the negative proposition carries with it the social features of politeness and possibly inferior position to the addressee.' Both of these features do exist; however, respondents viewed the feature of politeness to exist moreso than inferiority. The exception to the latter is found in the category by sex where females differed significantly from males. Females saw the feature of inferiority in the person extending the invitation, while males did not see any such inferiority.

FOOTNOTES

¹."The tropic is that part of the sentence which correlates with the kind of speech-act that the sentence is characteristically used to perform: it is what Hare calls 'a sign of mood'; and in many languages it will in fact be grammaticalized in the category of mood" (Lyons, 1977:749).

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TYPOLOGICAL RELATIONSHIPS BETWEEN
TONIC PITCH AND SYLLABLE NUCLEI

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ABSTRACT

Certain covariations among voice pitch, loudness, and syllable nuclei types are more "natural" than others. For example, a rise/fall in subglottal air pressure automatically causes a rise/fall in BOTH pitch and loudness unless a compensatory adjustment of the vocal folds is made (Borden and Harris 1984:88). Furthermore, rises/falls in voice pitch are typically accompanied by automatic raising/lowering of the larynx (Lindsey et al. 1986); and the concomitant shortening/lengthening of the vocal tract causes variations in vowel timbre (Ashby 1983). The natural favouring of least neuromuscular effort therefore predicts the most expected covariations among pitch, loudness, and nuclei types that are shown in Table 1 of this paper.

The above covariations help explain the extreme vowel variation found in southwestern dialects of England. Such covariations are also evident in three of the four languages (French, Spanish, German, and English) described in Delattre (1963). They are even detectable in tone languages, despite the greater autonomy of voice pitch in such languages. Thus, register tone languages are more likely to have only monophthongs, whereas contour tone languages are more likely to have additional (gliding) types of nuclei.

1. Introduction

Two types of segmental conditioning of sound change are commonly recognized. The first type to be recognized we may call syntagmatic segmental conditioning, since it involves typical combinatorial co-articulation effects such as those of assimilation (see, e.g., Abercrombie 1971: Chapter 8). The second type we may call paradigmatic segmental conditioning, since it involves replacive or substitution effects due to overcrowding or "undercrowding" of phonetic or phonological spaces. Here, the French structuralist Martinet (1955, etc.) tried to define some of the conditioning factors in terms of push chains (from overcrowding) and pull chains (from "undercrowding").

Both the above types of segmental conditioning are undoubtedly often important in sound change, but they by no means cover all the possible types of conditioning. In particular,

sound changes which have been described as spontaneous or unconditioned or merely tendencies of drift may in fact be supersegmentally conditioned. For example, V.M. Zhirmunsky (1985) of Leningrad has postulated suprasegmental conditioning of the Great Vowel Shift (GVS) in the history of English. Moreover, he claims (1985:153) that the GVS and the analagous vowel changes in other Germanic languages were all "caused by the same factor - a strong dynamic stress." The GVS of English certainly provides prime facie evidence for Zhirmunsky's claim in that only stressed vowels underwent that series of radical changes. Compare, for example, the unstressed reflex of Old English long \dot{y} (from the OE word bȳ 'town') in Darby, Grimsby, Digby, etc. with its stressed reflex in by-law/bye-law. Some non-standard modern dialects of English in fact still preserve similar vowel alternations. For example, in my own native dialect of northeastern Newfoundland English one can hear both shifted and unshifted vowel versions of the word by in a single sentence such as the following:

(1) I was sittin down bi da fence when she walked by.

Here, the spelling bi represents the unshifted monophthongal vowel of the unstressed word, while the spelling by represents the shifted diphthongal vowel of the stressed word.

This paper will adduce evidence from experimental phonetics and from comparative studies in support of Zhirmunsky's claim that ONE of the possible factors in vowel change may be suprasegmental conditioning. However, one of the great fallacies in all areas of linguistics is the assumption that conditioning is unidirectional. In many cases, conditioning is clearly bidirectional. For example, mutual assimilation of adjacent segments is commonly found in rapid (allegro) styles of speech. When the word canvas is pronounced as cambas in rapid Newfoundland speech (Hollett 1982:132-3) we have an example of simultaneous mutual assimilation, with the /v/ assimilating in MANNER towards the preceding /n/ and the /n/ assimilating in PLACE towards the following /v/.

Similarly, I would claim that certain segmental changes (in this case, vowel changes) and certain suprasegmental changes (in this case, tonic pitch changes) are likely to evolve in parallel by mutually conditioning each other. My claim stems from the fact that certain covariations among voice pitch, loudness, and syllable nuclei types are more "natural" (i.e., expected) than others, because they require less articulatory control on the part of the speaker and perhaps less perceptual analysis on the part of the hearer. For example, a rise/fall in subglottal air pressure automatically causes a rise/fall in BOTH pitch and loudness, unless a compensatory adjustment of the vocal folds is made (Borden and Harris 1984:88). Furthermore, rises/falls in voice pitch are typically accompanied by automatic raising/lowering of the larynx (Lindsey et al. 1986); and the concomitant shortening/lengthening of the vocal tract causes

automatic variations in vowel timbre (Ashby 1983) unless compensatory adjustments of the tongue, jaw and/or lips are made. The natural minimizing of neuromuscular effort therefore predicts the following covariations among pitch, loudness, and vowel nuclei:

Table 1

Pitch pattern	Loudness pattern	Nucleus type
1. Level [-]	Sustained	Monophthongs or steady vowels with no glides as in [i:, ā:, ū:]
2. Falling [']	Decreasing	Closing or narrowing diphthongs with final high glides as in [aʷ, aɪ]
3. Rising [']	Increasing	Opening or widening diphthongs with initial high glides as in [wá, yá]
4. Concave [v]	Decreasing, then increasing	Centering or schwa-ing diphthongs with final schwa-type glides as in [iə, eə, əə]
5. Convex [^]	Increasing, then decreasing	Triphthongs with BOTH initial and final high glide as in [wáɪ, yáw]

2. Evidence from dialect differences

The above covariations help explain the extreme vowel variations found in southwestern dialects of England. During my sabbatical year (1978-9) of fieldwork in southwestern England, I was often struck by the extreme variations in both vowel nuclei and pitch patterns that I recorded in that area of England. After puzzling over such variations for a long time, I began to see that they might not be entirely chaotic. For example, in Dorset itself, where I was based for that year, I began to notice that the opening or widening type diphthongs, with initial w or y glides, tended to co-occur with a distinctive rising tonic pitch

that gave a peculiarly piping quality to words such as gyet 'gate' and kwot 'coat.'

I next began to relate my own fieldwork observations to the vowel variants displayed in the LAE (Linguistic Atlas of England: Orton et al. 1978). Some tentative geographical patterns began to emerge. For example, for back-vowel words like toad (see map Ph 123a in the LAE), oak (Ph 124a in LAE), home (Ph 129a and b in LAE), and coat (Ph 136 in LAE) I found that the opening diphthong variants (see type 3 in Table 1 above) tended to occur almost exclusively in the mainland (rather than peninsular) part of southwestern England, an area where rising tonic pitch is quite common. Note, too, the proximity of this area to the rising tonic pitch of southern Wales. The variants found in the LAE included [wə] in toad and coat, [wɑ] in oak, and [wɔ] in home and oak.

Similarly, for front-vowel words like hames 'part of a horse's harness' and beans I found that the opening diphthong variants (see type 3 in Table 1 above) also occurred most frequently in the same mainland areas of rising tonic pitch. For example, the opening diphthong variant [jɛ] was found in the word hames (Ph 62a in LAE) and the opening variants [je, ju, jɔ] in the word beans (Ph 72 in LAE). Furthermore, whenever opening diphthong variants occurred in the peninsular part of southwestern England they always occurred adjacent to the mainland part AND they also shared their "openingness" with the adjacent mainland, as in the word heat (Ph 91 in LAE).

In addition, monophthongal variants (see type 1 in Table 1 above) tended to lie to the WEST of opening variants (see type 3 in Table 1 above); whereas closing variants (see type 2 in Table 1 above) tended to lie to the EAST of opening variants. I am not yet prepared to comment on geographical and genetic relationships between centering variants (see type 4 in Table 1 above) and the other three types (1-3 in Table 1) mentioned above.

3. Evidence from language differences

If we move from dialects to languages, we can find similar covariations of tonic pitch and nucleus type. In fact, such covariations are evident in three of the four languages - French, Spanish, German, and (American) English - described in Delattre (1963). For example, Delattre found that the typical tonic pitch in American English was of the falling type (type 2 in Table 1). This fact correlates nicely with the fact that all diphthongs in this variety of English are of the closing type.

Especially interesting is Delattre's finding that the typical tonic pitch is a rising one in the two Romance languages French and Spanish. This correlates nicely with the fact that the processes of diphthongization produce only opening diphthongs in French and Spanish. (Here, I am interpreting sequences of

vowel plus [j] to be the results of vocalization rather than results of diphthongization.) The rising tonic pitch typical of Romance languages probably evolved along with their tendency towards opening diphthongs, since the two developments tend to mutually condition each other as explained in the introductory section of this paper.

My suggestion is meant to take some of the mystery out of Vennemann's (1988:65-6) interpretation of the change from closing to opening diphthongs in the history of Italian. Vennemann postulates an Italian aversion against closing (which he calls narrowing) diphthongs and an Italian fondness for opening (which he calls widening) diphthongs. This kind of "explanation" is inadequate because Italians have not consciously preferred one type of diphthong over another, as if they were choosing among different types of wine, for instance. My suggestion is also meant to give additional motivation to the similar changes in the history of French diphthongs. The remarkable systematicity of these changes is described in a paper by Hewson (1982). Without appealing to suprasegmental conditioning it is difficult to explain why French, Spanish, and Italian would all have come to "prefer" opening diphthongs.

Of the four languages reported by Delattre (1963), the one exception to my proposed covariation principle is German. This German exception is interesting for at least two reasons. First, it makes one ask how and when German developed its typical rising tonic pitch. For example, did German develop its rising tonic pitch after it had developed its present system of closing diphthongs? Is the rising tonic pitch of Standard German an areal feature borrowed from French along with Standard French uvular R? Secondly, is the German "disharmony" between tonic pitch and diphthong type one of the reasons that German sounds like a more "energetic" (i.e., energy-consuming) language than do English, French, and Spanish? Another reason for this perceptual impression is of course the abrupt glottal onset of German stressed vowels that lack a consonant onset of their own. Are the two German phenomena of "disharmony" and abrupt vowel onset related in some way?

