Linguistic Society of America

FORTY-EIGHTH ANNUAL MEETING

DECEMBER 28-30, 1973

SAN DIEGO, CALIFORNIA

Meeting Handbook
INTRODUCTORY NOTE

This Handbook, prepared for the Forty-Eighth Annual Meeting of the Linguistic Society of America, consists of the official program for the Meeting, as well as the abstracts, as submitted, of papers to be presented at the Meeting.

The abstracts are arranged in alphabetical order according to authors, with a separate section following these with abstracts of the four papers to be presented during the section on "Sex Roles in Language" organized by the LSA Women's Caucus.

This year there will be a special invited section of papers from the Conference on American Indian Languages, held during the Annual Meeting of the American Anthropological Association in November, 1973. Abstracts of these papers, however, were unfortunately not available prior to press time for this Meeting Handbook and therefore do not appear.

In addition to the 178 abstracts accepted by the LSA Program Committee there are the American Indian linguistics papers, the Women's Caucus papers, and the report on the Archiving of Universals material. The LSA Secretariat hopes that this year's Meeting Handbook will be a useful guide for those attending the meeting, as well as a permanent record of this meeting.

Begay Atkinson, Editor
LSA Secretariat
November, 1973
1973 LSA ANNUAL MEETING SCHEDULE

(Please note that names and titles of papers appear in the program beginning on page 6.)

IMPORTANT NOTICE REGARDING QUASI-PLENARY SESSIONS: Seventeen papers have been selected on the basis of abstracts of exceptional interest and promise. These papers are scheduled at the end of most morning and afternoon sessions. Before Friday afternoon, there will be two to four such papers each day. The Program Committee has also scheduled a half-day of papers specially invited from the Conference on American Indian Languages to be held at the annual meetings of the American Anthropological Association (November 1973). This session, entitled "American Indian Languages and Linguistics Theory," will be held Friday morning, December 28.

THURSDAY, DECEMBER 27, 1973

The LSA Finance Committee will meet from 9:00 a.m. to Noon in Hospitality Suite 2.

The LSA Executive Committee will meet at 1:00 p.m. in Hospitality Suite 2.

REGISTRATION: 7:00 p.m. - 9:00 p.m., Lobby of Sheraton Convention Center

OPEN CASH BAR: 6:30 p.m. - 10:30 p.m., Bayside 3 & 4.

FRIDAY, DECEMBER 28, 1973

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REGISTRATION: 8:00 a.m. - 4:00 p.m. - Lobby of Sheraton Convention Center

(NOIE: Special Interest Lunches tickets may be purchased until Noon.)

LSA BOO E X H I B I T S: 9:00 a.m. - 2:00 p.m. and 4:30 p.m. - 6:00 p.m. - North Ballroom

LSA PLACEMENT CENTER: 11:30 a.m. - 2:30 p.m. and 5:00 p.m. - 8:00 p.m. - Hospitality Suite 2.
### SATURDAY, DECEMBER 29, 1973

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**12:15 - 1:45 SPECIAL INTEREST GROUPS LUNCHEON** - Bayside 1, 2, 3, 4

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**6:00 - 7:30 President's Reception. All attending the meetings invited.**

**8:15**  LSA Business Meeting - Center Ballroom

**10:00**  LSA Open Cash Bar - Bayside 1, 2, 3, 4

### SUNDAY, DECEMBER 30, 1973

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**REGISTRATION:** 8:00 a.m. - 4:00 p.m. - Lobby of Sheraton Convention Center

**LSA Book Exhibits:** 8:00 a.m. - 1:00 p.m. - North Ballroom

**LSA Placement Center:** 11:30 a.m. - 1:30 p.m. - Hospitality Suite 2

**LOCAL ARRANGEMENTS COMMITTEE:** Leonard Newman, Chairman, Ronald V. Langacker, Margaret E. Langdon, Sanford W. Schane, Owen D. Beright, James H. Tiedwell, Benjamin E. Y. T'Yeou
FRIDAY, DECEMBER 28, 1973

PERIODICALS AND ILLUSTRATIONS
Chairman: Theo Yennenman

8:30 George L. Dillon (Indiana U, Fort Wayne) Tacit Agreements and Relative Well-Foundedness
9:00 Larry Gerber & Pamela Nano (U California, San Diego) I Say!: Emotional Predicate-Raising
9:30 Patricia Lee (Ohio State) Perlocution and ILLU
10:00 Bruce Fraser (Boston U) Responsibility and ILLU
10:30 Allen O. Grinshpan & Charles Bird (Indiana U, Bloomington) Verbal Manipulation: ILLU
11:00 Ronald Forman (U California, San Diego) How to get to Speaker-Ras with Indirect Speech Acts: You Want to Turn Right at the Corner
11:30 Hase-Aki Yamashita (U Michigan) On Performatory Conditions

AMERICAN INDIAN LANGUAGES AND LINGUISTIC THEORY
Chairman: Myron Haas

9:00 - 12:00 Section of papers specially invited by the LSA Program Committee from the Conference on American Indian Languages held at the Annual Meeting of the American Anthropological Association (November, 1973)

SYNTAX: TYPOLGY AND UNIVERSALS
Chairmen: Joseph Greenberg

8:00 Ted Eckman (Massachusetts Institute of Technology) Agentive and Agentless Passives
8:30 Erhard F. Wovld (Indiana U, Bloomington) Passives
9:00 Alan Timberlake (U California, Los Angeles) Passive
9:30 Bruce T. Dankin (U California, Los Angeles) Toward a Typology of Adjective Classes
10:00 Hansjörg Seiler (U Cologne) The Principle of Con traire: Instrumental, Coative, and Collective

TOPIC AND FOCUS: Chairman: Ronald Langacker

8:30 John Y. Hinds (Tokyo U & Sacred Heart) Pronouns, Passives, and Themes in Japanese and Chinese
9:00 James H. Tai (Southern Illinois U) On the Center of Predication in Chinese Verb Constructions
9:30 Nancy Stemson (U California, San Diego) Focus and Copula in Irish
10:00 Kyoko Inoue (Michigan) Some Observations on a Japanese Perfect Form - ka pada
10:30 Martha B. Kendall (Yasashi C) /-k/ and /-w/ in Yawanap: A Problem in Explanatory Meaning
11:00 Frances Kartnann The Syntax and Pragmatics of Feminine -an
11:30 Robert Lundy (U California, Los Angeles) A Copying Analysis of Pseudo-Cleft

INDO-EUROPEAN: LATIN & ROMANCE PHONOLOGY
Chairman: Sanford Segrave

8:30 Ernst Pulgas (U Michigan) Prosodic of Vowel and Syllable in Greek and Latin
8:30 Jean Caeneghe (U Florida) Gliding and the Strengthened Low Vowels of Greek
9:00 Nancy Stemson (U California, San Diego) Focus and Copula in Irish
9:30 Kyoko Inoue (Michigan) Some Observations on a Japanese Perfect Form - ka pada
10:00 Martha B. Kendall (Yasashi C) /-k/ and /-w/ in Yawanap: A Problem in Explanatory Meaning
11:00 Frances Kartnann The Syntax and Pragmatics of Feminine -an
11:30 Robert Lundy (U California, Los Angeles) A Copying Analysis of Pseudo-Cleft

SOCIOLOGICALS & SOCIOLOGY
Chairman: Charles Ferguson

8:30 Elaine Chait (Providence C) How are we to make sense of people's social behavior?
9:00 Robert Baumgardner (U Southern California) Theories in Shakespearean English
9:30 Erica P. McCullough (U Illinois) & Malcolm W. McClure (Washington U, St. Louis) Chas in a Speech Community
10:00 Riley B. Smith Hyperperfonnation and Basilect Reconstruction
10:30 Lawrence Johnson (U Southern California) Sound Change in Los Angeles
11:00 Stephen Legen (SACU), Dale Elliot (California State, Dominguez Hills), Sandra A. Thompson (UCLA) Considerations in the Analysis of Syntax Variation
11:30 Beatriz R. Lavandera (U Buenos Aires) Independent Homophones or Surface Variants?

PSYCHOLOGICALS & SOCIOLOGY
Chairman: John Gumper

8:30 Mary Hope Lee (U Pennsylvania) Possible Evidence for the existence of a Continuum in Nigerian Pidgin
9:00 George L. Hattar (Summer Institute of Linguistics) Sources of Creole Semantic Change
9:30 Patricia C. Nichols (Stanford U) To and From in Gullah: An Evolutionary View
10:00 Peter H. Salins & Mary W. Salins (U Toronto) Language Delay and Minimal Brain Dysfunction
10:30 Cathy M. Goodwin (U South Florida) Verbs and Nominals: Evidence from Aphasia
11:00 Stephen Krasner (Queens C) Two Studies in Adult Second Language Learning
11:30 Robert A. Terrebonne (Wright State) A Variable Rule Analysis of the Indefinite Article a

FRIDAY, DECEMBER 28, 1973

PRESUPPOSITIONS
Chairman: Sandra Thompson

8:30 John B. Thompson Heed, and the Equi vs. Raising Alternative
9:00 Erna Bierl (U Illinois & U Montreal) On the application of Meaning Postulates to Linguistic Description
9:30 Robert Hall (U Texas, Austin) A Presuppositional Calculus
10:00 Roland R. Hauser (U Texas, Austin) Proper Projection of Presuppositions
10:30 Laura Aartsma (U Texas, Austin) Presupposition and Linguistic Context
11:00 John B. Thompson Heed, and the Equi vs. Raising Alternative
11:30 Sandra Thompson How are we to make sense of people's social behavior?

LANGUAGE AND SOCIAL ROLES
Chairman: (To be announced)

8:30 Lyn Waterhouse (Trenten C) The Acquisition of Code Switching
8:30 Lawrence W. Rosenberg (Hammer C) Effect of Two Syntactic Constraints on Perception of Personality Traits
9:00 Jacqueline Sachs & Judith Dewin (U Connecticut) Young Children's Knowledge of Age-appropriate Speech Styles
9:30 Allen Parch Wilson (Arizona SU) The Correlation Between Gender and Other Semantic Features in American Sign Language
10:00 Marjorie Smucker (Texas A & M U) Speaker Sex: A sociolinguistic Variable
10:30 Marie Garcia-Zamor (International Bank for Reconstruction and Development) Child Awareness of Sex Role Distinctions in Language Use

PHONOLOGY: ORDERING AND ABSTRACTNESS
Chairman: Vincent Franklin

8:30 Robert Krohn (U Newall) A Rule of Feature Sequencing in Some Vowel Phonology
9:00 Irwin Howard (U Hawaii) Why 'Principle A' Deserves a 'C'
9:30 John T. Jensen (U Colorado) How Abstract is Abstract?
10:00 Michael Kenstowicz (U Illinois) Mutually Contradicting Rules
10:30 Andrus Karzonas (Indiana U, Bloomington) & Gerald A. Sanders (U Minnesota) Constraints on Neutralization and Rule-ordering
11:00 Robert M. Vago (Harvard U) In Defense of Extralinguistic Ordering in Phonology
11:30 Charlotte Webb (U Texas, Austin) Consonant Alternations in Greenlandic

INDO-EUROPEAN: LATIN & ROMANCE PHONOLOGY
Chairman: Sanford Segrave

8:30 Emitt Pulgas (U Michigan) Prosodic of Vowel and Syllable in Greek and Latin
8:30 Jean Caeneghe (U Florida) Gliding and the Strengthened Low Vowels of Greek
9:00 Nancy Stemson (U California, San Diego) Focus and Copula in Irish
9:30 Kyoko Inoue (Michigan) Some Observations on a Japanese Perfect Form - ka pada
10:00 Martha B. Kendall (Yasashi C) /-k/ and /-w/ in Yawanap: A Problem in Explanatory Meaning
11:00 Frances Kartnann The Syntax and Pragmatics of Feminine -an
11:30 Robert Lundy (U California, Los Angeles) A Copying Analysis of Pseudo-Cleft

SYNTACTIC: TYPOLGY AND UNIVERSALS
Chairman: Joseph Greenberg

8:00 Ted Eckman (Massachusetts Institute of Technology) Agentive and Agentless Passives
8:30 Erhard F. Wovld (Indiana U, Bloomington) Passives
9:00 Alan Timberlake (U California, Los Angeles) Passive
9:30 Bruce T. Dankin (U California, Los Angeles) Toward a Typology of Adjective Classes
10:00 Hansjörg Seiler (U Cologne) The Principle of Con traire: Instrumental, Coative, and Collective

TOPIC AND FOCUS: Chairman: Ronald Langacker

8:30 John Y. Hinds (Tokyo U & Sacred Heart) Pronouns, Passives, and Themes in Japanese and Chinese
9:00 James H. Tai (Southern Illinois U) On the Center of Predication in Chinese Verb Constructions
9:30 Nancy Stemson (U California, San Diego) Focus and Copula in Irish
10:00 Kyoko Inoue (Michigan) Some Observations on a Japanese Perfect Form - ka pada
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INDO-EUROPEAN: LATIN & ROMANCE PHONOLOGY
Chairman: Sanford Segrave

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The relationship between dialectology and generative phonology has long been recognized. The investigation of this relationship, however, has generally been from the point of view of what dialectology can tell about generative phonology, e.g., the analysis of one dialect will be justified by recourse to the data of another, or the possibilities of historical change in rules will be investigated with the data of several dialects. In this paper, I would like to look at the relationship from the other end — how our knowledge of generative phonology can help solve particular problems of dialect history.

The data examined here consists of the outcome of various early medieval Greek nasal-initial consonant clusters. I examine three representative dialect areas: modern Athenian; the Greek spoken in southern Italy; the dialects of the southeastern islands — particularly those of Karpathos and Cyprus.

Early medieval clusters of the type [nt], [ng], and [n] give in Athenian combinations of the type [nd], [gg], and [gg] (in Athenian itself, and most dialects of this type, the geminates are subsequently simplified); in southern Italy, however, we have [nd] (normally)/[tt] (across certain boundaries), [gg], and [gg]; in the southeast we have [nd] (normally in Cypriot and morpheme internally in Karpathiot)/[tt] (morpheme internally in loan words in Cypriot and across boundaries in Karpathiot), [gg] and [gg]. All three areas show the effect of two rules: (1) post-nasal voicing, voicing a stop after a homorganic nasal, and (2) nasal-assimilation which completely assimilates a homorganic nasal to a following obstruent. The interesting cases come from the different spheres of interaction of these two rules in the three dialects. In every case these historical developments remain as synchronic rules which show up automatically in many morphological combinations.