Finally, my covariation principle can be extended to tone languages, despite the much greater autonomy of voice pitch in such languages. During my three year stay in West Africa (Ghana, 1961-4), I noted that register tone languages or dialects (i.e., those with level tones only) were more likely to have only monophthongal vowels. Contour tone languages, which have additional tones of the gliding type, are more likely to have additional vowels of the gliding (i.e., diphthongal) type. For example, Mandarin Chinese is described as having four (marked) tones - one level (type 1 above), one falling (type 2), one rising (type 3) and one concave (type 4). This means that two of its three contour tones begin with a pitch fall and that two of them end with a pitch rise. And correlating nicely with this symmetry in tone onset and decay is the fact that Mandarin has a

similar balance in its nine diphthongs - five being of the opening type, and four being of the closing type. Moreover, we can arrange eight of the nine diphthongs in mirror-image pairs as follows:

	4 y-type		4 w-type		1 u-type
4 closing	aj	ej	aw	ow	
	X	X	X	X	
5 opening	ja	je	wa	wo	ue

4. Conclusions

Despite the necessarily tentative and preliminary nature of much of the above evidence, it is evident that segmental and suprasegmental features condition one another in highly subtle but systematic ways. This paper has concentrated on typical covariations between vowel types on the one hand and voice pitch and loudness on the other, but analogous covariations must also exist between consonant types and suprasegmental features. Some of the latter have been utilized in tonogenesis theory; but others that have been described in experimental phonetics have not been fully exploited by phonologists, variationists and other linguists. The study of phonological conditioning is still far from complete.

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La suppression du phonème /r/ observée
dans quatre générations d'une famille
acadienne d'Abram-Village,
(Ile-du-Prince-Edouard) (Canada)

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RESUME

Cette communication examine les facteurs linguistiques (accentuels et autres) et sociolinguistiques qui entraînent la suppression fréquente de la consonne /r/ en fin de mot dans le parler de quatre générations d'une famille acadienne d'Abram-Village (Ile-du-Prince-Edouard)(Canada). L'on étudie aussi les conséquences de cette chute consonantique pour la structuration du système vocalique des locuteurs à l'étude. L'on s'efforce enfin de mesurer la stabilité du phénomène à travers les quatre générations en présence.

PRELIMINAIRES

1.1 Economie formelle et parlars populaires

L'une des caractéristiques que semblent partager toutes les langues humaines connues est leur tendance à l'économie. André Martinet constate à cet égard que les utilisateurs d'une langue donnée s'efforcent tout naturellement de créer un équilibre entre les besoins de la communication et la simplicité des moyens formels mis en oeuvre pour les satisfaire. En d'autres termes, une langue tend à être économique en ce sens que les locuteurs s'efforcent d'exprimer un maximum d'informations avec un minimum d'efforts. "L'économie linguistique, c'est la synthèse des forces en présence", (Martinet 1955:97).

Les parlars populaires, qui échappent largement aux contraintes linguistiques conservatrices que tente d'imposer le système scolaire, fournissent une occasion particulièrement instructive pour étudier les manifestations, les mécanismes et les éventuelles conséquences structurales et fonctionnelles de cette économie linguistique. Rappelons, à ce sujet.

l'ouvrage remarquable d'Henri Frei, intitulé La grammaire des fautes, publié en 1929, où le linguiste suisse met bien en évidence les tendances à la simplification, à la régularisation et, là où une transmission efficace du message l'exige, à la différenciation que présente le français populaire.

1.2 Objectifs de l'étude

Nous nous proposons d'examiner, dans cette communication, une manifestation frappante de la tendance à la simplification formelle observée dans un parler acadien jusqu'à récemment très peu étudié, à savoir, celui d'Abram-Village, dans l'Île-du-Prince-Édouard au Canada. Il s'agit de la suppression fréquente, surtout en finale de syllabe accentuée, du phonème consonantique /r/, précédé directement d'une voyelle. C'est ainsi que [p^ha:r] "part" se prononce souvent [p^ha:] dans ce parler. [t^ha:r] "terre" s'y prononce [t^ha:], [œ:r] "heure" s'y réalisant [œ:], pour ne signaler que quelques exemples du phénomène.

Bien que nous ayons constaté l'existence de la suppression du /r/ en finale de syllabe dans un corpus très étendu largement représentatif de tous les habitants d'Abram-Village¹, nous avons pris le parti de restreindre notre enquête, dans un premier temps, à un ensemble de six informateurs offrant la particularité d'appartenir à quatre générations d'une seule et même famille habitant le village depuis plus de 100 ans. Nous avons opté pour une telle approche, persuadé que l'occasion relativement rare de pouvoir comparer quatre générations d'une même famille permettrait non seulement d'étudier le phénomène formel en soi, mais aussi d'en mesurer la stabilité ou la variabilité dans un cadre sociolinguistique essentiel à l'acquisition et à la transmission d'une langue, à savoir, la famille.

1.3 Informateurs, milieu et informations démographiques

La première des quatre générations de la famille retenue se trouve représentée par un cultivateur à la retraite, âgé de 93 ans, la deuxième par sa fille de 68 ans, ménagère et mère de famille, ainsi que par le mari de celle-ci, âgé de 70 ans, qui a gagné sa vie, lui, comme pêcheur et cultivateur. C'est la fille de ces deux derniers, institutrice de 45 ans, qui représente la troisième génération, ses deux fils jumeaux, âgés de 11 ans, constituant la génération la plus jeune.

Abram-Village où, nous l'avons dit, cette famille acadienne est établie depuis plus de 100 ans, se trouve au coeur de la région francophone la plus peuplée de l'Ile-du-Prince-Edouard, dans le Comté de Prince. En effet, sur les 3,420 habitants de cette province qui, lors du recensement canadien de 1981, déclaraient parler français à la maison, il y en avait 3,290, soit 7,7 %, qui résidaient dans le Comté de Prince et très majoritairement dans la partie sud-ouest de ce comté, appelée communément la Région Evangéline, dont Abram-Village est la localité la plus importante. C'est dans ce village qui, en 1981, comptait 351 habitants, francophones à 72,6 %, que l'on trouve la seule école entièrement française de la région, établissement qui regroupe plus de 475 élèves dans les cycles primaire et secondaire, une importante usine d'apprêtage du poisson et un grand centre récréatif et culturel.

1.4 Corpus et transcription

Quant aux enregistrements de nos six informateurs, nous avons veillé à ce qu'ils présentent un caractère naturel et spontané. C'est ainsi que nous avons invité l'informatrice de 45 ans à s'entretenir avec ses parents et son grand-père, conversations où, bien entendu, son propre idiolecte se trouve largement représenté aussi. Les propos des deux frères jumeaux ont été recueillis, eux, par un jeune Acadien de 23 ans, avec qui les garçons se sentaient manifestement très à l'aise. Les entretiens portaient essentiellement sur le travail, l'école, les souvenirs d'enfance et de voyage, de même que les coutumes propres à la région.

Nous avons effectué une transcription étroite du corpus au moyen de l'alphabet phonétique international, en prêtant une attention particulière à l'identification des schèmes accentuels de chaque enregistrement. Comme nous allons le voir, la présence ou l'absence de l'accent semble être étroitement liée à la tendance à la chute ou au maintien du /r/ en finale de syllabe.

Précisons que la prononciation ou la suppression du phonème /r/ dans les contextes retenus a été déterminée à l'oreille. Nous avons, cependant, l'intention d'effectuer ultérieurement des analyses de type instrumental afin de pouvoir encore mieux saisir, selon des paramètres acoustiques, le mécanisme de la chute du

/r/ et ses conséquences pour la voyelle précédente.

/r/ : SUPPRESSION ≠ MAINTIEN : ANALYSE

2.1 /r/ en finale de syllabe: dépouillement global du corpus, fréquences contextuelles et exemples

Notre corpus a livré, chez les quatre générations examinées globalement, un total de 278 occurrences du phonème /r/ prononcé ou supprimé après voyelle en finale de syllabe accentuée et inaccentuée. Sur ces 278 occurrences, nous en avons relevé 170, soit 61.2 % du total, qui figuraient à la finale de syllabe accentuée, les 108 autres se manifestant, elles, on le voit, en dehors de l'accent.

Sur les 170 occurrences attestées en finale de syllabe accentuée, nous en avons dénombré 86, à savoir, légèrement plus de la moitié, où le phonème /r/ se trouvait supprimé complètement. C'est ainsi que nous avons constaté chez l'informateur le plus âgé des réalisations telles:

[ot̃ã d m'zã:]	"autant de misère"
[par la ʃaldé:]	"par la chaleur"
[zame k sa pure sortsi:]	"... sortir"
[dø ptsit plã: də ʃak bó:]	"bord"

Les deux informateurs de la deuxième génération ont fourni, eux, des exemples comme:

[le ʃa:si dã də hõ:]	"dehors"
[khã k mō p'hé: p'hé:ʃé]	"père"
[pha de vrɛ humá:]	"homards"

Et l'institutrice de 45 ans:

[i dve mɔje at si zũ: pi sɛ zũ:]	"six jours pi sept jours"
[avõ pha deza mi dzy humá: sy latã:]	"du homard sur la terre"

Enfin, les témoignages des deux jumeaux âgés de 11 ans ont donné des exemples comme:

[õn ave phœ: k ij ej ẽ stõxɛ]	"peur"
[ma mɛ: traváj]	"mère"

[j ave ã mas də ʒoz a fá:] "faire"

En finale de syllabe inaccentuée, le /r/ présente, chez les quatre générations considérées globalement, une très nette tendance à se prononcer. C'est, en effet, ce que l'on constate dans 82, soit 75,9 %, des 108 occurrences relevées dans ce contexte précis.