Philological and historical considerations indicate that the similar developments in both southern Italy and the southeast must be completely independent of one another. Our knowledge of generative phonology, however, allows us to relate the two developments in interesting ways by showing what parts of the rules are a common inheritance and what are independent, but expectable, innovations.

By implication at least, this study allows us to make generalizations about the historical origins of other discontinuous isoglosses and, perhaps, to add something to the current controversy concerning how rules are borrowed from one dialect to another.
ADRIAN AKMAJIAN, University of Massachusetts

The Two Rules of Raising in English

It has been widely assumed that the transformation of Raising is a single, unified transformation which operates to raise complement subjects in sentences, such as the following:

(i) a. Nixon seems to be in trouble
   b. We believe Nixon to be in trouble

I will argue that Raising should be broken down into two separate, independent rules with different conditions on application. One, Raising to Subject, operates in the derivation of sentences such as (i-a), while the other, Raising to Object, operates in the derivation of sentences such as (i-b).

The evidence for this position is based on the simple observation that raising into object position is syntactically more restricted than raising into subject position: in particular, the kind of constituent which may be raised into object position is more restricted than the kind which may be raised into subject position. The central example I will use involves the case in which the complement of a raising verb has a sentential subject. The following examples show that that and for-to clauses cannot be raised into object position, while gerunds can; however, all three types of clauses may be raised into subject position:

(ii) a. We believe Nixon's offering clemency to Hunt to be illegal
   b. We believe that Nixon offered clemency to Hunt to be illegal
   c. We believe for Nixon to offer clemency to Hunt to be illegal

(iii) a. Nixon's offering clemency to Hunt seems to be illegal
    b. That Nixon offered clemency to Hunt seems to have been illegal
    c. For Nixon to have offered clemency to Hunt seems to be illegal

In addition, all three types of clauses may appear in subject position of the passive counterparts to (ii):

(iv) a. Nixon's offering clemency to Hunt is believed to be illegal
    b. That Nixon offered clemency to Hunt is believed to be illegal
    c. For Nixon to offer clemency to Hunt is believed to be illegal

Given these facts, I argue that the sentences of (iii) and (iv) should be generated by a rule of Raising to Subject, which is essentially unrestricted as to the kind of constituent it may raise. On the other hand, the sentences of (ii) should be generated by a separate rule of Raising to Object, which is stated in such a way that it raises only the constituent NP. Following Emonds' hypothesis that that and for-to clauses are simply instances of $S$ not dominated by NP, it will immediately follow that Raising to Object will not raise that and for-to clauses, but only gerunds.

An alternative explanation for these facts rests on appealing to constraints on "internal clauses", such as those proposed recently by Kuno.

Linguistic circles on both sides of the Atlantic are using the terms function and functionalism with increasing frequency. However, particularly in the United States, these nomenclatures are often tossed about without being defined. With the exception of a few workers in linguistics who are also concerned with problems in anthropology and sociology (a notable example being Dell Hymes, e.g., 1967; 1973), almost no one has attempted to contrast functionalism with that other popular but ill-defined term, structuralism, or to explain how the linguist's use of either notion relates to theories and methodologies in the other social sciences. To free ourselves from this vagueness, we need to look at the concepts of structure and function (and, derivatively, of structuralism and functionalism) in sociology and anthropology, from which modern structural and functional approaches in linguistics emerged in the early 20th century. The purpose of this inquiry is to show how a clear understanding of a functional approach to language and linguistics will allow us to enrich both synchronic grammatical theory and hypotheses about motivations for diachronic change.

MAORI S. BARON, Brown University

Linguistic Function Reconsidered: An Historical Assessment of Evolving Approaches to Linguistic Theory

Linguistic circles on both sides of the Atlantic are using the terms function and functionalism with increasing frequency. However, particularly in the United States, these nomenclatures are often tossed about without being defined. With the exception of a few workers in linguistics who are also concerned with problems in anthropology and sociology (a notable example being Dell Hymes, e.g., 1967; 1973), almost no one has attempted to contrast functionalism with that other popular but ill-defined term, structuralism, or to explain how the linguist's use of either notion relates to theories and methodologies in the other social sciences. To free ourselves from this vagueness, we need to look at the concepts of structure and function (and, derivatively, of structuralism and functionalism) in sociology and anthropology, from which modern structural and functional approaches in linguistics emerged in the early 20th century. The purpose of this inquiry is to show how a clear understanding of a functional approach to language and linguistics will allow us to enrich both synchronic grammatical theory and hypotheses about motivations for diachronic change.
Functionalism in the social sciences can be traced back to two basic sources: the late 19th century use of Darwinian concepts of evolution and change to challenge earlier philosophical doctrines of invariant substance (cf. Kallen 1931), and the notion of wholism which emerged from the work of Durkheim, Radcliffe-Brown, and Malinowski (cf. Davis 1959; Martindale 1960; Levy 1968). By examining the emerging theory of structural-functionalism in anthropology and sociology, we will be able to understand how the new science of structural linguistics came to adopt some parts of the structural-functional approach, while rejecting others. In particular, we will see how differences in scope between linguistics on the one hand and sociology and anthropology on the other contributed to linguists' emphasis upon structure at the expense of functional notions.

Having considered the growth of structural-functionalism in the other social sciences, I will propose definitions of linguistic structure and function which enable us to construct theories of language use instead of continuing to isolate grammatical analysis from the living speech community. These definitions can then be used to evaluate linguistic theories of the past in terms of the degree to which they have approached or deviated from this integration of grammar with use. In addition to commenting upon the functional approaches of the Prague school, of Martinet, and of Firth and Halliday, I will offer some conjectures on why British and American linguists have developed such antithetical positions on the importance of functional analysis because of differences in anthropological field work in Britain and in the United States.

ROBBIN BATTISON, University of California at San Diego; Gallaudet College
Phonological Deletion in American Sign Language

The American Sign Language of the Deaf (ASL) has a level of structure analogous to phonology in oral languages. However this "phonology without sounds" obeys constraints based on its own medium -- visual signals produced by articulation of parts of the human body. As with oral phonology, there is a "phonetic" level of physical reality, and a more abstract underlying representation. Both levels are necessary to state relevant generalizations. Findings in this vein include morpheme structure constraints, both sequential and segmental, and such regular phonological processes as assimilation, dissimilation, and deletion.

Considerations of markedness, universality, and naturalness necessitate a look at how the physical articulator, the body, operates, and how its productions, gestures, are perceived. For instance, the natural bi-lateral symmetry of the body tends to assert itself on the two independent articulators, the left and right hands. Symmetry (harmony) of hand configuration, movement, and orientation is unmarked. An opposing tendency toward asymmetry stems from the natural existence of hand dominance, and shows itself in signs in which the two hands are asymmetric (differ in some specification); but these asymmetries are further marked by the constraint that one hand must assume the role of minor (stationary) articulator, while the other is a major (moving) articulator.

Deletion of one hand of a two-handed sign, deletion of movement, and deletion of body contact are constrained by the symmetry and asymmetry of the underlying (lexical) representation. Although the rules involved are motivated by reference to a different physical base, their form is consonant with generative phonology.

ROBBIN BATTISON, University of California, San Diego
HARRY MARKOWICZ, Georgetown University
Sign Aphasia and Neurolinguistic Theory

Aphasia in deaf adults who use a Sign Language is a rarely documented phenomenon. Relying on the five cases reported in the literature and a case in which the investigators are currently involved, several questions may be examined.

(1) How is the linguistic distinction between signed and spoken languages maintained at the neuropsychological level? We find that there is much differential impairment in these cases along linguistic lines. For instance, while the impairment of fingerspelling (a manual representation of the letters of words) is most often impaired to the same degree as the oral skills of the deaf person, the Sign Language is apparently quite independent, and may not be impaired at all.

(2) What do these findings tell us about the lateralization of language? Speculation in the past has led some to believe that (a) Sign is not a true language, and (b) being spatially based, the skills involved in signing must be primarily represented in the right hemisphere. Even superficially, the deaf aphasia evidence does not support this. Thus far only left-sided lesions have impaired Sign Language; no right lesion cases have appeared. Of course, some left lesions have not disturbed signing skills, but one does not make
inferences for right lateralization from negative evidence.

(3) How do the aphasic symptoms bear on current generative approaches to Sign Languages? The limited evidence indicates that the errors made in the two modes are independent of one another, so that speech and writing errors cannot be traced to a confusion based on Sign, and vice versa; the mistakes in formation of signs are only describable in terms of the Sign Language in question. There is little cross-modality interference. There are indications of cross-modality facilitation, however, which brings us to the last question.

(4) What are the implications for deaf education and aphasic rehabilitation? Our findings support a view of Sign Languages which regards them as languages in every non-trivial linguistic sense. We therefore believe that deaf education should be geared to a bilingual approach so long as schools for the deaf are intent on teaching English to those whose native language is not English, but some variety of Sign. Finally, our review indicates that normal (hearing) aphasics may have an intact ability to use a general system, and this may be useful in therapy.

ROBERT BAUMGARDNER, University of Southern California

Thou/you in Shakespearean English

This study concerns the second person singular thou/you dichotomy (and all variants) in Shakespearean English of the late sixteenth and early seventeenth centuries. Using five Shakespearean plays as data, characters in the plays were assigned to one of four independently established social classes -- the nobility, the upper class, the middle class, and the lower class -- and for each class in this stratification dominant patterns of second person singular pronominal address were isolated for social equals to equals, superiors to inferiors, and inferiors to superiors.

Results indicate that the occurrence of pronominal forms is governed by such variables as age, sex, kinship, intimacy, and position in the class hierarchy. Dimensions of Shakespearean usage are then compared to rules of address for the thirteenth, fourteenth, and fifteenth centuries, and it is found that semantic change in the sixteenth and seventeenth century system correlates directly with the external social history of England. With the breakdown of the Norman feudal system as a result of the Wars of the Roses, the Reformation, and the rise of a middle class, went the concomitant breakdown of the medieval pronominal system, which by Shakespeare's time, had begun to reflect the less polarized social hierarchy of Elizabethan England.

Significant is the relative leveling out of the thou/you dichotomy to you in upper and middle-class exchanges as compared to those of the nobility and the lower class. The rise of a middle class is offered as a major etiological factor in the disappearance of the dichotomy.

IRENA BELLERT, McGill University

On the Application of Meaning Postulates to Linguistic Description

The concept of meaning postulates has been recently used in a number of papers concerned with semantics of natural language. A meaning postulate is usually presented in the form of an implication, but to my knowledge, little concern was given to defining the formal properties of this type of implication in a way which would conform with semantic facts. Such an implication is intuitively conceived of as a relation stronger than material implication and weaker than logical implication. For instance, Karttunen (The Logic of English Predicate Complete Constructions) makes a remark to this effect, but his discussion of the meaning postulates concerning implicative verbs leads to puzzling problems connected with the formal properties of the meaning postulates.

Some examples of meaning postulates are discussed with a view of giving empirical support for the acceptance of the concept of strict implication for meaning postulates in linguistic description. This concept, originated by C.I. Lewis, is defined in terms of modal logic as:

\[ p \rightarrow q = \text{df} \top \land (p \land \neg q) \]

The consequent \( q \) is said to follow from the antecedent \( p \) by the rules of language, and as the definitens says it is impossible that \( p \) be true together with the negation of \( q \). Another necessary modification of this notion of implication is the acceptance of a third value in addition to truth and falsehood; in a two-valued model it is impossible to account for the relation of presupposition in accordance with the way speakers use and understand utterances.

As it appears from the discussion of the examples presented in the paper, the above mentioned modifications make it possible to solve a number of problems (connected with the calculus of presuppositions of sentences containing sentential connectives, implicative verbs, etc.) which otherwise lead to logical puzzles. The discussion also shows that in the proposed framework the interpretation of illocutionary acts can easily be accounted for by meaning postulates.
Some Clausal Remnants with as, and the Equi vs. Raising Alternative

Postal (On Raising, to appear) has extensively motivated a rule of raising to object position that derives infinitives. He has also proposed that some gerundive as constructions be derived by raising; for example, he suggests that in sentences like (1) and (2), the pre-as objects are not underlying objects at all but are derived by raising an underlying subject of an object complement to the pre-as position it occupies in surface structure.

(1) I regard your suggestions as (being) totally inappropriate.
(2) His actions have already established the defendant as (being) greedy and overbearing.

The paper begins by outlining arguments for a raising analysis for sentences like those in (1) and (2), which are chosen to represent a number of examples that are particularly amenable to traditionally accepted arguments for a raising analysis (as opposed to an Equi (or Equi-like) NP Deletion analysis, in which the surface structure object is also an object in underlying structure).

Raising-derived examples like (1) and (2), in which the basic semantic relation is between an individual or action and a proposition, can be contrasted with examples like (3) and (4). In the latter examples, the basic semantic relation is expressed by the main clause subject-verb-object string, and the as clause, its subject deleted, only expands or qualifies this primary semantic unit.

(3) Mabel used Sam's departure as an excuse to go bananas.
(4) The doctor disregarded Harry's symptoms as being insignificant.

However, there are many other examples for which the superiority of a raising analysis over an equi analysis, or vice versa, is not at all obvious. The difficulties range from what might be considered the usual subtle differences in appropriateness between two transformationally related variants, as in (5),

(5) a. When we asked the agency about John, they confirmed him as having married Sally in 1965.
 b. ??When we asked the agency about Sally, they confirmed John as having married her in 1965.

to differences in truth conditions that are nearly as obvious as those that first prompted Rosenbaum's equi analysis of infinitives with force, order, etc. (6) and (7) are two examples of such differences.

(6) a. Mary suggested Sam as possibly having killed Addie.
 b. ??Mary suggested Addie as possibly having been killed by Sam.
(7) a. Mary suspects Sam as having killed Addie.
 b. ??Mary suspects Addie as having been killed by Sam.