Dans les contextes inaccentués et accentués où le /r/ final se prononce, il ne diffère de la consonne correspondante du français standard que par son articulation apicale. Ainsi, en syllabe accentuée:

[lə ɡro puwæ:i, də fá:r]
[s ɛ̃ plɥs khú:r]

Et, de même, en dehors de l'accent:

[pʊr puwər nuz, abijé]
[lez awər ru:vri]
[vər ɥit œ: dzy mətʰɛ]

Enfin, les exemples qui suivent illustrent la minorité des cas, soit 26 ou 24,1 % , en syllabe inaccentuée chez nos informateurs où le /r/ tombe en position finale.

[sy ɛ̃ trɔk væ:ɡiŋ]
[alɛ war pu jø trɛ] "pour leurs traits"
[kwa s ki mətjã sɥ le ʒardɛ]
[sy noz øk]
[ɔ̃n a etʰe sy de ɔlɔx khó:stɔx]
[ʒyskã ɛ̃ kã: púr]

Une comparaison des quatre générations en présence a révélé une variabilité dans la fréquence de suppression du /r/. Nous laisserons provisoirement de côté l'examen de cette question pour tenter de cerner tout d'abord les facteurs purement linguistiques qui régissent la tendance à la chute du /r/.

2.2 /r/: suppression : analyse du phénomène en syllabe accentuée

Comme l'indique notre examen global de la distribution contextuelle des /r/ prononcés et supprimés en fin de syllabe, il semble exister une correspondance étroite entre la présence ou l'absence

d'un accent de groupe et la fréquence de la suppression du /r/. En effet, en syllabe accentuée, la tendance à la suppression (50,6% du nombre total des occurrences dans ce contexte précis) est plus de deux fois plus élevée qu'en syllabe inaccentuée (24,1% du total).

Si la présence d'un accent de groupe semble être le facteur linguistique majeur qui entraîne la chute du /r/, on peut se demander s'il n'existe pas des influences contextuelles concomitantes, telles certaines voyelles précédentes ou des aspects du contexte immédiat suivant (à savoir, une pause ou certaines voyelles ou consonnes), qui agissent de concert avec l'accent pour favoriser la suppression de la vibrante.

Pour tenter de mesurer l'influence du contexte vocalique précédent, nous avons examiné, à titre indicatif, le comportement du /r/ sous l'accent à la finale absolue après toutes les voyelles attestées chez nos six informateurs. La mise en rapport du taux de suppression du /r/ avec la présence de ces différentes voyelles a donné les résultats suivants que nous présentons par ordre de fréquence décroissante:

<u>contexte</u> <u>vocalique</u>	<u>occ. du</u> <u>/r/</u>	<u>cas de</u> <u>suppression</u>	<u>%</u>
[a:]	13	11	84,6
[a:]	9	7	77,8
[œ:]	11	8	72,7
[o:]	2	1	50,0
[u:]	5	2	40,0
[ɔ:]	3	1	33,3
[i:]	4	1	25,0
[ε:]	4	1	25,0
[y:]	<u>4</u>	<u>0</u>	0,0
	55	32	

Le schéma qui suit structure ces mêmes résultats selon le degré d'aperture de chacune des voyelles relevées. Les chiffres accompagnant les symboles indiquent l'importance relative de la chute du /r/ au contact de ces voyelles, le chiffre le plus élevé (9) signalant le taux de suppression le plus fort.

i:	③	y:	①	u:	⑤
				o:	⑥
ε:	②	œ:	⑦	ɔ:	④
a:	⑨			ɑ:	⑧

Comme l'indique l'examen des données, c'est après les deux voyelles orales les plus basses, à savoir, [a:] et [ɑ:]. l'une antérieure et l'autre postérieure, et [œ:], l'une des trois voyelles mi-basses, que la chute du /r/ est de loin la plus fréquente. L'on voit, toutefois, que la correspondance entre l'aperture croissante de la voyelle précédente et une tendance plus accusée à la suppression du /r/ sous l'accent n'est pas absolue, car, au contact des deux voyelles postérieures /o:/ et /u:/, mi-fermée et fermée respectivement, le /r/ présente un taux de suppression plus important qu'après chacune des deux voyelles mi-basses /ε:/ et /ɔ:/. Notons, en même temps, que la fréquence de ces quatre contextes vocaliques est nettement inférieure à celle des trois voyelles [a:], [ɑ:] et [œ:].

Qu'en est-il de l'influence exercée sur la chute du /r/ par le contexte qui le suit immédiatement? Une analyse globale du corpus a permis d'observer que, précédé de la même voyelle, en l'occurrence, /a:/, le /r/ tombe 15 fois sur 18, à savoir, dans 83,3% de ces occurrences, lorsqu'il figure à la finale absolue, c'est-à-dire, en fin de phrase. Si, par contre, il existe un groupe accentuel suivant, à initiale consonantique, le /r/ présente, chez l'ensemble de nos informateurs, une très nette tendance à se maintenir. C'est ainsi que dans ce contexte précis il se prononce dans 20 de ses 26 occurrences, un pourcentage qui s'élève à 76,9.

Pour récapituler, l'analyse contextuelle globale de notre corpus a révélé que la suppression du /r/ est plus de deux fois plus élevée en syllabe accentuée

qu'en dehors de l'accent. Sous l'accent, la tendance à la suppression est la plus accusée après les deux voyelles orales les plus ouvertes du système, à savoir, /a:/ et /ɑ:/. A l'influence de ces voyelles, l'on doit aussi ajouter la position du /r/ à la finale absolue, c'est-à-dire, en fin de phrase. Ces trois facteurs contextuels semblent se conjuguer pour favoriser une tendance maximale à la suppression du /r/.

Comment expliquer linguistiquement la très nette tendance à la chute du /r/ constatée à la finale de syllabe accentuée? Il nous semble qu'il faut chercher la réponse dans la distribution de l'énergie articulatoire parmi les différents éléments phoniques de la syllabe. Rappelons que le /r/, qu'il soit fricatif ou apical, est une consonne faible ou lenis en français. En tant que telle, sa réalisation exige nettement moins d'énergie que celle de la très grande majorité des autres consonnes de la langue. Cette faiblesse articulatoire le rend bien plus sujet à la suppression, là où l'essentiel de l'énergie articulatoire se trouve concentré sur une voyelle accentuée précédente qui s'allonge par la même occasion. Du reste, la position très basse de la langue nécessaire à la réalisation des deux voyelles [ɑ:] et [ɑ:] ne fait que favoriser la suppression de l'articulation apicale du /r/ chez nos informateurs, tendance renforcée par l'inexistence de toute autre articulation suivante, lorsque le /r/ se trouve à la finale absolue.

2.3 /r/ : suppression en syllabe inaccentuée : observations

En dehors de l'accent, nous n'avons relevé, dans la totalité de notre corpus, que 26 cas de suppression du /r/, répartis, comme l'indique le Tableau 2, qui figure en annexe, à peu près également parmi les quatre générations. Ces 26 occurrences ne représentent que 24,1% des 108 cas où /r/ figure ou pourrait figurer dans ce contexte précis. Là où se manifeste la chute du /r/ en syllabe inaccentuée, elle se restreint essentiellement à deux prépositions monosyllabiques, à savoir, /sy/ "sur" et /pu/ "pour", ces formes écourtées constituant 19 des 26 cas de suppression (soit 73,1%) du /r/ dans ce contexte précis. Contraste intéressant, cependant, la préposition tronquée [sɥ], qui figure onze fois dans notre corpus chez les générations 1, 3 et 4 est de toute évidence complètement lexicalisée

chez les quatre informateurs de ces tranches d'âge. la forme pleine [syɾ] étant inexistante dans leurs témoignages. Par contre, la forme écourtée [pu] ne concurrence que partiellement la forme pleine [pur]. En effet, sur les 45 occurrences de cette préposition chez les quatre générations, la forme [pu] n'est attestée que huit fois, c'est-à-dire, dans 26,6% des cas. Cette forme tronquée figure chez les générations 1, 2 et 3 deux, une et cinq fois respectivement. Si l'on est tenté de vouloir attribuer à l'influence du système scolaire les 15 occurrences de [pur], à l'exclusion de [pu], chez la jeune génération, il ne faut toutefois pas oublier chez eux les cinq occurrences de [sy], à l'exclusion de [syɾ], sans oublier la suppression fréquente de /r/ sous l'accent.

/r/ : SUPPRESSION : CONSEQUENCES PHONETIQUES
ET PHONOLOGIQUES POUR LES VOYELLES PRECEDENTES

3.1 Conséquences phonétiques et explications possibles

Sur le plan phonétique l'on constate tout d'abord que la disparition de la consonne laisse intact l'allongement vocalique. Ainsi:

[par dɛrjɛ:], [mamɛ:], [huma:], [ʒu:], [astœ:],
[p^hœ:], [dɛhɔ:], [mizɑ:], [t^ha:], [d/a:], "de
l'air".

Du reste, comme l'indiquent bien les cinq derniers exemples cités, se conserve aussi, en l'absence du /r/, l'aperture accrue que connaissent, dans notre parler, certaines voyelles orales devant cette consonne à influence ouvrante aussi bien qu'allongeante. Le cas le plus frappant est, on le voit bien, celui des réalisations comme [t^ha:] "terre", [mizɑ:] "misère", [d/a:] "de l'air", où, rappelons-le, la voyelle basse /a/ remplace habituellement, devant /r/ dans la même syllabe en acadien, le /ɛ/ mi-bas du français standard. Se maintient aussi, malgré la disparition du /r/, l'aperture plus importante que présentent, dans le parler d'Abram-Village, les voyelles orales [œ] et [ɔ] devant cette vibrante sous l'accent. Ainsi:

[p^hœ:] "peur", [dɛhɔ:] "dehors".

Comment rendre compte du maintien de ces caractéristiques formelles en l'absence concrète du

/r/? Une explication possible consisterait à postuler, chez le locuteur qui réalise sous l'accent des formes telles [p^ha:], [t^hâ:], [p^hœ:], etc., la conscience qu'elles pourraient s'achever formellement par un /r/ dans un français plus axé sur la norme standard et qu'elles le font, en effet, le plus souvent en dehors de l'accent dans le parler à l'étude. En d'autres termes, l'on pourrait supposer qu'il existe, au niveau de la compétence linguistique du locuteur, un /r/ qui reste toutefois sous-jacent au niveau de la performance ou de l'articulation dans les contextes accentués que nous examinons, mais dont l'existence dans la conscience du locuteur suffit à maintenir l'allongement et l'aperture accrue des voyelles devenues finales.

Cependant, l'on peut se demander s'il est vraiment nécessaire de postuler l'existence d'un /r/ sous-jacent pour expliquer la présence de ce qui pourrait peut-être être envisagé plus concrètement comme la conservation, dans la forme tronquée de son /r/ final, d'habitudes articulatoires acquises au départ dans le contexte de cette consonne, l'une et l'autre forme ayant, bien entendu, le même sens.

3.2 Conséquences phonologiques

La chute du /r/ entraîne, on le voit, la création, dans le parler d'Abram-Village, d'un ensemble d'unités significatives qui se terminent formellement par une voyelle longue. Les voyelles longues attestées dans ce contexte se structurent comme suit:

i: /kyi:/ "cuire"	u: /zu:/ "jour"	
	o: /bo:/ "bord"	
ɛ: /pɛ:/	œ: /pœ:/	ɔ: /dho:/
ɑ: /tɑ:/	a: /pa:/	

Notons que ce sont toutes des voyelles orales et que deux d'entre elles, à savoir, /œ:/ et /ɔ:/, ont un timbre inexistant à la finale ouverte en français standard et dans d'autres parlers acadiens que nous avons examinés.

Une différence de longueur vocalique est, de toute évidence, tantôt le seul trait formel, tantôt le trait formel essentiel qui permet de distinguer certaines de

ces unités significatives d'autres unités de sens susceptibles de commuter avec elles. Il en résulte, à la finale accentuée, entre voyelles longues et brèves une opposition formelle que la linguistique fonctionnelle, par exemple, qualifierait de pertinente ou distinctive. Ainsi, une telle opposition "longue" ≠ "brève" est la seule différence formelle perceptible qui se manifeste dans des paires d'unités significatives dites "minimales" comme:

/pa:/ "part" ≠ /pa/ "pas"

/pɛ:/ "père" ≠ /pɛ/ "paix"

La distinction formelle entre les membres des paires d'unités significatives qui suivent s'effectue aussi, on va le voir, à l'aide d'une opposition de longueur vocalique, à laquelle s'ajoute toutefois une différence non-pertinente de timbre.

/kyi:/ [kyi:] "cuire" ≠ /kyi/ [kyi] "cuit"

/zu:/ [zù:] "jour" ≠ /zu/ [zu] "joue"

/bo:/ [bo:] "bord" ≠ /bo/ [bo] "beau"

Rappelons qu'une telle opposition vocalique "longue" ≠ "brève" à la finale absolue est inconnue en français standard, bien qu'elle se manifeste dans les créoles de certaines régions francophones. Signalons, du reste, qu'aucune opposition formelle ne semble exister, dans l'acadien d'Abram-Village, entre /a:/ et /a/ dans le contexte à l'étude, le /a/ antérieur bref se trouvant remplacé systématiquement par la voyelle postérieure brève /a/ à la finale accentuée. Quant à /œ:/ et à /ɔ:/ employés à la finale absolue, les voyelles brèves les plus proches auxquelles elles s'opposeraient formellement dans ce contexte précis chez nos informateurs seraient /ø/ et /o/ respectivement. Ainsi:

/pœ:/ "peur" ≠ /pø/ "peu"

/dho:/ "dehors" ≠ /ho/ "haut"

L'on peut se demander si le fait de postuler l'existence, dans la conscience du locuteur, du /r/ sous-jacent proposé plus haut pour expliquer le maintien de la longueur et de l'aperture vocaliques

n'aurait pas pour effet d'enlever à la différence de longueur vocalique que nous venons de décrire sa valeur ou son statut de différence fonctionnelle essentielle, la présence des voyelles longues étant ainsi plutôt réduite à un phénomène formel de phonétique combinatoire régi par le /r/ sous-jacent. L'on voit donc que le recours à un /r/ sous-jacent semblerait enlever au modèle d'analyse de la linguistique fonctionnelle sa capacité de décrire de manière adéquate le fonctionnement du système phonologique du parler à l'étude sur ce point précis.

4. Stabilité de la suppression du /r/ à travers les générations

Ayant analysé la tendance à la suppression du /r/ chez l'ensemble de nos six informateurs, nous examinerons, pour terminer, la stabilité du phénomène d'une génération à l'autre. A cet égard, les données du Tableau 2 amènent à constater, parmi les quatre générations en présence, une variabilité à première vue quelque peu inattendue. C'est, en effet, chez notre informateur de 93 ans, qui n'a qu'une scolarité très réduite de trois ans, que l'on relève le taux de suppression le moins élevé en syllabe accentuée, à savoir, 28,2%. C'est, par contre, chez nos deux informateurs jumeaux de la jeune génération que le /r/ se supprime le plus souvent dans ce même contexte (dans 63,6% des cas), ces enfants fréquentant depuis cinq ans une école francophone où le modèle de français oral et écrit proposé aux élèves se veut axé sur celui du français international. L'on constate aussi que chez l'institutrice de 45 ans, la fréquence de suppression varie en fonction de son interlocuteur. En effet, dans ses entretiens avec son grand-père, elle prononce le /r/ environ quatre fois plus souvent (dans 81,8% des occurrences) que lorsqu'elle s'adresse à ses deux parents (dans 21,9% des cas). En revanche, dans les propos de ces derniers, les taux de maintien et de suppression du /r/ sont à peu près égaux, s'élevant à 48,4% et à 51,6% respectivement.

Il nous semble indiqué de faire intervenir des facteurs d'ordre sociolinguistique pour tenter d'expliquer certains aspects de la variabilité constatée. Nous avons remarqué que dans son entretien avec son grand-père de 93 ans, l'institutrice de 45 ans recourt systématiquement au vouvoiement, là où elle tutoie spontanément ses parents. L'on est donc porté à

vouloir interpréter le maintien très fréquent du /r/ en finale de syllabe accentuée qui caractérise la langue de cette informatrice en conversation avec son grand-père comme un autre indice du style plus soutenu adopté pour témoigner du respect qu'elle a pour lui. Il est possible, du reste, que ce vieil informateur emploie, de son côté, un style moins familier avec sa petite-fille pour marquer l'égard qu'il a pour sa profession d'institutrice. A quoi l'on pourrait peut-être ajouter une certaine gêne que semble ressentir ce monsieur devant un microphone. Quant à la fréquence de suppression très élevée du /r/ chez les deux jeunes informateurs, elle semble bien refléter un contexte de communication exempt de toute pression d'utiliser la norme linguistique plus standard enseignée par le système scolaire. Rappelons que leur interlocuteur était un jeune Acadien fort décontracté qui est bien parvenu à les mettre très à l'aise.

CONCLUSIONS

En conclusion, il est manifeste que la chute du /r/ est un phénomène de simplification formelle caractéristique du langage des quatre générations de cette famille acadienne d'Abram-Village. Du reste, loin de s'estomper à travers les générations en présence, cette suppression consonantique est, de toute évidence, restée très vivace dans l'acadien courant de la jeune génération. La tendance à la suppression du /r/ semble être commandée par des facteurs linguistiques très précis, dont le plus important paraît être, dans notre corpus, l'accent de groupe ou d'intensité, auquel s'ajoutent la présence, devant /r/, des voyelles ouvertes /a/ et /ɑ/ et la position de cette consonne apicale à la finale absolue. Nous croyons avoir aussi décelé des influences de type extra ou sociolinguistique qui pourraient permettre d'expliquer la variabilité qu'a révélée la comparaison des quatre générations. L'enquête a aussi mis en évidence des conséquences importantes de la chute du /r/ pour l'organisation du système des voyelles orales en finale accentuée. Rappelons que le résultat le plus frappant a été la création d'une série d'oppositions réelles ou virtuelles entre voyelles longues et voyelles brèves correspondantes, phénomène phonologique qui demande à être approfondi ultérieurement. Signalons aussi que les phénomènes formels examinés dans le langage des membres des quatre générations de

cette famille serviront de point de départ à l'analyse d'un corpus bien plus vaste portant sur l'ensemble d'Abram-Village et où la suppression du /r/ a aussi été attestée.

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¹Ce corpus a été réuni dans le cadre d'une étude sociolinguistique portant sur l'ensemble des parlers acadiens de l'Île-du-Prince-Édouard. Cette étude d'envergure, en cours depuis deux ans, est subventionnée par le Conseil de Recherches en Sciences Humaines du Canada (Subvention no. 410-87-0586)

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Tableau 1 Prononciation et suppression du /r/:
fréquence et répartition à la finale de
syllabe accentuée et inaccentuée chez
l'ensemble des quatre générations

ENSEMBLE DES QUATRE GENERATIONS

A. /r/ prononcé et /r̥/ supprimé : occurrences
(4 générations)

En finale de syllabe accentuée:	170 (61,2%)
En finale de syllabe inaccentuée:	108 (38,8%)
Nombre total d'occurrences:	278 (100,0%)
(ensemble 4 générations)	

B. /r/ prononcé ≠ /r̥/ supprimé : répartition
contextuelle et fréquence relative (4 générations)

1. En finale de syllabe accentuée:

	No. d'occurrences
[r] prononcé:	84 (49,4%)
[r̥] supprimé:	86 (50,6%)
	170 (100,0%)

2. En finale de syllabe inaccentuée:

	No. d'occurrences
[r] prononcé:	82 (75,9%)
[r̥] supprimé:	26 (24,1%)
	108 (100,0%)

TABLEAU 2

[r] ≠ [ʔ] comparaison : 4 générations

GENERATION 1a.