In fact, differences of a similar kind and range can be shown to operate in sentences with accusative + infinitive constructions, as in (8) - (10).

(8) a. The autopsy revealed Sam to have sniffed a large quantity of glue before his death.
 b. ??The autopsy revealed a large quantity of glue to have been sniffed by Sam before his death.
(9) a. This strange weather is causing an elm parasite to attack the maples.
 b. ??This strange weather is causing the maples to be attacked by an elm parasite.
(10) a. I expect your activities not to harm little Rudy.
 b. ??I expect little Rudy not to be harmed by your activities.

Conclusions: 1) The simple Equi vs. Raising alternative is not adequate to reflect the semantic characteristics that it has traditionally been meant to reflect, and 2) the surface structure syntactic results of raising to object position are intimately related to the semantic correlates of that rule, both when it derives as constructions and when it derives infinitives.

Gliding and the Stressed Lax High Vowels of French

This is the second in a series of papers (extracted from a manuscript entitled The sound system of French* (SSOF) which show that a natural outgrowth of the analysis proposed in French phonology and morphology (Schane, 1968) (FP&M) leads to the conclusion that French possesses in its underlying inventory not only those segments proposed in FP&M but also a set of two stressed lax high vowels: /i/ and /u/. I also claim that besides the ROUND VOWEL RAISING rule of FP&M there is a HIGH VOWEL LOWERING RULE (HVL) ordered before DIPHTHONGIZATION and FRONTING.

In SSOF the above proposal is shown to support and strengthen the fronting analysis of FP&M. The present paper focuses on areas not developed in FP&M which provide support 1) for the claim that there are stressed lax high vowels in French and 2) for the rules of HVL and ROUND VOWEL RAISING (RVR).

The arguments hinge on the derivation of trois /try/ 'three' and trois /try/ 'cross', as illustrative of a number of similar words. Trois and trois cannot be derived via the same glide-creating rule.

Troit, which alternates with tri- in a large number of cases (57 such cases not counting derivatives), must be derived via DIPHTHONGIZATION (DIPHT) and cannot be derived via GLIDE FORMATION (GLF). GLF is so constrained as to not apply to high vowels preceded by more than one nonsyllabic segment and
followed by a nonhigh segment. Consequently, *hier, oui, mouette, truite,* and many others can be derived in the same way because they are excluded by the above constraint. This same constraint, by the way, is responsible for the grammar not deriving incorrect */trwa/ for *trous /trus/ 'the perforated.' Since *trous* must be derived via DIPHT it follows that the rich */i/ */wa/ alternation can be easily reflected by rule. A rule is needed to lower */i/ to */a/ where DIPHT makes it */we/ and a subsequent rule changes */we/ to */a/.

Such a rule is HVL. Without it *trous* would be related to only two words: *trépied* and *tresse* and not to the 37-odd cases mentioned. With HVL in the grammar all forms with */i/, */e/, and */we/ are formally related.

**Croix,** which alternates with **truc**- (crucifier), cannot be derived via DIPHT. It never meets its structural description. Instead, it is derived via GLF. When **croix** is subject to GLF its stressed vowel is still high, */kruː/. **Croix** can undergo the rule whose constraint does not prevent it from gliding.

HVL and RVR are crucial in the proper derivation of *trous* and *croix.* HVL is instrumental in relating */i/ to */wa/ and in sheltering the segments to be glided in *trous* and *croix* from the rule of FRONTING. After FRONTING has applied RVR raises these segments to high thus making them subject to the gliding rule. Without this device, incorrect */krouj/ would result.

We-FORMATION, a rule which changes */wi/ to */we/ after clusters and feeds Wa-FORMATION which in FPAM lowers diphthong */we/ to */wa/, is justified because there is no */CCwi/ or */CCwe/ sequence in French while there are may */CCqi/ sequences. The HVL - RVR - We-FORMATION analysis provides a principled explanation for this otherwise fortuitous fact. Finally, the different derivations of superficially similar 'diphthongs' supports the contention that the phonology of French is highly abstract.

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ELAINE CHAIKA, Providence College

**Hi: How are you?**

In the first moments of discourse, such factors as pitch, tempo, phonetic variants, and register are more important to the listener than are semantic features of words or the syntax of the utterance. The explanation for this lies in the social function of language. These contentions are borne out by an investigation suggested by the frequency with which a response of "Lousy" to a greeting like "How are you?" is answered with "That's good," especially if "Lousy" is said cheerfully. Conversely, a terse, low-pitched "Fine" is likely to elicit "What's the matter?" or, even, "That's too bad." The meaning of the answer to "How are you?" depends, for many people, more on pitch and tempo than on the words used. To investigate this phenomenon, 20 sociolinguistic students, during casual encounters with peers, deliberately used functional varieties of English appropriate to interaction with parents, professors, or priests. These students, called experimenters, were instructed to act friendly, and, to, so far as possible, use paralinguistic gestures usual to the occasion. Only manner of speech was to vary. For instance, one girl asked a friend, "Would it be possible for you to wait for me after class?" instead of "Wouldja wait for me after class?" Another asked, "Jacques, could you please tell me approximately how far we are from our destination?" A boy, meeting a girl on campus, asked "Would you care to accompany me to the library?" Students worked in pairs, one observing, one acting. Care was taken not to overtact or be comic. Although specific reactions varied, not one person so addressed failed to note the excessive formality. In all but two cases, a verbal or paralinguistic reaction was made to the first utterance of the experimenter. Nine out of twenty totally ignored the semantic content of whatever was said to them, and simply asked questions like "What's the matter?", "Are you sick?", and "You just take a test or something?" Four people mocked the formality of the experimenter. Ond did so by ignoring the context and asking, "Would you care to come to tea?" Three became overtly hostile when the experimenter persisted in his politeness for three utterances. Two were made so uncomfortable that they refused to look at the experimenters, thus effectively stopping conversation. As diverse as these reactions may seem, they all yield to the same explanation. Initial utterances in an encounter serve somewhat the same purpose as dogs' sniffing: to indicate the status and mood of the parties so that each may adjust his responses properly to the other. Since such adjustments must be made quickly in order for social activity to proceed efficiently, in humans the information is conveyed primarily through those linguistic devices which may be noted without breaking the message down into meaning. These devices do have meaning in themselves; however, it is virtually isomorphic with the signal; thus, they can be decoded more rapidly and with fewer mistakes, even in the presence of noise, than can the more complex and ambiguous messages conveyed by syntax and lexical meaning. Also, being, in effect, simpler signals, phonological cues can be overlaid on syntax to transmit simultaneous messages. Register can be used this way, for it is possible to recognize a lexical variant without first making a semantic analysis. When one party uses the wrong phonological and register overlay, the other interprets this as anger. If no explanation of what is wrong is offered, discomfort and anger at being miscued are evinced because the signals of the opening gambits are basic and crucial to social interaction. The one who misuses them is considered unsociable. Mocking such a person is a signal to him to adjust the mood and status marking of this speech.
Conflation and -ingly Adverbs

Conflation is a process proposed by Leonard Talmy (1972) to convert a more complex construction into a simpler one. This author proposes to derive a sentence that contains an -ingly adverb from two conjoined sentences through conflation. In the process of conflation, the second sentence is compressed into an -ingly adverb which is then injected into the first (the primary) sentence which more or less keeps its original shape.

English adverbs ending in -ingly have four major functions. They may serve as sentence modifiers as in (1) Surprisingly, she is talented; as adjective modifiers as in (2) She is surprisingly talented; as adverb modifiers as in (3) She came surprisingly late; or as verb modifiers as in (4) She nodded approvingly. The preconflated forms of these sentences are respectively, (1a) She is talented and the fact that she is talented is surprising; (2a) She is talented and the degree to which she is talented is surprising; (3a) She came late and the degree to which she was late was surprising; (4a) She nodded and she showed her approval by nodding.

There appear to be language-specific constraints on adverb conflation of this kind. Thus, in English, the conflation whereby negative particles are attached to adjectives as affixes has to precede adverb conflation. For example, one can conflate (Sa) She is not talented and the degree to which she is not talented is surprising into (5) She is surprisingly untalented but not into (6)* She is surprisingly not talented.

There may also be universal constraints. For instance, both in English and in Chinese, -ingly adverbs functioning as adjective modifiers can be derived from sentences expressing the speaker's attitude toward the person referred to. The view of the person referred to cannot be expressed by these adverbs. Thus, neither in English nor Chinese can (7a) She is talented and she thinks she is talented be conflationized into (7)* She is thinkingly talented. For, in she thinks she is talented the view expressed is that of the person referred to rather than that of the speaker.

Reference:
Permutation in Morphology

Permutation is a well-known phenomenon in syntax as well as in phonology (metathesis), even though relatively little attention has been focused on the questions of why and under what conditions it occurs. Its place in (non-derivational) morphology, on the other hand, has been little discussed, due in part to its relative infrequency and in part to the wide-spread neglect which morphology has suffered until very recently in generative grammatical studies. In this paper a rule of permutation in Ewe is examined which has some of the properties of both syntactic and phonological rules. What is involved seems to lie on the borderline of these two areas: the rule is stated with greatest generality on classes of items which fall together due to their combined syntactic and phonological properties. It is claimed that this rule belongs to the morphology.

This conclusion, reached after a critical examination of the data, raises certain problems for grammatical theory, as current models of linguistic structure would appear to offer no place for such a rule. The classes of items involved are not base phonological forms (lexical representations) but alternants resulting from the application of rules of suppletion and reduction. Furthermore the two permuting classes are quite divergent in their syntactic origin, one comprising subject pronouns and the other certain preverbal particles. The permutation cannot, therefore, be carried out at the most remote level in derivations, given current assumptions about grammar; it cannot be carried out in the transformational syntax, unless we are willing to let syntactic rules examine the content of phonological matrices; and it cannot be carried out in the phonology, since the rule is quite arbitrary in nature and not susceptible to explanation in terms of natural phonological processes, and requires syntactic information beyond the simple statement of the grammatical category which forms its domain. The rule of permutation under discussion is offered as partial evidence for a morphological component in generative grammar, consisting of rules of specific formal nature ordered (for the most part) after the syntax and before the phonology.

Performance Constraints on Relative Pronoun Deletion

A quantitative study of the alternation between presence and absence of the relative pronoun in sentences like he's the man who(m) that I saw he's the man I saw shows that in actual speech the variation is heavily constrained by linguistic contexts in ways that are not revealed through introspection. The constraints appear to be due to performance factors that are related to ease of sentence processing.

The corpus for the study consists of 15 tape-recorded interviews conducted in Philadelphia, Pennsylvania, as part of a larger study of sociolinguistic variation. The informants are black and white, middle and working class men, aged 22-24, who were born and raised in the city.

It is found, among other things, that omission of the relative pronoun is strongly favored when the subject of the relative clause is a personal pronoun rather than a lexical noun phrase (in cases where the relative pronoun is not the subject), when the relative clause immediately follows its head noun phrase rather than being separated from it by other words and when the relative clause is not the rightmost constituent of the lowest S that dominates its head noun phrase. Moreover, certain types of head noun phrases almost categorically require relative pronoun deletion; and the choice of pronoun (who(m), which, that, zero) is related to the length of the relative clause in words.

These results agree quite well with those of an earlier study by Randolph Quirk of educated British English ("Relative Clauses in Educated S spoken Eng., English Studies 38:97-109, 1957). This agreement between different dialects, together with (1) the fact that many of the findings can be explained as being due to perceptual strategies, along the lines suggested by Bever and Langendoen (in Stockwell and Macaulay, Linguistic Change and Generative Theory, 1972), and (2) the difficulty of incorporating them into any present framework for linguistic rules, even variable ones, suggests that they are to be considered part of linguistic performance rather than linguistic competence. Thus, the study sheds light on what types of regularities should be, and what should not be, accounted for by grammar.
Lachmann's law and phonological economy

The 'law' whereby a Latin verb like lego has a long root-vowel in its past participle (lectus) has been successively reformulated from Aulus Celsius on. The most recent 'Harvard' solution (Kuryłowicz, HSCP 72.295-9; Watkins, HSCP 74.55-65) is that morphological conditioning alone is responsible, namely the influence of the lengthened perfect active, legi. The generativist solution seems to have been amended to a transderivational rule, to consort with Harvard (King, OSU Forum lecture, 1970; cf. Campbell, Lg. 47, 195f.), or else to put in just enough phonological conditioning to avoid the obvious pitfalls (King, Lg. 49, 57f.).

This paper's first contention is that the phonological conditioning should be restored to its rightful place. Otherwise fallacies are generated (*captus, *ictus), ghost-forms walk (*regi, *tegi) and competing shifts are misunderstood and ignored (*sesus < *se:so- < *sedeto; * Deus < *Dios < *deto-).

This paper's second contention is that the reduction of, e.g., the manifold logical and perceptual relations of an utterance to the limited vehicular capacity of the language (cf. the pitifully tiny range of verbal 'tense' forms) is an example of a universal process of quantization; and that the assignment of Latin vowels to one of two duration values, short or long, when a minimum of nine distinct durations is environmentally offered, is another Lachmann's law and phonological economy.

Preterite-Presents

The basic claim in this paper is that temporary states are derived from underlying perfects.

It is well-known that static (or, in McCawley's terminology, "continued effects") perfects express both a past event and a present state, but it has not been noted that the relationship between the two is one of entailment. Thus, if it is true that she has decided to have a baby, then it is true that she intends to have a baby. The verb in static perfects is typically inchoative, and sometimes the entailed state retains the lexical inchoative even in the static non-generic meaning, e.g., I have forgotten = I forget, I have realized = I realize. Both types of state themselves entail the perfect; thus if it is true that she intends to have a baby, then it must be true that she has decided to have a baby. The entailment from the state fails only if the state is permanent, so that from man is mortal it does not follow that man has become mortal, unless one believes so on extralinguistic grounds, e.g., by faith.