2b. et c.

	occ. %	occ. %	occ. %
s.a. [r] [ʔ]	28 (71,8) 11 (28,2)	b. 25 (51,0) 24 (49,0)	c. 5 (38,5) = b+c. 30 (48,4) 8 (61,5) = 32 (51,6)
s.ina. [r] [ʔ]	16 (69,6) 7 (30,4)	16 (80,0) 4 (20,0)	8 (100,0) = 24 (85,7) 0 (00,0) = 4 (14,3)

- a. Informateur masculin (93 ans)
 b. Informateur masculin (70 ans)
 c. Informateur féminin (68 ans)
 d. Informateur féminin (45 ans)
 i. En conversation avec son grand-père
 ii. En conversation avec ses parents
 e. Jumeau 1 (11 ans)
 f. Jumeau 2 (11 ans)

GENERATION 3d. 4e. et f.

	occ. %	occ. %	occ. %	occ. %	occ. %
s.a. [r] [y]	1. 9 (81,8) 2 (18,2)	ii. 5 (21,7) = 14 (41,2) 18 (78,3) = 20 (58,8)	e. 7 (38,9) f. 5 (29,4) = 12 (36,4)	11 (61,1)	12 (70,6) = 21 (63,6)
s.ina. [r] [y]	7 (70,0) 3 (30,0)	6 (54,5) = 13 (61,9) 5 (45,5) = 8 (38,1)	16 (88,9)	13 (72,2) = 29 (80,6)	2 (11,1)

- a. Informateur masculin (93 ans)
- b. Informateur masculin (70 ans)
- c. Informateur féminin (68 ans)
- d. Informateur féminin (45 ans)
 - i. En conversation avec son grand-père
 - ii. En conversation avec ses parents
- e. Jumeau 1 (11 ans)
- f. Jumeau 2 (11 ans)

POSSESSION IN TER-SAMI

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ABSTRACT

The Sami (=Lapp) language is spoken in Scandinavia and the USSR. Ter-Lapp is one of the Kola-Lapp dialects. This dialect has not been described yet. This paper is part of a longer article in which different types of possessive expressions will be studied, on the basis of sentences taken from stories. If the two components are "noun plus noun," the first noun is the possessor, rendered by nominative, genitive, or inessive-relative. The present paper is a description, without comparative or contrastive efforts.

NOUN PLUS NOUN POSSESSIVE CONSTRUCTIONS IN TER-SAMI

Ter-Sami (=Ter-Lapp) is a neglected subdialect of Kola-Sami (USSR). The other Kola-Lapp subdialect (spoken in Kildin) is better described in linguistic literature. I am the first to try to study Ter-Lapp. I have presented several national and international conference papers and written a few articles on Ter-Lapp.

I have used about one hundred pages of Ter-Sami stories for the present study. In these one hundred pages of texts, we meet many different kinds of possessive constructions, such as unmarked or marked noun plus noun constructions; there are many pronoun plus noun constructions, where the first component is a genitive, an inessive-relative or a dative-illative

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form, etc. The reflexive pronoun with the possessive suffixes deserves special attention because it is a component in a peculiar type of possessive construction. There are habeo-constructions. Several cases of the noun declension are used with possessive suffixes, which is called "possessive declension."

In the present paper, I am describing the "noun plus noun" possessive constructions in Ter-Sami. There is no linguistic literature about this. The stories are the only sources.

If there are two nouns in a possessive construction, one of them can denote the possessor, the other the possessum. In many languages, the possessor is in genitive; in others, prepositions or postpositions render the idea of ownership, for instance of in English, de in French, no in Japanese. The word order is "possessor plus possessum" or "possessum plus possessor," depending on the language and on the device used.

In Ter-Sami, there are three major types of the "noun plus noun" possessive constructions: unmarked possession, genitive constructions and inessive-relative constructions. In all three types of these constructions, the word order is more or less the same; the possessor comes first and the possessum follows.

Even though the unmarked possessive construction seems to be an ancient Finno-Ugrian heritage, it is not very common in the Ter-Lapp stories. The number of occurrences in my corpus is seven. The authors of the story collections noted them down as compound words.

The first component is without a case ending. It can be a human being or an animal. The second component is part of his, her, its body. The second component can have different

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functions in the sentence. In my examples below, it is in accusative singular or plural and functions as the object of the sentence. (I make the transcription a little simpler.)

E.g.,

nafkst uks navtiit kuaxt akkerállait ja soarjal' koadeni 'Полдень
ручки дверей, как женские ушки, да войди в вежу'
(K 1961: 172-6)

'Stroke the handle of the door as the ears of a woman and enter the hut';

mehce molme pel'tin kimc-tile 'Die Jäger verbrannten die
Bärenhaut' (S 1966: 134-5) 'The hunters burnt the hide of
the bear.'

Both components can indicate a place, a location. The first is a larger unit, the second is a smaller, more specific unit of the same place:

son piadi paŋr'-rinnDtu 'Hän tuli järven rantaan' (I 1931:
288) 'He came to the shore of the lake.'

The location of some activities can be expressed by compound words in which the first components denote some activity, and the final component means 'place':

piadi mirDtšihkpienseije '(Они) приехали на место
рубки дров' (K 1961: 212-3) 'They came to the place of woodcutt-
ing';

nu piadi sonne āDz mirjjenssamziijä 'No tuli hänen luoksensa
syöjätär marjanpoimintapaikkaan' (I 1931: 285) 'But Aadz (a
spider-like monster) came to her to the place where they were
picking berries.'

In Ter-Sami (similar to other Finno-Ugrian languages), parts of the body or clothing which appear in pairs (feet, hands, shoes, mittens, etc.) are normally used in singular if they mean a pair. 'One hand' is rendered by a compound word, the second component of which means 'half.' In the Ter-Sami stories, I found the first component without any case ending, while the second component (piel', pial', 'half') is followed by different endings. E.g.,

sii suona taGkkjāDt'in kuni kestpielen' 'Они её стали бить рукавицей
с золой' (K 1961: 213-4) 'They started hitting her using a mitten full of ash';

tuon tuvaD kuni kesstpieľa 'Ты приготовь золы в меховую
рукавицу' (K 1961: 213-4) 'You put ashes in the fur mitten';

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son dal' kabεs' avvti kiddpiallēst ja paRti'ssi 'Sieh mal, (er nahm) seine Frau wieder bei der Hand und (führte sie) nach Hause' (S 1968: 54-5) 'Well, he took again his wife by her hand and (took her) home.'

"Noun plus noun" possessive constructions are more common in the stories with the first component in genitive. There are 55 sentences with such constructions in my corpus. The word order in 54 cases is like this: noun in genitive plus noun in other case than genitive. Only in one sentence is it the other way around, which must be a Russian influence. In fifty of our constructions, the noun in genitive is a human being, an animal, or a personified phenomenon of nature (the sun). In five sentences, the noun in genitive means 'river,' 'lake,' 'bath,' etc. In 90% of the occurrences, the first component is a noun in genitive singular, and only in 10% is it genitive plural. The second component can be another human being, animal, abstract phenomenon, part of the body, a house, a door, or any other inanimate object. This component can be the subject, the object, or an adverbial modifier in the sentence. Either of the two components can be preceded by an adjectival attribute. Since this is a rather simple phenomenon which is well known to the speakers of many other languages, here I quote only a limited number of examples:

tīrv ton pīrrε jiedže alīgke 'Terve, sinä, hyvin isän poika' (I 1931: 290) 'I greet you, good father's son';

a kaliza niit peive algin jelligēdi 'Und die Tochter des Alten begann mit dem Sohn der Sonne zu leben' (S 1968: 56-7) 'And the daughter of the old man began to live with the son of the sun';

taīl' tonn ji lak kaḷaza paltije 'Тут ты и есть, пугало старика?' (K 1961: 180-2) 'Well, you are the one who frightened the old man?';

tatte addže veive li, tatte annā veive li 'Das ist der Kopf des Vaters, das ist der Kopf der Mutter' (S 1966: 148-9) 'This is the head of my father, this is the head of my mother';

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mohšiaGkaBp kīššēla tuññe bialla jogi 'Переведём гостя на тот
берег реки' (K 1961: 202-4) 'We take over the visitor to that
side of the river';

('The Story about a Bird' is "The Bird's Story" in Ter-Sami:)

lon'ĐDe maiNs 'Сказка про птичку' (K 1961: 202-4) 'Story about
the Bird';

(All of my examples with genitive plural are taken from
my second story book in which I presented grammatical examples
in Ter-Lapp with German translation. Originally I wrote those
sentences in Russian and asked my Ter-Lapp informant in Leningrad
to translate them into her language. She was able to complete
the translations seemingly easily. However, these sentences
are artificial and a reflection of the Indoeuropean way of
thinking. I have never found any examples like these in the
stories. I quote here only one example:)

takki lev niitti šams 'Das sind die Schale der Mädchen' (S
1968: 100) 'These are the scarves of the girls'.

The inessive-relative is a locative case in Ter-Sami.
As the name of the case shows, its basic meaning is internal
location or coming out. But it has many other functions.
One of them is possession. If it means possession, it can
be used either with or without the existence verb. With the
existence verb, it is part of a habeo-construction, which
will be discussed in a separate chapter of this study. Without
the existence verb, the inessive-relative of a noun can be
the first part of a "noun plus noun" possessive construction
(10 occurrences in my corpus). If the possessum follows the
inessive-relative immediately, the possessive function of the
inessive-relative is very clear. E.g.,

tšīBp setenašt iəive 'Отруби Сатане голову' (K 1961: 209-10)
'Cut off the head of Satan';

tomallDt naroDt kašsin niidtešt vīll' 'Там народ схватил
девушкиного брата' (K 1961: 203-5) 'There the people caught the
brother of the girl';

puddzeš' čue'rv' 'Das Geweih des Rentiers' (S 1968: 66)
'The brain of the reindeer'.

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There can be another word (mostly a verb) between the two components, i.e., the word order can be like this: possessor (inessive-relative), verb, possessum:

kálažašt sūnnDti kižDte 'Вежа у старика растаяла' (K 1961: 211-2) 'The home (i.e., an ice-hut) of the old man melted';
t'suDtelai niDtešt tsiBpneškiždi tšieppt 'Чудин стал у девочки резать пальцы' (K 1961: 201-2) 'The Chud (a foreign invader) started cutting off the fingers of the girl'.

In some sentences, the ownership is expressed in such a way that it is something between these two ideas: 'Only their bones have been left there' and 'From them only the bones have been left there'. In other words, the inessive-relative functions here as something between an attribute and an adverbial modifier:

ādzei niDtkižim oarra pai tāhhte 'От дочерей Аадз только кости остались' (K 1961: 198-200) 'Only the bones of Aadz's daughters have remained there'.

Finally, I would like to make a few comments to explain why a relatively simple question such as "possession" requires such a long and complex study.

Firstly, because an "outgoing" system (the possessed declension of nouns) is still alive, keeping some of its ancient functions and acquiring new functions. Other devices are used in new functions, as well, for instance, the inessive-relative in genitive function. Some of the new constructions have been "domesticated"; others are used by just a few speakers.

The question could be asked: why do I not get more data from the Kola Peninsula, where the Ter-Sami dialect is still spoken? It is unlikely that anybody could get more Ter-Lapp stories or any more grammatical materials than the presently available text publications. The present political system

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claims that they have created a literary language for all ethnic minorities and support their cultural heritage. This might be true, but Ter-Lapp is a special case. There are two major Lapp (or Sami) dialects on the Kola Peninsula: in Kildin and Ter. The Kildin dialect is spoken by significantly more people. The new literary language of the Kola-Lapps is actually the Kildin dialect. In this way, any newly printed materials which helpful Soviet scholars would probably send to anyone upon request, would not help to describe the Ter dialect.

What can be done? How can we describe the Ter dialect anyway? It is certainly a challenging task. A really multi-lingual linguist is needed--someone capable and enthusiastic about this study. The researcher must know practically all published Ter-Lapp materials by heart, remembering all details, noticing large and tiny differences. Even in this way, some questions might remain unanswered, but a relatively acceptable description is possible.

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A NEW METAPHOR FOR LANGUAGE

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ABSTRACT

Metaphor has often played a role in intellectual enquiry by epitomizing a general attitude of mind and providing a focal point for intellectual creativity. The metaphor of language as a biological organism, which informed and inspired nineteenth-century linguistics, has long fallen into disuse, but no new metaphor has taken its place. Saussure's comparison of language with the game of chess failed to capture the imagination of other linguists. Today we are told that language is like nothing else, thus closing the door to even the possibility of a useful metaphor. Here, language is compared to the city, a cultural organism. By drawing parallels with another facet of culture, this new metaphor highlights many aspects of the nature, function and evolution of language. It also provides a new and different perspective on linguistics, suggesting an approach more attuned to the social and communicative functions of language.

1. The role of metaphor in intellectual enquiry:

Metaphor, a poetic device setting up a correspondence between a concept and an image, has often played a role in intellectual enquiry by epitomizing a general attitude of mind and providing a focal point for intellectual creativity. Metaphor has played at times an important role in linguistics as well as in other sciences, but there is at present no widely held metaphor for language. Indeed, it is often said that language is unique, and incomparable to anything else, thus closing the door to even the possibility of a useful metaphor.

I want first of all to show that the use of metaphor in intellectual enquiry is legitimate and fruitful, then to examine older metaphors for language, and to propose a new one, comparing language to a city. Like any metaphor, this one will indeed have its limitations, but it can still throw a new light on both language and linguistics, replacing language within the context of culture and linguistics within general intellectual history. At a time when there is a lack of direction in linguistics, a lack of agreement on basic issues and a proliferation

of new theories, this new metaphor can also suggest an approach reconciling now scattered points of view.

Born of imagination, connecting a concept with an image from another area of experience, metaphor brings the abilities of the right brain to complement those of the left brain, the non-analytical faculties of the human personality to bear upon analytical problems. It can therefore spur creativity in intellectual enquiry by providing another angle from which to view an intellectual problem. The image embodied in a metaphor can encapsulate the essence of a concept and makes it accessible under a different form. By throwing an oblique light on the objects of an intellectual discipline, it highlights different features than the direct light of the discipline itself. As it relates the abstract concepts of one discipline to universal or at least widespread human experience, the characteristics of that experience can help the discipline come to grips with some problematic areas.

There is, of course, no ultimate metaphor: as the concept and the image linked by a metaphor can never be fully congruent, there is a limit beyond which any single metaphor is no longer useful, so that it would be wrong to slavishly accept all the consequences of a given metaphor. But this is not a reason for rejecting metaphor altogether. By spurning metaphor, an intellectual discipline does itself a disservice by refusing help from other facets of the mind--the left brain needs the creative input from the right brain, just as the right brain needs the restraining influence of the logical left brain.

Metaphors are usually created on the spur of the moment, and most metaphors have only passing interest in illustrating a single point, but there are some metaphors which are so apt, so rich in connotations, so attuned to general preoccupations, that they become focal points or radiating centres for intellectual creativity and continue to exert their influence long after their creator is forgotten. Such a metaphor not only encapsulates the essence of its subject, it provides a framework against which to view achievements in a scientific field, and may even chart a direction for its further evolution.

As well as spurring creativity within a discipline, metaphor can provide a link between the specialist and the layman. In making the essence of a theory or worldview accessible to persons who lack the background to understand it in detail, it can spread its influence beyond narrow disciplinary borders as well as into the community at large, giving persons outside the field some sense of what the discipline is about.

Perhaps the most famous intellectual metaphor is that of the clockwork universe, with God as the Great Clockmaker, that was common in the seventeenth and early eighteenth centuries. This image epitomizes the rationalistic attitude of the age, its concept of nature as mechanistic and distinct from man and God, but also ultimately knowable and analyzable by human means. This single image was not restricted to one branch of knowledge, but described a general attitude common to all branches of science and familiar to the educated public.

At that time, clocks were very advanced scientific devices, masterpieces of technology and miniaturization, comparable to the computer today. Everyone knew in general what a clock was, and the leading scientists were very familiar with the technical details of a clockwork mechanism. In a world which still contained very few machines, this precise mechanism contrasted very sharply with the perceived natural environment, which was outwardly subject to many vagaries, but in which painstaking observation was beginning to discover immutable 'laws of nature.' The clock then was seen as a microcosm, a representation of an ideal world, the kind of world God must have created, the kind of world glimpses of which could be discerned behind the chaotic appearance of nature. Of course, nobody thought that the universe was *actually* a giant clock, but the metaphor of the clockwork universe was both general and specific enough to appeal to scientist and layman alike.

Here it may be useful to open a parenthesis and distinguish *metaphor* from *paradigm*, a term that has been widely used since Kuhn's 1962 Structure of scientific revolutions:

- a paradigm is an intellectual construct accepted as a general, structured model of reality by the representatives of a body of knowledge or enquiry; the search after truth is conceived as filling in the details in the framework of the paradigm, which is accepted as basically correct in its general features; the knowledge and development of the paradigm are restricted to specialists;

- metaphor appeals to the emotions; it sets up a correspondence between a theoretical concept and direct human experience, but it does not claim to be a faithful representation of the abstract concept; it is a poetic device, not a model of reality; but metaphor, being simpler, can be more far-reaching; it can provide a link between disciplines, and also between scientist and layman, where the specialist cannot hope to impart a scientific paradigm to others outside the specialty.

The same metaphor can underlie the paradigms of different disciplines. For instance, the metaphor of the clockwork universe was not a scientific paradigm, but it underlay the paradigms of the various sciences at the time. Metaphor and paradigm can influence each other: a metaphor may influence the creation, modification or replacement of a paradigm; a paradigm may generate metaphors, either within or without the field. A change of paradigm usually involves a change of metaphor.

2. Older metaphors for language:

There is no current metaphor informing the discipline of linguistics, any more than there is for science in general. Instead, we are often told by leading theoreticians that language is like nothing else in human experience, even though it informs most of our experiences; that language is not only uniquely human, but also unique among human characteristics and achievements. This approach closes the door to even the possibility of a useful metaphor. Yet there have been potent metaphors for language in the past, and it is useful to consider both the conditions under which they arose, and the limits of their usefulness.

Nineteenth-century linguistics was inspired and informed by a powerful metaphor: language as a living organism, especially a plant, a tree. This metaphor was instrumental in shaping the direction of linguistics at the time and in confirming its historical bent. The elemental image of the tree merged with other, related images: the fact that the tree with its branches was also already a well-known, ancient metaphor for the family further enriched, and interacted with, the vegetable metaphor: thus there were 'daughter' and 'sister' languages, 'branching off' from a 'common trunk'. Dialectology, the study of peasant speech, could also gain strength from the image of a tree rooted in the soil and developing according to its own inner laws. The tree metaphor inspired the work of linguists, but on the other hand, one did not need to be a linguistic scholar to grasp the general meaning of the metaphor.

This metaphor of language as a tree is now only a relic. The family tree is still used as a classifying metaphor, but the tree as a living organism no longer inspires linguistic theory, even that part of theory dealing with language change. This is partly because of its lack of appropriateness--language is not a biological organism, it is not born from seed or egg, it does not grow, decay and die, so that many details fail to correspond--but also, and perhaps more importantly, because of the changes in the intellectual climate.

This biological metaphor arose first in the eighteenth century in a climate of return to nature, of a search for the primitive, in reaction to the earlier rationalism typified by the metaphor of the clockwork universe. It flowered in the nineteenth century, in an era which also saw a tremendous growth in the natural sciences and the birth of the theory of evolution. Linguistics naturally partook of this general intellectual climate, and the biological metaphor of a tree seemed totally appropriate.

At the beginning of the twentieth century, Saussure reacted against the prevailing mood in linguistics and articulated a radically different view of language: typically, he used a new metaphor to counter the older one. Instead of a living, evolving organism, which is only interesting and studied appropriately through the length of its life-cycle, he compared language to a game of chess, which goes through several stages in the process of being played. According to Saussure's view, only these stages are observable, therefore significant as objects of enquiry.

We need to replace this metaphor in its context as well. The Golden Age of historical linguistics was already past when Saussure began his career, and the paradigm of the discipline was showing increasing signs of wear. Saussure chastised the linguists of his time for following in ever-increasing detail the evolution of particular sounds throughout the history of a language, and for failing to perceive the larger picture, the fact that each sound fits into a system, and that it is the system which is altered by each sound-change. Continuing the tree metaphor, he could have said that in trying to trace the development of each tiny leaf, linguists were losing sight of the tree.