This phenomenon is similar to the Indo-European phenomenon of "preterite-presents", verbs which are perfect in form but present in meaning. The classic examples are Gk. oida/Sk. veda/Goth. wait, lit. "I have known" = "I know"; Latin menini, lit. "I have remembered" = "I remember", odi, lit. "I have hated" = "I hate"; Italian ho capito, lit. "I have understood" = capisco "I understand". Most of these verbs are inchoative, like those of the static perfect, so the problem should reduce to the entailment of inchoatives: if an inchoative dominates a static predicate, it entails the state by virtue of the meaning postulates of change associated with inchoation. In this way, the surface structure of some states points up the fact that they have an implicit beginning point.

In general all non-permanent states have an implicit beginning point, even when the surface form of the verb in some languages looks like a normal present tense. Thus I know is at a deeper level than I have come to know, and the surface form is derived by deletion rules, which are triggered by the entailment plus contextual presuppositions. The inchoative nature of the verb shows up in the non-state point of time past tense in Romance, where it translates as found out.

This analysis of preterite-presents explains why static passives have a perfect meaning: they are underlyingly perfects. It also explains why "universal" (McCawley's terminology) perfects such as I have been waiting here since two corresponds in other languages, e.g., German, to simple presents: the English form has a deleted inchoative, and therefore is formally similar to the veda/oida examples, while the German forms delete both
inchoative and perfect auxiliary, and so are formally similar to examples such as she intends. I know. Finally, it explains why in Indo-European most modals reconstruct as "preterite-presents", for one can take seriously relationships such as may = is/has been allowed to. The implicit inchoative, representing the moment of permission-giving, was deleted but the perfect was not, leaving forms that were perfect in form but present in meaning.

WILLIAM W. CRESSEY, Georgetown University

"Homorganic" in Generative Phonology: A Proposal governing the Simplicity Metric.

Two low level rules of Spanish (spirantization of voiced obstruents and nasal assimilation) suggest the need for a formal mechanism equivalent to the traditional term "homorganic".

Given current theory, a rule which states agreement of all the point of articulation features (Rule A) is no less complex than a rule which states agreement of an arbitrarily selected set of features (Rule B). Yet clearly Rule A should be more highly valued than Rule B.

<table>
<thead>
<tr>
<th>Rule A</th>
<th>Rule B</th>
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<tbody>
<tr>
<td>c cor</td>
<td>A cor</td>
</tr>
<tr>
<td>β ant</td>
<td>β ant</td>
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<tr>
<td>[seg]</td>
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<td>/y high/</td>
<td>/y high/</td>
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<tr>
<td>δ back</td>
<td>δ back</td>
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<tr>
<td>ñ str</td>
<td>ñ str</td>
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</tbody>
</table>

This shortcoming can be overcome by providing an explicit abbreviation for the subset of features which expresses point of articulation: "≤ PA", which has a cost of one feature specification, is expanded to the configuration used in Rule A.

The fact that lateral assimilation does not cover the entire range of Spanish points of articulation (bilabial to velar) can be explained by a natural extension of the "linking" use of marking conventions.

If other subsets of features are shown to be related in a linguistically significant way, similar abbreviations should be created following the model given here.

KATHLEEN MAHLGREN, University of California, Los Angeles

An Interpretive Analysis of the Pronominal Construction in French and Spanish

A pronominal structure in French may have several distinct semantic interpretations. Nicolas Ruwet gives the following examples in his chapter "Les Constructions Pronominales Neutres et Moyennes" (Théorie Syntaxique et Syntaxe de Français, 1972):

1. Juliette se lave.
2. Les enfants, ça se lave en dix minutes.
3. Une foule, ça se disperse aisément.
4. La foule, s'est dispersée vers huit heures.

(1) may have only a reflexive interpretation while (2) may be interpreted as reflexive, reciprocal, or 'moyen', a quasi-passive which implies the "presence of an unexpressed agent different from the superficial subject," (Ruwet, p. 90). (3) is ambiguous between 'moyen' and 'neutre', the latter not having an unexpressed agent but not being reflexive either. 'Moyen'
and 'neutre' are distinguished from the reflexive in that the verb has the same selectional restrictions with the subject as it would have with the object of the corresponding transitive construction, while in the reflexive the verb has the same selectional restrictions with the subject as it would have with the subject of the transitive. (4) can only be 'neutre'.

The only solid distinction between 'neutre' and 'moyen' Ruwet gives is a semantic one, but he analyzes them as distinct constructions. The 'neutre' construction is generated in the base rules. Only verbs so marked in the lexicon would be inserted into this structure. The 'moyen' construction is derived transformationally. I would like to present an alternative analysis, based on a fact which Ruwet ignores, namely, that the two are nearly exclusive in distribution depending on the verb and its associated adverbial phrases. The only sentence which is ambiguous between the two (cited by Ruwet), (3) above, has simultaneously both features which usually force the moyen interpretation (the generic construction with ça, and a manner adverbial 'aisément'), and a verb which usually has a neutre interpretation, 'disperser', along with a possibly agentive human subject, usually excluded from the moyen interpretation.

The proposed alternative analysis generates a single "object as subject" pronounal construction in the base rules, as in Ruwet's rule for 'neutre'

\[ V \rightarrow (se) \ldots \ V(NP) \ldots \]

Neutre and moyen are viewed as alternative semantic interpretations. Verbs which allow a neutre interpretation are so marked in the lexicon, and all others take a moyen interpretation unless they are exceptions to the construction altogether. It is possible to list the semantic properties of neutre verbs almost exhaustively, suggesting a general semantic rule distinguishing neutre and moyen verbs. In any case the alternative analysis makes the neutre reading of the "object as subject" pronounal construction a special property of verbs, just as taking the object as subject without the pronounal construction is, as in "La branche a cassé".

Spanish has a pronounal construction similar to that of French, but allowing an even wider range of interpretations. I will investigate whether an interpretative approach is successful in Spanish and present the results in the paper.

G. Lakoff ("Presupposition and Relative Well-formedness") argues that constructions should be regarded as well-formed relative to sets of presuppositions and are judged as deviant if in a situation these presuppositions are not satisfied. I will discuss two movement rules (Property-factoring and Past-Participle Preposing) and three deletion/omission rules (deletion/omission of in that S, evaluated-property specifiers, and definite NPs with some verbs), showing that the application of all of these rules depends on presuppositions of identifiability or salience of the affected element in the situation of utterance.

Barkai (LI, 1972) argues that past participles can be prepused only when they are semantically fairly complex, noting differences in acceptability of such phrases as murdered N/killed N, stolen N/taken N, sterilised N/cleaned N. There are contexts, however, where the latter phrases are quite imaginable -- namely when the attribute is the 'relative' or salient one:

Along the road there were dozens of killed animals.

I seem always to apply for taken positions.

Barkai's Global constraint on preposing based on inherent complexity should be replaced by one based on salience/relevance in situation.

A question not discussed by Postal is what range of NP's can undergo Property Factoring to give the (b) form of the (a):

(a) NP's NP is similar to NP's NP

(b) NP is similar to NP in NP

There is no independent way to characterize the notion "property" or "inherent" property that will predict the degree of deviantness of

?The Impala is similar to the Torino in interior/accessories

?Joe is similar to John in nose/teeth/eyes

since these could be ok in certain situations (e.g., two particular cars are being considered, family resemblances are under discussion, etc.). What is needed is a transderivational constraint based on tacit assumptions of the speaker and hearer about what are relevant bases of comparison. Further, if NP is assumed "adequately identified" to the hearer, NP can be deleted/omitted. "Adequately identified" includes "known", "inferable" or "don't care".

Similar problems arise in the Katzian analysis of good N in terms of "evaluation markers." The dichotomy markers/no markers won't work -- we would need disjunctions of markers and "markers-to-a-degree". Again, we should say that the property-specifier can be omitted if it is assumed settled or inferable. Katz's types of evaluation markers (use, function, duty, etc.) would represent usual bases of evaluation one might expect a hearer to apply...
The same kind of deletion/omission rule is necessary for verbs which allow omission of "definite NP's (Fillmore, 1970/71; Lehrer, 1970; Shopen, 1973):

You will learn ( ). Please continue ( ).

Somewhat formal statements of these constraints will be given, and their implication for grammatical theory (ellipsis, performance) briefly discussed.

Ray Dougherty, New York University

Semantic non-singulars: plurals, coordinations, and collectives

The lexical-feature analysis assumes: (I) No plurals are derived from coordinated singulars, i.e., (1b) does not derive from (1a). (II) All cases of semantic non-singularity (i.e., coordinations, plurals, collectives, and mass nouns) are represented in underlying structure as feature complexes assigned to major categories. (III) Predicates must be marked for selection restrictions with respect to these major category feature complexes, e.g., verbs, like be numerous, can permit plural subjects but prohibit coordinated singulars. An alternative is presented by Ross and others. Ross in 'squishing', summarizes a position held by himself, McCawley, Postal, and others: 'There are two arguments for postulating the existence of a rule which derives (some) plurals from conjoined singulars. This rule would convert (1a) to (1b).

(1a) *The man_{j} and the man_{i} are different.

b. The men_{j} are different.

Following a suggestion of Paul Postal's, I will refer to this rule as squishing.' (1972: CJL/RCL 17:2). Ross, McCawley, et. al. motivate their analyses by arguments based on respectively constructions, selection restrictions, agreement of French adjectives, lexical gaps, etc.

The lexical-feature analysis is superior to squishing for 3 reasons.

Reason 1: In many, if not all, cases, the squishing rule is based on incorrect or unmotivated assumptions about English. For example, McCawley assumes: '...respectively and respectively are identical in meaning and are in complementary distribution (respectively appears only as an adjunct to a noun and respectively only as an adjunct to a larger constituent)....' (1968, The Role of Semantics in a Grammar, p. 163). This assumption is false since each of the numbers is larger than its respective square is well-formed, but *A and B each are larger than A^2 and B^2 respectively is not. Ross'

Reason 2: A five minute argument, difficult to abstract, shows that there is no reason to postulate a squishing rule at all since squishing has no discernible explanatory power. Squishing is metaphysical, not empirical.

Reason 3: Semantic and syntactic data indicate that plurals, coordinations, and collectives do not have the same syntactic distribution or semantic interpretation, and therefore, they should be introduced into the underlying structure according to the lexicon-feature analysis. First, some predicates can have a plural NP as subject, but not a coordination of singulars: The men were numerous, but *John, Bill, and Tom were numerous. Second, nouns like police, people, etc. have no singulars, so The police perjured themselves has no coordinated singular paraphrase. Third, intersperse, alternate in line, etc. permit a subject that is a coordination of coordinate singulars. Ross and others can have a plural NP as subject, but not a coordination of singulars: The men were numerous, but *John, Bill, and Tom were numerous. Second, nouns like police, people, etc. have no singulars, so The police perjured themselves has no coordinated singular paraphrase. Third, intersperse, alternate in line, etc. permit a subject that is a coordination of coordinate singulars.

We advance several arguments based on semantics, syntax, and simplicity in the lexicon to show why the Δ-fill analysis, which derives the (a) strings from the (b) strings, is superior to an alternative analysis (Chomsky 1965, Lees and Klima 1963, and Ross 1968) which derives the (a) strings from the (c) strings by rules of deletion and substitution under conditions of lexical, structural, etc. identity.

(1) (a) The men will see themselves.

(b) The men will see (NP(DET Δ )'s(Nselves)

(c) The men will see the men

(2) (a) The men will lose their way.

(b) The men will lose (NP(DETΔ)'s(N way)

(c) The men will lose the men's way.

The Δ-fill analysis contains a copying rule to fill the Δ with a pronoun of the correct person, number, and gender. It generates reflexives and constructions like John took it with him, we shared it between us, etc. by a single
rule. The $\Delta$-fill analysis, which combines the best of the transformational and
interpretive theories of pronoun reference, extends to the reciprocal pronouns and derives the (a) from the (b) strings:

(3) (a) The men will see each other.
(b) Each of the men will see (\textsubscript{Det} $\Delta$ other) (\textsubscript{N} one)).
(c) Each of the men will see the others.

(4) (a) Men will see each other.
(b) Each man will see (\textsubscript{Det} $\Delta$ other) (\textsubscript{N} one)).

The PSR analysis (Dougherty 1970, Chomsky 1972) argues that (3a) derives from (3c), but makes no claims about indefinites like (4a). The PSR analysis cannot generate indefinites since it cannot account for the fact that in The people here know each other every one knows everyone else, but in People here know each other everyone may not know everyone else. Also, I showed John and Mary pictures of each other cannot be generated since each only moves off of derived subjects into AUX position. And, one another is not discussed.

The $\Delta$-fill analysis contradicts the assertion of Fleno and Lasnik, 'The logical structure of reciprocal sentences,' (Pol., 1973): 'Not only do we know of no transformations which move elements into determiner position; we know of no transformations which move elements into noun phrases.' (p.465).

The $\Delta$-fill analysis, by moving each or a proform directly from the antecedent into the $\Delta$ position in a NP, describes all of the above facts, lexically relates reflexives to restricted possessive constructions like one's way, etc., relates reflexives to reciprocals by describing them by formally identical rules, generates one another in addition to each other, and explains why the antecedent of a reflexive and a reciprocal pronoun must be a single node, but the antecedent of a non-reflexive pronoun need not be i.e., (5) is well-formed, but (6-7) are not:

(5) John talked to Mary about their child.
(6) *John talked to Mary about each other.
(7) *John talked to Mary about themselves.

BRUCE DOWNING, University of Southern California

Toward a Typology of Adjective Clauses

This paper reports the initial results of a cross-linguistic study of the placement and internal syntax of relative clauses. In the first stage of the study, investigation has been limited to a number of languages with basic VO order in main clauses, including Akan, English, Hausa, Hebrew, Spanish and Zapotec. The study attempts to establish universal limits on the variety of relativization processes and to determine correlations between particular relative structures and the kinds of typological features enumerated by Greenberg (1963) and Lehmann (1973). A further goal is to test the hypothesis (Bever and Langendoen 1972) that the syntactic structure of adjective clauses is strongly influenced in specific ways by the potential for ambiguity in perceptual processing.