Saussure however was not so much interested in correcting the evolution of the prevailing paradigm as in introducing a new one, so he used a different metaphor: the evolution of language was not to be compared to the growth and decay of a tree, but to the progress of a game of chess, and his fellow linguists were only interested in the motions of individual pieces on the chessboard, without considering how these individual motions fit into the game. Instead, Saussure would describe the total state of the chessboard after each move.

Indeed Saussure's description is very appropriate to the kind of structural historical linguistics practiced in the nineteen-fifties and early sixties, which gave great importance to establishing the phonological inventories for different stages in the evolution of a given language, but did not devote much thought to the mechanisms by which the system went from one stage to another. This state of affairs is still largely with us, and the Chomskyan revolution has affected historical linguistics only in superficial details.

In spite of the influence of Saussure's views on the development of linguistics in the first part of this century, his metaphor never caught the imagination of linguists, much less of non-linguists, in the same way as the image of language as a biological organism had done. Saussure is remembered for his dichotomies of *langue* vs. *parole* and *synchrony* vs. *diachrony*, for his emphasis on languages as systems, but his metaphor, though well-known, has remained sterile even for those who practiced what he preached, and it is a sad irony that he himself came to a dead end in his career, unable to find his way out of a formal desert.

Saussure's approach to language was not just a reaction against the linguistic methods of his time: his metaphor, and the observational approach that it summarizes, are typical of the behavioristic approach to the social sciences which was becoming the rule in the first part of the 20th century: the social scientist as cool observer, striving to achieve the detachment of the biologist or physical scientist. In linguistics as well as in psychology, this approach claimed to be interested only in describing observable behavior, and rejected both introspective and developmental criteria. It heralded a period in which linguistics developed its basic repertory of analytical techniques and turned its back resolutely to so-called mentalism. This paradigm lasted until the so-called Chomskyan revolution started to look at language from yet another point of view.

The Chomskyan revolution sought to establish a new paradigm, but it did not create another metaphor for language, nor did it try to pursue some of the hidden implications of Saussure's chess metaphor: its adherents could very well have gone beyond the chessboard and seen in the game of chess, with its infinite variations within a rigid set of rules, a metaphor for language creativity--each game individual, while the rules remain the same. The infinity of combinations possible with a small number of pieces governed by a finite number of rules would seem absolutely appropriate as an illustration of Chomsky's emphasis on the infinite potentialities of language. But the new theory's insistence on the specificity and uniqueness of language prevents any comparison with other aspects of experience, any useful metaphor.

No doubt the initial success of what has been called the Chomskyan revolution, in launching a new direction in linguistics and in attracting new practitioners, is due in large part to the liberating influence of allowing linguists to appeal to their own intuition and intelligence, rather than follow the increasingly mechanical procedures of the previous period, in seeking explanatory, rather than mere observational descriptive adequacy. But the Chomskyan revolution,

in spite of its enormous influence, has not been complete: the inadequacies of Chomsky's original proposals and the many upheavals in his theory since have prevented it from becoming the normal paradigm for all linguists.

A major weakness in most current versions of the theory is the fact that they study language out of context, and that their practitioners seem to be out of touch with the realities of actual language use: for instance the ideal speaker/hearer (treated much more as a speaker than as a hearer) is a purely artificial construct, and too often the sentences offered as examples in syntactic theory bear little resemblance to what a person would actually say in normal discourse with a fellow human being. There are of course many linguists who do study the use of language in interactions between human beings, but their researches are not conducted under the umbrella of the Chomskyan paradigm. Currently flourishing branches like psycho- and sociolinguistics owe their success to the application of psychological methods to particular aspects of language study, rather than to the application of a given linguistic theory to psychological or sociological problems.

Nowadays, linguistics is still a rapidly expanding field, and its practical applications are reaching farther and farther, yet there is no generally accepted paradigm in linguistics: instead, many alternate theories or versions of a theory are vying for acceptance. The present state of the discipline is one of disarray, of a seething cauldron of ideas, recalling Kuhn's picture of the dissatisfaction and fragmentation accompanying the breakdown of one paradigm until the acceptance of a new one completes a scientific revolution. Outside of linguistics, the larger scientific community no less than the general public is uninformed about the discipline, and its claim to be a link between the humanities and the sciences is accepted by other scholars and scientists on faith rather than on proof. The activities of linguists remain a mystery to most people, who do not see how such formal preoccupations relate to their own experience of language. Under these conditions, it may be time to propose a new, unifying metaphor.

3. Language as the city:

A language is both the property of the community and the individual, and exists independently of either. It is the heritage of a community, and it exists both because of that community and independently of it. It contributes in a major way to shaping the inner life of the individual and the community and in turn it is shaped by it. It is inseparable from culture and arises from it, but it is slow to respond to cultural change in any but superficial details. It is constantly

changing in small details, constantly renewing itself, while remaining the same in its major features.

There is at least one cultural organism which shares these attributes with a language, and which can thus serve as a metaphor for it: the city. There are a surprising number of correspondences between aspects of a language and aspects of a city. By throwing an oblique light on some aspects of language, these correspondences can help view them in a different and fresh perspective. The limitations of the metaphor also illuminate the uniqueness of language among human achievements.

A city, like a language, is a cultural artifact which transcends both the community and the individual; it shapes and constrains major aspects of people's lives, but they take for granted its existence and cannot imagine it different except in superficial details. A city, like a language, has a necessary and enduring infrastructure, taken for granted by its users and kept in constant repair. A city is in constant evolution while remaining basically the same: houses are constantly being built, altered, torn down and rebuilt; electricity and sewers are introduced and maintained, etc., but streets generally remain in place. Similarly, new words and turns of phrases are constantly being invented or borrowed, but syntactic forms evolve very slowly.

Neither a city nor a language can be reduced to their infrastructure; a city is much more than a collection of buildings, or the disposition of its streets on a map; a language is much more than its lexicon or grammar. They cannot be reduced to their function either: a city is much more than just a device for the shelter and transportation of its inhabitants, a language is much more than an instrument of communication: a city includes its inhabitants, how they live, what they do individually and collectively in the city and what mark they leave upon it; how they feel about the city that plays a role in defining their lives; similarly a language includes its speakers, how they use their language and how they feel about it. For a complete description of either language or city, the physical, structural and functional criteria must be supplemented by social, psychological and aesthetic criteria.

Every inhabitant has an impact on the city, even if only in contributing to wearing out the pavement, but this impact is mostly cumulative. Individual contributions are only possible within a very limited range, within the context of a largely fixed framework. Very rarely does a single individual have a significant impact, a measurable influence such as that of Luther or Dante on their respective languages: they have influenced the creation of a conscious literary standard, not the daily speech of the people. Similarly, a king starting a

building program, a famous architect creating landmark palaces and churches, or nowadays, imposing business buildings, may transform the aspect of certain areas of a city, while there may be no change in the neighborhoods inhabited by the majority of people.

Speakers of a given language feel totally free in speaking it; they do not notice its constraints as such, only in writing, where they have to worry about spelling, about using more complex structures, do they sometimes notice strain. But a foreign language imposes far greater strain: instead of freedom, there are obstacles with every word. The inhabitants of a city, even if they are unfamiliar with parts of it, know and take for granted its general structure: in a strange place, there are no familiar landmarks, streets go in unaccustomed directions, there may not even be any streets at all, as in some very old Middle Eastern cities. Insiders cannot always give help to the newcomer: they can advise outsiders only on what they themselves find difficult. Emotional reactions, whether good or bad, to one's own and to others' city or language, are often based on very minor and peripheral details. Some insiders will be proud of features which outsiders find very uncomfortable, even aberrant; outsiders will admire or decry on an equally superficial basis, for instance how 'harsh' or 'musical' the language is; what terrible drivers the people are, the unusual opening and closing hours, etc.

Most languages bear some evidence of a long history, usually in irregularities that stand out among regular and productive patterns. They are like old cities with their buildings dating from many different periods, some old ones still used but no longer imitated. Some old cities are built of many layers, most of them no longer visible (except to specialized techniques of archeology), and no longer useful when exposed. Similarly there are specialized techniques for studying the past history of a language; knowledge of this history sometimes contributes to understanding present conditions, but is usually not directly related to life in the present. On the other hand, the recycling of old materials to build anew, after a demolition or careless dig, redistributes the strata and obscures the past, just as analogical reformation erases the irregularities which gave evidence of language history.

Language carries evidence of its historical past but the age of its parts has little to do with their present functioning. Similarly, old buildings may be still perfectly adequate as long as they are maintained, and streets are not often redrawn. A city which has not known major destruction, or social upheaval which prevents normal upkeep (as in an inner-city ghetto situation), expands or alters with the demands of new functions but maintains its older buildings, at least the ones considered significant landmarks. On the other hand, rapid

evolution of a language usually coincides with social upheaval where old models and relationships disappear and improvisation must be constant. Similarly, the large-scale rebuilding, often in a different style, at any rate rarely exactly copying the old, which follows extensive destruction of a city from fire or war may result in a very different place.

A language without speakers is like a city without inhabitants. Dead languages such as Hittite or Sumerian can be compared to the dead cities of Pompeii and Troy; even the most faithful reconstruction cannot recreate them as they were when alive. The revival of Hebrew under twentieth-century conditions of life has not really reanimated the old language, it has created a new language with the building blocks of the old; this is comparable to a modern community going back to live in Pompeii and setting up modern conditions there among the old buildings. Such a return may give the descendants tremendous emotional satisfaction, but it will not recreate life as it was in ancient times: the life of the city will not pick up where it left off, it will be a new way of life inspired by the old.

The enormous expansion of some languages, and of some cities, the swallowing of surrounding villages by large cities, the submerging of dialects by the official language, are due to accidents of history, geography and economics favoring certain concentrations of people, not to the intrinsic worth or fitness of a particular language or city. Adoption of a new language, migration to another city, are conditioned by many factors in which qualities perceived as objectively desirable, such as climate or aesthetic quality, are usually subordinate to functional criteria, such as earning a livelihood.

Attitudes towards a new city are similar to those towards learning a new language: favorable reports cause a person to visit a famous city as a tourist, or to study a language in order to read an admired literature. This emotional factor is irrelevant in the situation of the immigrant or refugee needing to learn a language, or moving to another city in search of work. What they will need to know first, in what order they will learn, may be quite different from the needs and experiences of the aesthetically-minded tourist or student. Severe psychological and social consequences attend the forced imposition of another language, just like the forced displacement or subjection of a population through the destruction or takeover of its territory.