There is a very frequent use of initial subordinating particles and/or preposed relative pronouns in postnominal adjective clauses. The repeated nominal within the clause sometimes appears as a personal, demonstrative, or 'interrogative' pronoun, in normal or preposed position, and is sometimes deleted. Relativization of subjects often differs from relativization of objects. Frequently the clause as a whole may be extrapoosed or reduced. Our general hypothesis is that the choice among these options correlates with other typological features of the language (word-order and case-marking, for example) and can be explained, at least in part, by reference to the perceptual necessity of structural disambiguation.

Results thus far indicate that definite limits can be placed on types and positions of relativizers (particles, pronouns, zero) and the conditions under which each can occur, confirming the universality of claims by Bever and Langendoen (1972) and Quirk (1957) based essentially on English data. Completion of this first stage of the study should make it possible to further sharpen the predictive statements to be presented concerning the surface positioning and internal syntax of adjective clauses of a given basic syntactic language-type (VO as opposed to OV or mixed), suggesting universal, innate language processing mechanisms.
what, if any, real differences are there between the two theories?

For some classic GS analyses - e.g., the quantifiers-from-higher-sentences-analysis - the answer to A is clearly yes. It is in the area of lexical decomposition, however, that the answer to A is perhaps most unclear. This paper will attempt to illuminate this situation by focusing on the MG analysis of the class of sentences exemplified by (1), and of its syntactic/semantic relation to (2) and (3):

1. John hammered the metal flat.
2. John made the metal flat by hammering it.
3. John's hammering the metal made it flat.

(1) is of interest for two reasons: first, it lies midway on the "Causative Squish" between two-clause causatives (such as cause to become flat) and monomorphemic lexical causatives (such as kill, build, etc.), and second, (1)-(3) have been discussed extensively in the GS literature (by Georgia Green, James McCawley and others) with something less than resounding success.

The semantic facts to be explained are: that (1) entails (2) and (3), that (2) entails (1) and (3), that all of (1)-(3) entail (4) and (5), and that there is a "causal relation" between (4) and (5):

4. John hammered the metal.
5. The metal became flat.

GS attempts to explain these facts by deriving all of (1)-(3) from the same logical deep structure. The difficulty with this approach is that (as pointed out in the literature) some rather wild maneuvers are needed to get from (2) to (1) or from (2) to (3) via transformation. In the MG analysis, on the other hand, (1)-(3) will be syntactically generated independently, but the appropriate semantic relations must be shown to obtain among their respective semantic interpretations.

The key to the MG analysis here is provided by an observation by Barbara Partee: the syntax of MG allows a member of one syntactic category to be turned into a derived member of another (while preserving any relevant semantic property of the original). This possibility is exploited in the original MG rule for relative clauses as well as in extensions of MG proposed by Partee and Richmond Thomason to handle passives, Tough-movement, subject raising, complement constructions, etc.

What is required in the MG analysis of (1), then, is a rule taking a sentence with a free variable (he_0 became flat) and a transitive verb (hammer) to give a derived transitive verb phrase (hammer flat). The semantic translation rule corresponding to this operation is formulated so as to entail, ultimately, sentences like (4) and (5), and that there is a causal relation between them. This is accomplished by introducing something like an "atomic predicate" CAUSE into the semantic interpretation at this point. An analogous rule is proposed to combine he_0 hammer with the transitive verb phrase make

...
(1) The door was closed by the boy.
(2) The door was closed.

Previous accounts of agentive and agentless passives, such as Katz and Postal (1964), have assumed that sentences like (2) are derived from agentive passives by a rule which deletes an indefinite pronoun agent. Thus, previous accounts have assumed that the structure underlying (2) is (3).

(3) Someone closed the door.

Sentence (2) is derived by applying the rule of Passive to (3), generating (4), which, by a deletion rule, becomes (2).

(4) The door was closed by someone.

The purpose of the present paper is to propose an account of agentive and agentless passives whereby sentences like (1) are derived from a structure containing (2), rather than the reverse, as has been assumed previously. Thus, for example, the underlying representation of (1) is assumed to be (5); and (2) is derived by the independently motivated rules of Subject Raising and Predicate Raising.

(5) [The boy cause [the door was closed]]

Support for the analysis presented here comes from certain facts regarding the occurrence of sentences like (1) and (2) in natural languages. Specifically, every language which has agentive passives also has agentless passives. A language which has agentless passives, however, does not necessarily have agentive passives. But there is no language which has agentive passives and does not have agentless passives. Thus, languages like English and Spanish have both agentive and agentless passives, whereas Modern Greek and Lebanese have only agentless passives. While it is difficult to see how facts like these can be accounted for in a theory which derives agentless passives from agentive passives, these facts follow naturally from the account proposed in this paper where agentive passives are derived from agentless passives.

While this strong claim about tonological systems would provide an effective way of constraining phonological theory, there are several problems inherent in it which I shall address myself to in this paper. Although Oriental languages are most noted for their contour tones, evidence for the reality of underlying contour tones is drawn from Kru, a Kwa language spoken in Liberia.

I shall begin by providing arguments for representing contour tones as level tones underlyingly in several West African languages (primarily Yoruba), and then show that these arguments are not applicable to Kru.

The tone system of Kru is exceptional in West African in that while it has two distinctive pitch levels, High and Low, it also has a rising tone which begins at the level of High and rises to a "super-high" level. Thus, the immediate problem one is faced with is decomposing this rising tone into a High followed by Super-High, the second of which has no independent status in the language. An alternative analysis which would represent this rising tone as a Low followed by a High, presumably with a phonological rule raising the whole contour, is also unsatisfactory, since the phenomenon of "downdrift" could no longer be accounted for. Instead, there are tone rules in the language which must make reference to this rising tone as an indivisible unit.

N. B. EMENEU, University of California, Berkeley

Sanskrit api: Dravidian -um

A demonstration that the five usages in the semantic structure of Dravidian -um are the origin of the parallel usages of classical Sanskrit api.

Study of a feature of the Indian linguistic area.

The semantic structure of the Sanskrit enclitic particle api is not derived from Indo-European. The additive or summing usages, 'also', 'and', 'even', in Vedic, develop to totalizing usages with numerals and with interrogative pronouns (indeterminizing) in epic and classical Sanskrit. All five usages continue into Middle Indo-Aryan and then into New Indo-Aryan. In some of the last the same form is found in a majority of the usages, e.g., in Marathi and non-normative Hindi bhi. Historical developments are not completely clear, but it may be argued that api is basic to many of the forms in all the languages, combined often with developments of Sanskrit khalu > NIA bu. Because of uncertainties in the formal development, it is not clear how much disintegration of the semantic structure has actually occurred in NIA.

Examination of parallel phenomena in the Dravidian languages results in a reconstruction of these five usages for Proto-Dravidian and also a recon-
struction of a form *-um, which is represented as such in most of South Dr., in Telugu, and fragmentarily in North Dr. Replacements are clear in Tulu and some of the Central Dr. languages. How far disintegration of the semantic structure has gone, especially in Central Dr., will not be clear until we have better descriptive material.

The semantic parallelism in the two families results from a progressive introduction from Dravidian into Old Indo-Aryan, i.e., a calqueing of Dravidian *-um by Sanskrit api. The semantic structure is then retained, in part at least, in Indo-Aryan down to the present.

JOHN BRYSON EULENBERT, Michigan State University

A Talking Computer Terminal: Computer Aided Instruction in Phonetics

The advent of the low-cost digital voice synthesizer has made practical the development of peripheral devices and associated software to deliver understandable speech output for a wide range of applications. This paper is a report on such a system currently under development.

The two applications currently being implemented are

1. a computer aided instruction system utilizing spoken computer responses; and
2. an audio editor for the visually handicapped user, giving spoken-output access to text data.

Of interest to linguists is an instructional package we have developed for teaching phonetic transcription to students with no previous training in phonetics. The training course is aimed at enabling the student to encode new entries in the master lexicon of the speech synthesis system.

A short videotape of the system in operation will accompany the presentation of this paper.

WILLIAM G. EWAN, University of California, Berkeley

A Cross-Language Study of Larynx Height in Stops and Its Implications for Explaining Sound Change

Data obtained from a device called the "thyro-umbrometer," which tracks vertical and horizontal laryngeal displacement, offers evidence that the larynx is lower during the production of voiced stops vis-a-vis voiceless and voiceless aspirated stops as produced by speakers of French, English, Igbo, Japanese, Thai, Mandarin, and Taiwanese. This fact in conjunction with the previously established fact that larynx height and the fundamental frequency of the voice are correlated, suggest a possible explanation for the widely attested sound change (in Chinese and in many Southeast Asian languages) involving the development of high tone vs. low tone on vowels following voiceless and voiced obstruents, respectively.

CILLES FAUCONNIER, University of California, San Diego

Superlatives with Scope Ambiguities

The English lexical item any is of interest to linguists and logicians because of its two possible interpretations ("universal" or "existential") and the ambiguities that can result. We note that in fact all superlatives have similar properties and examine the evidence for a syntactic derivation relating this use of superlatives to the quantifier any. Similar facts in French are then examined.

Here are some sentences that illustrate this problem:

1. The slightest noise bothers him (= "any noise bothers him")
2. He can't stand the slightest noise (= "he can't stand any noise")
3. He didn't like the slightest mistake to be held against him.

Sentence 3 is ambiguous between: "he didn't like every mistake (even the slightest) to (always) be held against him" and "there was no mistake that he liked to be held against him".

4. The most beautiful girls have no effect on him (= "no girls have any effect on him")

Syntactic arguments are developed that relate 1., 2., 3., to:
5. Any noise, even the slightest, bothers him.
6. He can't stand any noise, even the slightest.
7. He didn't like any mistake, even the slightest, to be held against him. (ambiguous)

The derivation of 1., 2., 3., would then involve a deletion of any (universal any in 1., existential any in 2., existential or universal any in 3.) which seems to support analyses where both any's would have the same source. 4. would be related to 8.:
8. No girls, even the most beautiful, have any effect on him.

The effect of NEG-placement is different in 4. and 8. because it depends on whether any is deleted or not.

The situation in French with respect to this use of superlatives is quite parallel to the one in English. Corresponding to 1., 2., 3. we have:
The kinds of information and relations expressed in American Sign Language (ASL), that language used by deaf adults in the United States among themselves, are basically the same as those in spoken language. The means, however, by which these are expressed are radically different. What does this say about the human being's capacity for language? How does the modality of communication shape the language? We can begin to examine these questions by considering the sign language acquisition process by a deaf child picking up her language naturally from her parents.

We have been doing a longitudinal study of just such an acquisition process. I shall concentrate here on a sort of progress report of results on the analysis of one child's acquisition of verb inflections. A cursory examination of the other children involved indicates that their development is similar.

Although the verb is the nucleus of the sentence, its importance relative to the rest of the sentence varies from language to language, depending on such factors as the amount and kind of information for which the verb inflects. ASL is unusually rich in verb inflections. Verb inflection in ASL thus becomes central to any inquiry into the grammar of that language, and by extension it also becomes central to investigations of the acquisition of that language by the deaf child of deaf parents.

For the fluent adult signer, the verb can inflect in three ways for various pronominal arguments (including reflexive and reciprocal) -- subject,

object, source, and goal -- and this can by itself constitute an entire sentence. In addition, the verb in ASL can inflect for the size and/or shape of referents of various arguments (often simultaneously with the pronouns), for aspect (habitual, iterative, durative), and for number. Even manner adverbials can incorporate into the verb. The ways in which these modifications are realized on the verb are unique to a visual-manual modality. Thus, for example, the verb which can be glossed roughly as LOOK can be varied by changing the orientation of the hand, its initial location, and the direction of movement. Two hands rather than one are used to indicate a dual subject, an increased number of extended fingers can indicate a plural subject (this process is not regular for all verbs), and repetition can indicate a plural subject or object. Other types of repetition indicate aspect. The verb glossed as COLLIDE systematically varies the two handshapes involved to show how many dimensions are salient -- one extended finger means height (person, tree, telephone pole), a flat hand is height and width (wall, etc.), and a fist has all three dimensions (car, truck, train).

We have investigated (and this investigation is still ongoing) the acquisition of these kinds of inflections by several deaf children, one intensively. Some of the results are, briefly: The three mechanisms used for case-marking (inflection for pronominal arguments) emerge in a definite order. In the absence of one mechanism, another 'simpler' one is sometimes substituted. Overgeneralization in terms of applying a case-marking rule to an exception also appears. Pronoun inflection for various types of number, on which one can say the verb inflection is based, emerges simultaneously with or prior to that verb inflection. Inflection for size, shape, and aspect appear fairly late, although alternative means of expressing these concepts are used by the child fairly early.

As these and other examples suggest, the learning process by which the deaf child acquires sign language is remarkably similar to that by which the hearing child learns spoken language, even though the grammars of the two types of languages are radically different. This argues that there may be certain constants of linguistic development, independent of modality and thus central to the human capacity for language.
A question linguists have failed to face squarely is this: What is the relationship between language form and language function? Pressure to consider the form-function question comes chiefly from biology. The fact that the communications systems of lower animals generally serve some transparent biological function has tempted some psychologists, biologists, and philosophers to assume that human language also serves some biological function(s), and, this being the case, the pressures of natural selection would provide that given any genetically determined variation in the language faculty or language acquisition device, the system which best fulfills the unspecified biological function(s) will be the system that is dominant. If this reasoning were valid it would be incumbent upon linguists to investigate the form-function question, since function would, to some extent at least, determine form.

Two of the major theoretical figures in American linguistics, Bloomfield and Chomsky, gave specific reasons for ignoring the form-function question. Their reasons are reviewed in the light of certain generalizations about discourse which are beyond the scope of the types of grammar they envisaged, but must nonetheless be considered as parts of linguistic competence as defined by Chomsky (1965).

A crucial point which must be determined in order to answer the form-function question is whether such functions of language as those enumerated by Chomsky (1968, pp. 61-62) are, as he says, independent of each other. In this paper it is argued that they are not independent; that language functions in general can be derived from its function as a means of conveying information, while this latter function cannot be derived from any other language function. This, coupled with the fact that the major historical and prehistorical events responsible for the dominance of Homo sapiens are in part direct results of this communicative function, leads to the conclusion that biological pressures have been and still are acting on the human language faculty in a way which should have profound consequences on the linguist's view of grammar -- that is, given these arguments, the psychologically real grammar cannot be a grammar whose domain is limited to the sentence (i.e., a grammar of the type Chomsky espouses), but must be a DISCOURSE GRAMMAR based on the kinds of messages sentences can convey in linguistic and non-linguistic contexts. An illustrative fragment of such a grammar is provided.
we can conclude on the centrality of context to a unified treatment of indirect speech acts.

BRUCE FRASER, Boston University

Responsibility and Illocutionary Acts

The utterance of the (a) sentences in the following pairs is more likely to count as the polite performance of the illocutionary act denoted by the main (performative) verb than the (b). We will call the (a) cases strongly performative, the (b) weakly performative.

1a) I must warn you that I will be there
   b) I must promise you that I will be there
2a) I must ask you to speak louder
   b) I must order you to speak louder
3a) I must forbid you to leave
   b) I must authorize you to leave

I will argue in this paper that the explanation rests heavily on one's expectation that the speaker wishes to avoid responsibility for the commission of the illocutionary act, either to avoid embarrassment to himself or the hearer.

The paper is organized as follows: First, I present a set of conversational principles to account for the fact that such must sentences should be "performative" at all. Second, I present evidence to support the claim that in a wide range of syntactic environments must permits the conversational inference that the speaker wishes to be relieved of total responsibility for the illocutionary effect of the utterance. And third, I present evidence to support the claim that weakly performative sentences arise when there is an incompatibility between the implication of must and the nature of the illocutionary act.

For example, successful promising entails a positive hearer attitude towards the proposed acts expressed in the sentence; one would not expect the speaker to shy away from making a promise. Sentence (1b) is weakly performative. Making a warning might result in a speaker-hearer tension and we might expect the speaker to attempt to mitigate the effect. Sentence (1a) is strongly performative. One might wish to avoid responsibility for making a request of another, particularly in the case of a demand, order, or command. Sentences like (2a) with ask, request, and instruct are more strongly performative than those like (2b) with order, demand, and command.

Finally, since a sentence like "I must request that you withdraw immediately from the program" appears to be more strongly performative than one like "I must request that you help me pick out the wine", one might speculate that the data should be analyzed as a type of Squish. I will argue that this is inappropriate and that a different type of device will be necessary to account for the facts.

ROBERT FREIDIN, Purdue University

Ambiguous Sentences and Semantic Structure

Generative semanticists claim that semantic structures must be represented as abstract tree configurations which differ radically from both surface and deep structures. This claim is developed most graphically as regards the analysis of the scope of logical elements such as negatives and quantifiers -- where the element's scope is defined as its sister node(s). McCawley (1970) attempts to justify this claim on the grounds that ambiguous sentences involving quantifiers or negatives -- (1) and (2) respectively -- can be disambiguated in terms of the scope of the logical element.

(1) One of you is obviously lying.

(2) John doesn't beat his wife because he loves her.

He proposes that the interpretation of (1-2) depends on whether or not obviously is in the scope of one in (1), or the because-clause is in the scope of the negative in (2). Thus McCawley argues that the ambiguity in both (1-2) results from the same semantic units arranged in two distinct tree configurations. The purpose of this paper is to show that ambiguous sentences like (1-2) do not support generative semanticist claims about semantic structure because the 'same semantic units' analysis does not adequately represent the meanings of (1-2).

The ambiguities of (1-2) do not involve the same semantic units arranged differently, but rather different semantic units. The ambiguity of (1) can be characterized as a difference between manner and sentential adverbs. Without such a semantic distinction, there is no explanation for the fact that some adverbs (i.e. sentential) must occur outside the scope of quantifiers like one in (1), whereas others (i.e. manner) cannot. Moreover, the 'same semantic units' analysis makes false predictions about the interpretation of manner adverbs. The ambiguity of (2) involves the presence or absence of contrastive stress -- clearly a semantic unit because of its effect on interpretation. The meaning of sentences containing contrastive stress is analyzable as the sentence itself plus an implication which consists of the sentence in
affirmative form with a pro-form substituted for the contrastively stressed element. An examination of additional examples involving both contrastive stress and sentential adverbial other than because-clauses demonstrates that rules of semantic interpretation for sentences containing contrastive stress must operate in terms of semantic content because tree configurations alone are insufficient to express the semantic relationships between the adverbial and the clause it modifies. Thus the meanings of contrastively stressed sentences do not lend themselves naturally to tree representation.

Paul Friedrich, University of Chicago

Pie as SVO

This paper challenges the "Pie as (S)VO" hypothesis originally argued by Delbrück (1888, 1897) and recently reasserted by such leading Indo-Europeanists as C. Watkins, in his brilliant papers of 1963 and 1964, and W. Lehmann, in at least four articles that have appeared since 1971. The more or less orthodox hypothesis about the complex of patterns labelled "OV" appears to reflect certain assumptions and methods, and considerable selectivity in the use of evidence, which, provisionally, will be criticized as follows:

1. VSO is the unmarked type in Old Irish. Rather than deriving it from the highly marked verb-final types (ref. tmesis and Bergin's Law), both alternatives can be derived most economically from an ancestral system where SVO was unmarked.

2. Homeric Greek has been variously neglected from Delbrück onwards (e.g., "because it has clearly gone further than any other Indo-European language in the elaboration of 'free' word order"). Yet this neglect of Hg. Gk. cannot be reconciled with the significant fact that Meillet's inspired (1933) chapter on IE syntax ("La Phrase") is mainly based on excerpts from the first 231 lines of the Iliad, nor with the (quite sound) assumption of most Indo-Europeanists that Hg. Gk. ranks with the Rig Veda, O. Ir., and the Avestan for the reconstruction of verbal categories and similar syntactic and quasi-syntactic matters. The blanket assertion that Latin exemplifies the OV complex needs to be corrected in many ways.

3. The strongest evidence for the "OV hypothesis" appears to come from Hittite and the RV (e.g., Delbrück's excellent studies). Armenian also appears to be OV. Yet these three stocks lie in the Asian (roughly Dravidian-Altaic-Anatolian-Caucasian) area which is almost exceptionlessly OV, as has been demonstrated exhaustively by Masica (1972). Both Dravidian and Altaic exemplify the extreme of "rigid" SVO type; languages that have entered this syntactic sprachbund have changed to OV (e.g., Munda). Similarly, the drastic restructuring of the Hittite lexicon and verbal categories must be adequately weighed when evaluating its simple rule of verb-final position.

Transformational-generative syntacticians, to whom both Watkins and Lehmann refer programmatically, have in their actual analyses argued forcefully that the Indic languages are underlyingly SVO, with the verb-final rule being rather superficial (mainly ref. Hindi, but the same arguments would hold for Sanskrit; see Rose's 1967 paper on gapping). Similar analyses have been applied to the verb-final constructions of Germanic languages, and could be applied to Hittite. Thus a combination of areal and syntactico-theoretical reasons suggest that Hittite and the RV may turn out to actually support the contrary hypothesis that PIE was SVO.

4. There has been insufficient compiling of the proto-syntagmata that are currently reconstructable and generalizing from these membra disiecta of the proto-corpora; for example, the dozens of such proto-syntagmata solidly established in R. Schmitt's fundamental monograph (1967) indicate that both NAdj and AdjN orders were normal, with the latter as somewhat preferred (note that whether or not this is harmonically related to SVO depends on that we assume about the underlying structure of adjectives).

The "order of meaningful elements" needs to be based on more empirical descriptions from the crucial languages (e.g., what are the relative frequencies of the alternative construction types?). And, with some exceptions, such as Watkins' O. Ir. work, the markedness hierarchies within the individual ancient dialects remain to be worked out. There has been too much appeal to personal authority, notably Delbrück's, and the reasoning has often been atonicistic; for example, the role of the Subject is more relevant to such implicational universals than some recent statements would suggest. Finally, since SVO is the neutral or unmarked construction on universal grounds (see Jakobson 1963 on iconicity in syntax), the burden of proof rests mainly with the proponents of an ancestral OV structure.

While the present statement is mainly a condensed critique, it will fill the gap on Homeric Greek and also provide, as indicated above, a cumulative series of positive arguments for the alternative hypothesis: that PIE was SVO (with other patterns more or less harmonic), and that there was considerable ambilateral flexibility (e.g., both noun-adjective orders, both left and right gapping, but with both differentially constrained within a hierarchy of markedness). This counter hypothesis is congruous with certain other kinds of evidence (e.g., from Slavic) and leads to a simpler and more realistic account of the syntactic diachrony.
Arbitrariness and Iconicity: Historical Change in American Sign Language

Grammarians since de Saussure have required that language symbols be arbitrary, albeit conventionalized, in form. Sign languages in general, and American Sign Language (ASL) in particular, have been noted for their pantomimic or iconic nature. Even scholars of ASL have said "the sign language is an ideographic and pantomimic language" (Long, 1918). Wescott (1971) has estimated the iconic content of ASL at 25% of the entries appearing in the Dictionary of American Sign Language (Stokoe, et al, 1965), with another 50% of the entries being transparently derivable from icons.

This paper examines some historical processes in ASL and shows that there is a strong tendency for signs to change in the direction of arbitrariness, rather than maintaining some level of iconicity. Changes at the phonological level can be seen as preserving morphological systematicity at the expense of transparency. We also find the use of facial expression and body movement, essential to pantomime, diminished severely, and where preserved both (face and body) are highly stylized.

The data are for the most part from American Sign Language, with some relevant examples from Canadian (Toronto), and Chinese, Old French, and "home" signs, the last being homemade language used by a hearing parent with her four deaf children.

PAUL FROMMER, University of Southern California

Indirect Objects, Passives, and VP Restructuring in English

This paper attempts to account for the full range of dative phenomena in English, including the interactions of indirect objects with the Passive transformation and verb-particle constructions, while providing a syntactic explanation for the ungrammaticality of "Who(m) did you give the book? and "the girl who(m) you gave the book.

Evidence is presented for the existence of a transformation which restructures a VP of the form \( V \) \( (\text{NP}) \) \( (\text{NP}) \) \( X \) as \( V' \) \( (\text{NP}) \) \( (\text{NP}) \) \( X \), where \( V' = V \) \( (\text{NP}) \) \( (P) \). This transformation, applying optionally before the Passive transformation, and followed by a rule which deletes the preposition in certain cases, allows the derivation of both "direct" and "indirect" passive constructions, while also accounting for such "pseudo-passives" as The proposal was agreed on. In the derivation of John gave Mary a book, the restructuring transformation applied twice, yielding a VP in which give Mary is dominated by V, and hence a constituent.

A general, independently motivated constraint is proposed, according to which no lexical formative may be moved into or out of a constituent dominated by a lexical category. This constraint prevents a NP dominated by V from being moved, thus accounting for the ungrammaticality of the above-mentioned constructions involving the WH marker, previously capable of being ruled out only on perceptual grounds, or by ad hoc constraints on the transformations producing questions and relative clauses.

DONNA JO FURROW, Massachusetts Institute of Technology

Gender-Number Agreement in Italian

It has been generally assumed that all gender-number agreement in Italian (and Romance languages in general (cf. Quicoli 1972)) can be described as agreement between subjects and predicate nominatives, adjectives, or participles across the copula. Such an assumption is refuted here and various phenomena of agreement are discussed, showing that no one rule can account for all cases of G/N agreement. Furthermore, it is proposed that a principle of agreement consistency filters out certain possible sentences.

A rule for agreement only across the copula fails to account for at least five instances of agreement. 1) There are many pre- and post-nominal adjectives which cannot be derived from relative clauses. 2) Certain adjectives may appear separated from the noun they modify and may lack a grammatical paraphrase involving the copula (Maria e entrata scalza per scandalizzare le amiche della nonna 'Mary entered barefoot in order to scandalize her mother's friends'). (Browy's (1972) source for temporally restrictive adjectives is refuted.) 3) Nouns in comparative constructions which are not true comparatives, but predicable on some other noun make number agreement, and, if possible, gender agreement (Maria bacia come una buona amante 'Mary kisses like a good lover'). 4) The following past participle agreement pattern occurs:

1. a. Le donne hanno comprato i cani. unmarked
   b. Le donne li hanno comprati. (np)
   c. Le donne si sono comprate i cani. (fp) (copula)
   d. Le donne se li sono comprati. (np) (cop) (np)

"The women bought the dogs."  
"The women bought them."  
"The women bought themselves the dogs."  
"The women bought them for themselves."
Two disjunctive rules are operating here: 1) past participles agree with clitic accusative objects, and 2) agreement occurs across the copula with the subject. Rule 1 operates in (1b) and (1d); rule 2 in (1c); neither in (1a). Rule 2 also accounts for agreement of passive participles and of adjectives in Tough Movement constructions. 3) Finally, there is a group of adverbs (the group varies with the regional variety of Italian) that enter into the following pattern:

2. a. Maria parla svelta. "Mary speaks fast."
   b. Maria ha parlato svelto. "Mary spoke fast."
   c. Maria è partita svelta. "Mary left fast."
   d. Maria comincia a parlare svelto. "Mary begins to speak fast."

The adverb agrees with the subject if the subject is to the immediate left of the main verb of the clause or if the past participle agrees with the subject. If the subject is removed by raising or Equi, the adverb does not agree. If the subject is displaced by relative clause formation, a distance factor enters blocking agreement if the subject is more than one S node removed from its verb (La donna che parla svelta... 'The woman who speaks fast...'; La donna che volevo che parlasse svelto... 'The woman I wanted to speak fast...'). Agreement occurs only if the adverb falls to the right of the subject in surface structure (cf. topicalization and constructions with fare, lasciare, and verbs of perception). These last two features are similar to constraints on agreement of past participles.

The first three phenomena do not lend themselves to a transformational analysis. Rather they require a semantically based rule. No one rule can account for (1) through (3) as well as (4) and (5). The interaction of these various agreement phenomena with quantifier floating (tutti and ciascuno) reveals a principle of agreement consistency. Any sentence having two elements agreeing with the same noun but having unlike agreement is filtered out. And cyclic agreement (as in (4) and possibly (5)) may be erased post cyclically if an inconsistency of agreement would otherwise result.

footnote 1: che, the relative pronoun, is unmarked for G/N.