Some attributes of a highly 'civilized' language arise under the same conditions as those of a large city: they are a superstructure necessitated by the size of the community. A village of a few hundred persons living a traditional life, inherited from their ancestors, has no need of bus services, maps, guidebooks,

large public buildings, museums, and the like. A language spoken by a small community does not need dictionaries, grammars, or even writing, for its own speakers. Even in a large city, we do not need a map of our own neighborhood, or a dictionary to tell us the meaning of words we use everyday, but we may need a map to find a distant, unfamiliar place; we do not know every part of the city, much less every building. Similarly we do not consult a dictionary about everyday words, only about words we are unfamiliar with. A large city has specialized shops and services appealing to only a few as well as popular places that everyone knows. A language spoken by millions of persons has a common core known to every speaker, and also words and expressions that are peculiar to individual regions or to specialized activities.

The problems caused by the linguistic superstructure, for instance functional illiteracy, recalls the material and social problems of the overcrowded city, and the same people are often affected by both. When problems become too large for the natural working of the collective community, the cumulative actions of individuals, to adjust and solve, official planning and regulation is required: there are building codes, zoning regulations, standard orthographies and prescriptive grammars; officialdom develops distinctive, impersonal styles both in architecture and in language.

Conversely, in areas of massive urban growth where the influx of people is beyond official control, squatters' shacks and shantytowns spring up, built with whatever materials are at hand; similarly in areas of informal, utilitarian language contact between groups, pidgins arise: the basic needs for communication or shelter are satisfied in makeshift fashion: people know what is the minimum indispensable in a language, in a house or village, and they are governed by this idea but must adapt to the available materials: foreign words and simplified structures correspond to improvised methods for building with recycled junk.

If there are too many problems to be solved within the existing structure, some people may give up and decide to start afresh somewhere else: artificial languages such as Esperanto correspond to planned new cities such as Brasilia. The planners are governed by their general idea of what should be: they draw their general structure from existing languages or cities but their plans are characterized by their regularity: there are no irregular verbs, no idioms, no areas of narrow, crooked streets and hodge-podge of buildings. On the other hand, many people find that these new creations have no character, no 'soul', until they have been lived in or with and have evolved through the contributions of their users.

A language can be exported when its speakers move to another land: a city cannot be exported in a material sense, but expatriates and colonizers bring with them their idea of what a city should be like, their building methods, etc. In the new environment, there is usually some adaptation to local conditions and adoption of some materials and methods. Similarly the local populations may adapt their own styles to those of the newcomers. Usually there is some modification on both sides. In language, transplantation to a new environment, or influx of newcomers, usually results in large-scale borrowing of words for new objects and concepts. Where there is gross discrepancy between the power of one group and that of the other, the less powerful group tends to adopt the ways of the more powerful, and its own ways may eventually disappear, leaving traces only in the borrowings of the more powerful group.

4. Limitations of the metaphor: the uniqueness of language:

These examples of correspondences between aspects of language and aspects of a city, showing the productivity of the metaphor, could be multiplied. Of course, like any metaphor, this one will break down if pushed too far:

- it is valid in its general outline and in its distinction between infrastructure and superstructure, but not in the specific details of structure;

- it is valid especially for languages with wide diffusion and long written and literary tradition such as English, French, Spanish, and probably Arabic and Chinese, where people remember the often painful learning of certain aspects of language (reading/writing, prescriptive grammar, etc.) and feel self-conscious about speaking and writing the 'proper' way; but not every language meets these conditions. It is valid for the languages and cities of the Old World, both Eastern and Western, and their transplants in North America and Asia; but not every culture has cities, or even settlements.

This brings us to a discussion of language and culture, and to the unique features of human language revealed precisely by the limits of the metaphor.

Where early students of culture expected to find a scale of language complexity matching that of cultural complexity, linguistics has taught anthropology that an intricately structured language is a common feature of all human societies, whatever their 'cultural level'. At the same time, language is not totally separate from the rest of human life, but some aspects of it, especially the vocabulary, reflects aspects of culture. The nature or even the existence of the relation between language and culture, whether language is but one aspect of

culture (and therefore dependent on culture) or should be considered largely independent, still presents problems to some theorists. If we use the metaphor of the city, no one would think of setting up an opposition between city and culture: the city can be considered in and of itself, but it is also part of the culture it arose in, and it must be fitted into the larger picture of hinterland, other cities, etc.

Consider for instance the difficulties that the language question presents for some Marxist linguists: non-linguist Marxists expect linguistic structures to reflect societal structures, while Marxist linguists have had to admit, sometimes reluctantly, that linguistic structures are indeed independent. However, if instead of comparing language to society in general, we try the metaphor of the city, then it is obvious that the infrastructure of a city, like that of a language, does not immediately or necessarily change because of sociopolitical conditions: after a revolution, it is typical for streets to be re*named*, a symbolic change, but not to be re*drawn*; and while it may be possible to guess at the age of a city from a map of it, it is impossible to determine from such a map the type of society that currently inhabits it.

Why should language not be a more accurate reflection of all aspects of a culture, why should there be elaborate language even in very simple material culture?

The structure of language is not embodied in a physical medium: sound is only one of its manifestations, and the sound component is peripheral, since it is easily replaced by writing (visible representation), or by gestures (as in deaf language). Therefore it has been capable of much greater development than material culture, the evolution of which depends on so many different factors in the physical world.

Material evolution needs favorable circumstances, such as: nature and availability of food supply, which influences individual and group physical strength and ability, access to materials suitable for the level of technology, availability of shelter according to the climate, contacts and exchanges with other groups with a different way of life, and many other variables and obstacles, which place a barrier between ideas and their fulfillment.

By contrast, language is only tenuously linked to the physical world, and in language development there are no material obstacles to overcome, therefore the human mind has been free to develop fully its communicative and symbolic potential: every human group has language, even if they do not have even settlement. Human beings do not live in a social vacuum any more than in a

physical vacuum: we need communication with our fellow humans. Our mental and social needs outweigh our physical or material needs, the most basic of which can be satisfied with very little.

The point at which the city metaphor fails to correspond with language, then, is the point at which language, the mirror of the human mind, appears in its uniqueness.

5. Linguistics in the light of this metaphor:

If we can compare language to the city, we can compare linguistic theory to the description of the ideal city. The comparison highlights some of the biases of linguistic theory, which emphasized some aspects of language to the detriment or even exclusion of others. The evolution of Western linguistics through the past few centuries has followed the general intellectual and scientific trends. In the seventeenth century, so-called "Cartesian" linguistics followed the current rationalistic and mechanistic view typified by the metaphor of the clockwork universe; this abstract, systematizing attitude was expressed in linguistics by an interest in language universals rather than in the peculiarities of individual languages. The "city" equivalent would be the theory of architecture or urbanism, with formal aesthetic emphasis outweighing practical considerations.

The eighteenth century saw a loss of faith in rationalism in favor of an appeal to emotion; interest switched from the contemplation of eternal verities to a nostalgia for the primitive--the noble savage, the golden age; in both architecture and linguistics there was antiquarian interest in 'curiosities', in picturesque ruins; the beginnings of the search for the roots of language paralleled the beginnings of archaeology. Languages were held to have degenerated from more perfect beginnings, just like the present-day ruins of once beautiful structures.

The nineteenth century saw the development of scientific methods and especially the emergence and growth of biology. Interest centered in historical evolution, both of the individual and of the species; there was general optimism, a forward- and outward-looking attitude. Language was seen as a biological organism with growth, maturity and decay, and the historical science of language kept pace with biology. In "city" terms, scholars produced the equivalent of historical and archaeological studies, but were not interested in present conditions; works on present-day languages could be compared to practical tourist guidebooks, rather than scholarly works.

In this century, there have been two major trends, which in linguistics have flourished in two distinct periods. On the one hand, there has been a return to rationalism, a definition of scientists as purely detached observers, remaining outside of their material even through that material involves the human condition. In linguistics, the emphasis has been on what is here defined as the infrastructure of language, leading to the development of linguistic techniques comparable to techniques of mapping for the city. There was little interest in historical evolution except insofar as maps needed to be redrawn from time to time.

On the other hand, our century has also witnessed the exploration of the inner space, of the psychological and mental universe, especially the unconscious or subconscious, and the conflict between individual creativity and the rigidity of social rules. This trend is the one exemplified in linguistics by the work of Chomsky, who concentrated on the creativity of language in its use by the individual and on the inner world of the speaker. This theory claimed to be universal, a total, integrated theory of language, but what it did was to try to extrapolate from the inner map of one ideal city inhabitant to a theory of mapping. There was no attention to crucial aspects of language, in particular, no interest in how speakers/ inhabitants relate to each other. Only lip service was paid to the evolution of language: there could be no real theory of history, since the inner map of one speaker is not ideally suited to historical investigation. The formal displacement of interest from the merging or splitting of phonemes, to the addition, deletion or change of rules, has not changed the fundamentally synchronic nature of modern linguistic theory's approach to historical change.

Today the general trend in science, both natural and social, is towards a (w)holistic, ecological outlook, studying whole systems rather than just parts, and taking into account all possible factors. The city is considered as a livable space for its inhabitants rather than in its purely material aspects. Similarly linguistic theory should take into account all the dimensions of language, not just its infrastructure.

Today there are some linguists¹ who are searching for a truly comprehensive theory of language, which will encompass all its aspects and especially reconcile the individual with the collective, the synchronic with the diachronic, the functional and communicative with the symbolic, the emotional or aesthetic with the formal and the pragmatic, a theory that will truly reflect the multifaceted nature of language and the central place it occupies in human affairs. Perhaps the city metaphor can help in this search.

FOOTNOTES

¹ I am thinking especially of the French linguist Claude Hagege, who deserves to be more widely known outside the French-speaking world.

After this paper was written I realized that the metaphor of the city developed here probably had its seed in a passing comparison by Hagege & Haudricourt 1978, comparing the morphology of a language, with its irregularities, to an old city with buildings of different ages and styles.

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