MARIA GARCIA-ZANOR, Int'l Bank for Reconstruction and Development [FR1 AFT:2]
Child Awareness of Sex Role Distinctions in Language Use

The purpose of this paper is dual. First, to find out if a randomly-chosen group of 5 1/2 to 6 year old boys and girls at a self-consciously non-sexist nursery school make judgments about a person's capabilities, worth, life choices, and status-giving or demeaning qualities on the basis of sex. And second, to determine how aware they are of "male" as opposed to "female" language. Do their overt attitudes toward sex roles correlate with their judgments about language use appropriate exclusively to males or females? Do boys make the same kinds of judgments about language use as girls? Can it be shown that the children's educational environment results in their making judgments different from "traditional" sex role and language use views?

The eight children studied were interviewed by the author on two occasions, the first time using a questionnaire designed to elicit overt attitudes toward sex roles. At the second interview, the subjects gave judgments about whether a girl- or boy-doll prop uttered sentences containing terms of endearment, hostility, aggression, color terminology, elevating and derogatory items, athletic activity, and automotive terms.

This study is based upon the well-supported assumption that social and psychological roles associated with men or women on the basis of sex roles are reflected in English. (Lakoff 1972, "Language and Woman's Place") For example, certain lexical choices are strange or anamalous when applied to the "wrong" sex - a woman driver vs. a man driver. It would, however, be clearly absurd to contend that all aspects of language use which are determined by sex roles are prejudicial to either women or men. The notion that those aspects of language use which are pejorative to women can simply be purged from English by substituting Ms. for Mrs. or chairperson and businessperson for their respective so-called sexist counterparts is equally ridiculous. (Gelb 1972, "How the Speech of Some is More Equal than the Speech of Others") The results of my investigations indicate in part that the attitudes toward sex roles presumably underlying sex-related language use are far from superficial and not readily amenable to change.

In addition to pointing to the durability of sex-based attitudes, the study shows that at this age boys make more consistent judgments about the appropriateness of language use on the basis of sex than girls do. At the same time, the four girls tested had, generally speaking, stronger notions about "woman's place" and the physical and intellectual superiority of boys. These results are explicable if we assume that it is the boys who are currently learning a new language - male language. At this development stage, boys identify with their fathers more closely than previously. The father's attention and acceptance is of great importance to the male child. (Gesell, The Child From Five to Ten) With his heightened level of linguistic sophistication the child can now differentiate between woman's language, his pre-school language, and the language of the male with whom he prefers to identify. This accounts for his greater sensitivity to sex-related language connotations.

The girls, on the other hand, merely continue in the language of the nursery. The only aspects of male language they need learn are those proscribed to
them (e.g., strong epithets), which this study shows they do learn. Thus, at this stage boys are acquiring an awareness of social and psychological roles proper to their sex and a heightened sensitivity toward sex-determined language use. As the evidence indicates, girls are mostly learning "their place."

MICHAEL L. GEIS, Ohio State University

Time and Place Adverbials in English

Analyses of English time and place adverbials have ranged from the commonly held view that such adverbials modify the main verbs of sentences like

(1) John woke up in a strange bed this morning.

(i.e., in a strange bed and this morning each modifies woke up) to the view put forth by Lyons and Lakoff that they are sentence modifiers (i.e., in a strange bed modifies John woke up and this morning modifies John woke up in a strange bed). Despite the very great differences between these analyses, they (and all others I am familiar with) share the hypothesis that time and place adverbials function alike semantically.

In this paper, I demonstrate that time and place adverbials do not, in fact, function at all alike in semantic structure. According to the analysis to be presented and defended here, (A) time adverbials (in concert with the auxiliary system) serve to 'locate' states of affairs and actions and the like in time, and thus, are sentence modifiers, as Lyons and Lakoff have suggested, while (B) place adverbials serve to locate concrete objects (persons and things) in space, and, thus, are derived from semantic substructures predicating locations of concrete objects.

Hypotheses A and B have consequences for any sentence containing time or place adverbials. In this paper, I shall focus on sentences which appear to predicate locations of actions (cf. (1) above) and of states of affairs (cf. (2)) for they bring out most clearly the different functions of time and place adverbials as well as the relationship between these two types of adverbials.

(2) John was miserable in Boston last week.

What I shall argue, on both syntactic and semantic grounds, is that (1) is derived from the structure underlying (3) and that (2) is derived from the structure underlying (4).

(3) At the time at which John woke up this morning he was in a strange bed.

(4) John was miserable during the time that he was in Boston last week.
Most phonological studies at least implicitly place syllable boundaries on words. Their usual assumption is that $W$ has quasi-segmental status which requires it to be placed between segments. Evidence presented shows that $W$ must be allowed to fall within segments — that is, segments may belong to two syllables at once. Some consequences of this fact for syllabification "rules" (or, rather, "definitions") in general are discussed.

Impressionistic phonetics has suggested that unique syllabification isn't always easy. English examples also show phonological effects of dual syllable membership are given below with some evidence of those effects:

- **syllable** [sf.]: the first /f/ begins velarized indicating syllable-final position but ends "clear" showing initial position.
- **historical** [hlst6...]: the /t/ is short, lax, and stressed and must belong to a closed syllable; but the /c/ is unaspirated before a stressed vowel, and hence the preceding /s/ must be tautosyllabic with the /t/.
- **Patrick** [p^h^atr...]: the /ae/ is short, lax, and stressed; the /f/ is retroflexed partially, an assimilation to following tautosyllabic /f/.

If evidence from other languages corroborates the need for dual syllable memberships, as seems true, how are they to be assigned and represented, and how are they constrained? Conventional processes (e.g., affrication) which temporarily "segment" segments never need to divide the segment into more than two parts: no rule makes reference to the part of a palatalized affricate between onsets of affrication and palatalization. A similar constraint on "information content" seems to apply to the output of syllabification.

Closer consideration of possible "syllable definitions" reveals them to be ill-defined in several ways. Pulgram's Minimum Coda Principle (Syllable, word, nexus, cursus 1970) syllabifies in terms of possible consonant clusters, but is interpretable to cover possible vowels also. This reinterpretation correctly syllabifies historical etc., probably violating Bell's criticism ("Against the distributional syllable," Colorado W.F., 1972)

Even this principle requires the grammar to use predicates like "permissible finally", "permissible initially", and "shorter than". Past use of such terms has been impermissibly vague. Is "permissible" defined on surface or underlying sequences? English seems to have a constraint that stressed syllables must be strong ones. Central [g^h^tr] shows that, if "strong" means having a long nucleus or a final non-syllabic, then the constraint cannot be a surface one. But **appoint** shows it cannot be on underlying form either: its first syllable is strong underlyingly but is treated later as weak. If "strong syllable" is defined on neither surface nor underlying forms, why is the concept so accessible to conscious awareness that most linguists have failed to notice a problem here? Answers seem to lie in notions of "phoneme" (cf. Schane "The phoneme revisited," Lb. 1971) and perhaps of transparency and opacity. Global and transderivational solutions and their shortcomings are briefly considered.

Interlude Revisited: A Problem in Syllabic Phonology

LARRY GORBET, University of California, San Diego

PAMELA MUNRO, University of California, San Diego

<table>
<thead>
<tr>
<th>SAY I YOU NP</th>
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<tbody>
<tr>
<td>TELL YOU ME NP</td>
</tr>
<tr>
<td>EXCLAIM I NP</td>
</tr>
<tr>
<td>EXCLAIM I NP</td>
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</table>

In the question structure (1), NP 1 is the questioned (WH-marked) constituent. (2) illustrates an EE where a whole sentence is the object of the speaker's emotive remark: examples are **John is a fool!** and **I've fucking done it now!**. (3), on the other hand, is the structure we assume for focused EE's like **What a fool John is!**, **John is such a fool!**, and **John is a fucking fool!**.

Performatives do not bind a particular constituent to the speaker. World-creating verbs may block the illocutionary force of a performative by insulating the material within their scope from that force; epithets (including non-restrictive adjectives) remain speaker-bound at any depth. In **Tom dressed his lovely wife was a toad**, for instance, the speaker, but not necessarily Tom, thinks Tom's wife lovely; the blocking verb *dream* does not occur between the EE predicate EXCLAIM and the remarked-on constituent (head) NP 1.
A sentence has unique illocutionary force -- it may not be, e.g., a question and a promise -- but it may have many epithets (or WH-words). And though a performative cannot have a performative as its argument, an epithet may be the argument of an exclamation or another epithet: e.g., The fucking ever-reliable mail has arrived! Ever-reliable expresses the opinion of the speaker (that the mail is unreliable), and fucking shows disgust with this "ever-reliability".

A notable property of exclamations in many languages is that they often look like embedded sentences. For example, Subj-Aux Inversion triggered in English and French main clauses by WH-words fails to apply in exclamations: How tall she is! Other languages show exclamations marked by complementizers and other words normal only to embedded clauses. This property might suggest exclamations are complements of special performatives, but the complements of other performatives do not appear with surface embedding markers. Further, a performative EXCLAIM fails the usual hereby test. This flaw in a more simplistic model is explained by the intervening, (underlying) non-performative EXCLAIM.

In an earlier paper (LSA, August, 1973) we discussed some semantic features of cajole and other verbs of verbal manipulation and showed how some of the meaning of such verbs is dependent on their syntactic environments. Attending primarily to referential meaning, we also showed that there are lexical features concerning the predispositions, intentions, perceptions and tactical orientations of locutionary sources, locutionary goals and performative agents in verbally manipulative acts.

In this paper we turn to pragmatic (language in use) and inferential (following Bolinger) constraints on speech acts involving verbal manipulations. We show that these latter constraints, which draw on speakers' shared cultural and social knowledge for assignment of semantic interpretations, require systematic attention to social structural and social interactional features of speech acts which are ordered and rule-governed in a manner analogous to syntactic environments. In short, grammaticality is not a sufficient criterion for acceptability -- in naturally occurring speech -- of sentences using these verbs.

Focusing again on cajole we show that speech-community members invoke shared cultural understandings in judging semantic acceptability -- or, at the very least -- plausibility, in discourse. In the paper we discuss three sets of pragmatic or inferential constraints on these verbs: (1) the hierarchical nature of the social relationship between speech act participants; (2) the quality of affect in the relationship; (3) participants' perceptions of the magnitude of importance of the RESULT.

Thus, to illustrate, Example 1 is not acceptable (plausible) because of what we know about social relations of hierarchy and dominance (although 2 and 3 are acceptable); Example 4 is not acceptable (plausible) because of what we know about the implacable hostility between the parties; Examples 5 and 6 are not acceptable (plausible) because we know that the RESULTS are considered to be too serious to be gained through cajolery (although 7 is quite acceptable [plausible]).

1) (?) Nixon cajoled the janitor into leaving the lights on in the Oval Office.
2) The students cajoled the janitor into leaving the lights on in the study hall.
3) Nixon ordered the janitor to leave the lights on in the Oval Office.
4) (?) Dayan cajoled the Palestinian leaders into halting the terrorism.
5) (?) Norman cajoled Germaine into admitting that women are inferior.
6) (?) Leonid cajoled Mao into bombing New York.
7) Leonid cajoled Mao into posing for photographers by the pool.

Each of these factors (viz., hierarchy, affect, goal salience) is discussed as are interpretations available for reportable (in Labov's sense) exceptions.

The question of labelling manipulative behavior with verbal designations--as contrasted to recognition of the behaviors themselves--is raised but not resolved.

In the first half of the paper I propose a hierarchy of cluster types containing three non-syllabics. Briefly (and somewhat oversimplified), clusters containing three non-syllabic segments all agreeing in the specification for the feature "obstruent" (or "sonorant") are more marked than clusters of three non-syllabic segments in which the constituent segments do not all agree in the specification for obstruent.
As such the hierarchy accounts for two types of generalization. First, it explains the relative popularity of the unmarked clusters among the languages of the world. Whereas there appear to be no languages having just the marked clusters in deep or surface cluster inventories, there appear to be a number of languages (i.e., Kraho, Campa (Arawak), Temoyan Otomi, etc.) which exhibit only the unmarked clusters in either the underlying or surface inventories. Also the hierarchy can be called upon to explain the occurrence exclusively of unmarked clusters in specific environments. For instance, word-initially in English we find just unmarked clusters: \([\text{str}]\), \([\text{spl}]\), \([\text{skj}]\), etc. Similar restrictions are found in Zoque, Kannada, etc. The second type of generalization accounted for by the hierarchy has to do with the creation of clusters of three non-syllabic vs. consonant epenthesis. Although there appears to be at least one counter-example from Indo-European (the rule responsible for \([s]\) in "thou didst"), most rules of this type create just unmarked clusters, as for instance in German, wesentlich \(\rightarrow\)
    \(\text{wesentlich}\), etc.; or in Dutch, \(\text{za\text{a}r} in Madurese (where stops and \(\text{za\text{a}r}\) were geminated, following a short vowel, by a following \(\text{~va\text{a}rdr}\)), in Maidu. Again, this seems to be born out. In addition, we expect to find some affricativization rules creating exclusively unmarked clusters, as happens in Old Norse (where \([g]\) and \([k]\) were geminated, following \(\text{~va\text{a}rdr}\)), as in \(\text{ligja} \rightarrow\)
    \(\text{~va\text{a}rdr}\), in Madurese (where stops and \([s]\) are geminated before a liquid, as in \(\text{stra} \rightarrow\)
    \(\text{stra} \rightarrow\), and in Haidu. Second, rules of affricativization in the environment of another consonant should never yield exclusively marked clusters of three phones. This seems to be true. Furthermore, we expect to find some generalization rules creating exclusively unmarked clusters, as happens in Old Norse (where \([g]\) and \([k]\) were geminated, following \(\text{~va\text{a}rdr}\)), as in \(\text{ligja} \rightarrow\)
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In sentences such as Herodotus 1.1.1:

'Persiôn h{x}no n rîtòi Phoinikàs sìfíous phàsì
genèsthai tès diáphorèis'

"The Persian chroniclers say that the Phoenicians were the cause of the dispute"

A simple theory of Greek word order or of the complementation process will account for the position of Phoinikàs and sìfíous, the accusative subject and object of genèsthai. Whether one proposes that the underlying word order of Greek is VSO, SOV, SVO, or that it is simply free and unordered, there is no explanation within current theory for the fact that these NP's are separated from the verb of their clause by the verb of the higher clause.

In this paper we shall argue that none of the transformations already proposed for NP movement (e.g., Scramble, Raising, or Extraposition) has operated but rather that there exists a transformation which we propose to call NP CLIMBING which accounts for this structure. We shall show that NP Climb moves elements out of lower clauses into higher ones but does not cause the moved NP to become grammatically a part of the higher clause (as would Raising).

We shall further claim that this rule was a property of Indo-European and that the pronoun and particle movement phenomena described by Wackernagel's Law are a special case of its operation.

We shall also endeavor to show that the postulation of VSO as the underlying word order for Classical Greek, as for Common Indo-European, will permit a simpler and more unitary statement of the complementation process than would any other possible underlying order.
which require such a device, and its necessity is not explicitly recognized in any current formulation of phonological theory, which in fact tends not to recognize the syllable as a theoretically significant entity.

In this paper I present several examples of syllable counting rules, and show that although rules may be formulated in standard generative theory to "handle" these phenomena, these formulations are inadequate in that they clearly miss generalizations.

Thus "counting" rules must be allowed for in an adequate theory. Having been established, it is suggested that the counting device which is needed can be constrained significantly in three different ways: (1) no phonological rule needs to count very far; (2) the only entities that are counted are syllables (and syllable-like entities such as morae); and (3) it appears that the following very interesting restriction can be placed on syllable counting rules:

Syllable-counting rules are never purely phonological processes but always are rules concerning the occurrence of morpheme alternations. This last restriction is a tentative conclusion based on very limited observation; still it is striking that no counterexamples have been observed. This restriction is all the more reasonable in that there is no obvious reason for it, in fact one might have expected just the opposite.

JORGE HANKAMER and SUSUMU KUNO, Harvard University

The Discourse Cycle

In recent syntactic investigations the existence of a class of post-cyclic rules has often been assumed. This class contains rules which for one reason or another cannot be allowed to apply at all in embedded sentences, or if they do, can be shown to apply only after cyclic rules apply on a higher cycle.

There is also a well-defined class of "discourse-conditioned" rules: a rule is discourse-conditioned if its applicability depends on some feature of previous discourse. For example, the English rule of Topicalization cannot apply in a sentence which initiates a discourse, since one of the conditions of its application is that the topicalized constituent be discourse-presupposed, which amounts roughly to having been previously mentioned. It is impossible to start a conversation with a sentence like

(i) Harry, Sheila hasn’t spoken to for days.

In this paper we propose and defend the following hypothesis:

All discourse-conditioned rules are post-cyclic.

Thus, if this hypothesis can be maintained, the fact that these rules are "post-cyclic" is merely a natural consequence of the fact that their conditions of application cannot be met until the discourse environment of the sentence can be inspected, i.e., under a cyclic theory of rule application, these rules are also "cyclic," but so formulated that they cannot apply until a "discourse cycle" is reached in which the discourse environment of the sentence is in the domain of inspection.

This result raises an interesting question concerning the status of the remainder of the class of post-cyclic rules, i.e., those rules which are post-cyclic but have no discourse conditions. The question is whether there are any clear cases of such rules: if there are none, then the need to distinguish a separate order-type of "post-cyclic" would no longer exist.

We investigate this question, and consider the feasibility of defending the stronger claim that

All post-cyclic rules are distinct from cyclic rules in that they have discourse conditions on their application.

The defense of this hypothesis proceeds by inspecting a large number of rules which have been assumed to be post-cyclic, and showing that either the arguments for post-cyclicity were faulty, or that the rule has a discourse condition.

ALICE C. HARRIS, Harvard University

Psychological Predicates in Middle English

This paper treats a construction (henceforth 'Flip') in Old and Middle English, in which the experiencer of certain psychological predicates appeared in the dative case, instead of being the surface subject as in Modern English. The set of psychological predicates includes like, need, (be) hun-.

The purpose of the paper is to argue that, for Middle English, the experiencers of these Flip verbs must be analyzed as underlying subjects. In order to account for the change from Flip to non-Flip constructions, a perceptual strategy and a diachronic rule of case assignment are proposed.

The first argument for analyzing experiencers as underlying subjects is based on conjoinings like that in (1).

(1) Arthur loked on the sword, and lyked it passynge wel. 1

The verb lyken occurs in Old and Middle English only in Flip constructions, while lyken occurs only in non-Flip constructions. In order to be consistent with other facts of Middle English, we must assume that both the deleted NP

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and the controller NP are subjects at some level.

The second argument concerns the so-called 'objective with infinitive' construction, in which the subject of the complement S appears in the accusative case on the surface. Verbs like smerten required the Flip construction; but for the purpose of this rule, the surface dative (the experiencer) was treated as subject, as in (2).

(2) Hit made him to smert.

In late Middle English a perceptual strategy was introduced, which interpreted as subject NP which directly preceded the main verb; this resulted in a reinterpretation of the experiencer of Flip verbs as subject. A new rule was then introduced, which assigned case (in pronouns) on the basis of position relative to the verb. This rule accounts for the following additional phenomena: the placement of topicaled objects in the nominative case, the use of the nominative in the 'absolute dative' construction, the use of who as object, and the change from accusative with infinitives to nominative with infinitives.

Arguments in favor of a Flip or Psych Movement analysis of Modern English psychological predicates have focused on selection restrictions and verb-NP relations under transformation. Since this paper treats a different set of predicates and brings to bear a new kind of evidence, it is hoped that the paper will contribute to the understanding of Flip constructions.

1. Two morphophonemic innovations in Chicano Spanish

1. Two morphophonemic innovations in Chicano Spanish are discussed that are of relevance to traditional and current issues concerning the nature of morphological and phonological change. It has been widely held that all "true sound changes" -- as opposed to analogical restructuring -- are statable in purely phonetic terms. (The most recent and one of the clearest formulations of this view is given in Joan B. Hooper's 1973 UCLA Ph.D. dissertation "Aspects of Natural Generative Phonology," Ch. 12). A particularly elegant and compelling counterexample to the hypothesis of "purely phonetic" sound change is found in a Chicano innovation whose environment must be stated in both phonetic and morphological terms (see paragraph 2). The second Chicano example discussed bears on the relevance of the paradigm and on the distinction between morphological and phonological environments in the explanations of sound change provided by generative grammar (see paragraph 3).

A shift in the position of stress has occurred in one verb paradigm. This particularly simple and well-documented change demands an insightful description if we are to believe that our grasp of the nature of morpho-phonological change in general is very solid. An analysis is provided whereby the Chicano innovation is associated with a minimal grammatical change of a maximally expected type. The attested change is the most likely one that could have occurred, given that change would occur at all. This result makes a strong case for the particular theory that provides a motivation for the description proposed.

2. Spanish verbs are highly inflected. For all verbs, in all paradigms, in all standard dialects, the inflectional morpheme for first person plural is -mos. The phonetic shape of this morpheme has a venerable history, almost free of change, going back through Latin -mus to IE -mos. In some dialects of Chicano, however, -mos has changed to -mos in some paradigms but not in others; e.g., present subjunctive trabajamnos vs. present indicative trabajamos. The conditioning factor is the phonetic feature of stress.

Morphological properties such as "present subjunctive" are irrelevant, as is shown by subjunctives like dar[n]os, estre[n]os. But the rule governing the m → n alternation cannot be stated in purely phonological terms; the alternation occurs only in the first person plural morpheme, although the phonetic conditions are met elsewhere. A spontaneous innovation occurred in Chicano in which a rule was added to the grammar whose environment contains both phonological and morphological conditions. (All relevant rules are formulated with some care.) No other account is possible; in particular, there were no intermediate stages, and borrowing is out of the question.

3. The position of stress in verb paradigms of all dialects of Spanish follows simple fixed patterns. Chicano differs from standard dialects in exactly one paradigm: in the present subjunctive, standard has penultimate while Chicano has "columnar" stress, e.g.

<table>
<thead>
<tr>
<th>Standard</th>
<th>Chicano</th>
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<tbody>
<tr>
<td>trabaj(e)</td>
<td>trabaj(e)</td>
</tr>
<tr>
<td>trabajamos</td>
<td>trabajamos</td>
</tr>
<tr>
<td>trabajan</td>
<td>trabajan</td>
</tr>
<tr>
<td>trabaja(n)</td>
<td>trabaja(n)</td>
</tr>
</tbody>
</table>

The rule for verb-stress in standard dialects is:

\[ V \rightarrow [+stress] / X[<TV>] / (\langle V_0[1]-ex \rangle \text{CoW})V_0[1]\text{Verb} \]

The Chicano rule is identical except that it does not contain the morphological restriction "TV", which refers to the "theme vowel." Thus the formal correlate of the Chicano shift to columnar stress in this paradigm is the loss of one (morphological) environmental restriction. Any other single change in
the verb-stress rule would have wildly improbable consequences throughout the set of verb paradigms.

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Proper Projection of Presuppositions

Langendoen and Savin (1969) directed attention to what they called the projection problem for presuppositions, i.e., the question of which presuppositions of the constituent sentences are among the presuppositions of a compound sentence. Their answer was the hypothesis that the presuppositions of a compound sentence are the logical sum of its constituents (J. Morgan called it the cumulative hypothesis). It was soon pointed out, however, by Lauri Karttunen that there are numerous and systematic exceptions to this hypothesis. But Karttunen himself nevertheless adopted the hypothesis in principle. To account for the exceptions he formulated a descriptive mechanism that "filters out" certain presuppositions of certain constituent sentences (Karttunen, Presuppositions of Compound Sentences, LI, spring 1973).

Karttunen's solution (as presented in LI as well as recent refinements like the papers presented at the Texas Conference and at the MSSB workshop in Ann Arbor) predicts that in the case of compound sentences of the form A or B, A and B, or 'If A then B'
a) the presuppositions of sentence 'A' are always among the presuppositions of the whole compound sentence;
b) a presupposition of 'B' is filtered out only if it is entailed by 'A' (in the case of the connective and and if ... then) or 'not A' (in case of the connective or).

In my paper I will present a type of sentence that falsifies both predictions of Karttunen's solution. Take for example:

1) Either Bill didn't notice that John stayed at home all the time or John returned secretly to his home after 10 a.m.

According to standard assumptions about verbs like notice and return the first disjunct of (1) presupposes:

C: John was at home all the time while the second conjunct presupposes the negation of C. We can represent sentence (1) schematically as

A (\rightarrow C) or B (\rightarrow \neg C)  

(where \rightarrow means "presuppose")

Since the negation of the first disjunct does not entail \neg C\rightarrow C \rightarrow (i.e., the presupposition of the second disjunct) C is presupposed by (1). But so is \neg C \rightarrow (the presupposition of the first conjunct) which according to Karttunen doesn't get filtered out. Therefore, sentence (1) should suffer from an analytical presupposition failure.

The fact is, however, that sentence (1) presupposes neither \neg C\rightarrow C nor \neg C.

After thus showing the failure of Karttunen's attempt to account for all exceptions to the cumulative hypothesis I will demonstrate that the mechanism of Van Fraassen's supervaluations (or rather a semitruthfunctional simulation proposed by Herzberger (1970) not only handles the projection problem including sentences like (1), but also provides a logical foundation for the description of these data.

The reason why the mechanism of supervaluations is descriptively more adequate is that it specifies the presuppositions of the compound sentence by generating them on the basis of the presuppositions of the immediate constituents, while Karttunen specifies the presuppositions of the compound sentence by filtering out certain presuppositions from the logical sum of all constituent presuppositions. Sentences like (1) are thus crucial evidence against the cumulative hypothesis and filtering.

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Before: The Second Round

Two kinds of before-clauses are usually recognized: factual and non-factual. These are illustrated by the following examples:

(1) a) We saw Harry twice before he came to Austin.
   b) Harry came to Austin.

(2) a) John managed to stop the car before he ran over the cow.
   b) John did not run over the cow.

In (1a) we have a factual before-clause: if (1a) is true, (1b) is true, too. In (2a) the before-clause is non-factual: if (2a) is true, then the negation of the before-clause, (2b), is true. To account for this, it has been suggested (e.g., Lakoff (1971)) that there are two connectives before: one goes with factual complements, the other with non-factual complements. I will try to show in this paper (i) that the division based on the factuality vs. non-factuality of the before-clause is not sufficient, and (ii) that we only need one connective before in the logical structure.

One of the characteristics of sentences that contain a non-factual before-clause is that the speaker considers the corresponding counter-factual conditional to hold (Heinamaki (1972)). The speaker of (2) would be committed to (3).
If John had not managed to stop the car, he would have run over the cow.

However, there are sentences with factual before-clauses that also have a counterfactual conditional connected with them. One example is (4) which has the counterfactual conditional (5).

We had to change the battery before the car would start.

In both (2a) and (4), there is a causal connection between the main clause and the before-clause. The difference is that in (2a), where the before-clause is non-factual, the main clause expresses an event that prevents the before-clause from becoming true, while in (4), where the before-clause is factual, the main clause expresses a necessary condition (makes it possible) for the before-clause to become true. Thus, instead of dividing before-clauses into factual and non-factual, we have (at least) three cases to worry about: (i) sentences like (1a), where the relation between the clauses is purely temporal, i.e., the clauses are causally independent, (ii) sentences like (2a), where there is a causal relationship (of prevention) between the main clause and the before-clause, and (iii) sentences like (4), where the causal connection is one of making the before-clause possible.

It will be shown that in all these cases, including the non-factual case, the connective before expresses a similar temporal relationship. What is special about the non-factual before-clauses is that we are not considering the real outcome, but one possible course of events, which happened to be blocked by the event described in the main clause.

(3) If John had not managed to stop the car, he would have run over the cow.

(4) We had to change the battery before the car would start.

(5) That John claimed, "I am the best boxer in the world," was the best boxer in the world claimed by him.

This paper has two purposes. The first is to offer an alternative answer for the data in Kuno's paper, based on two straightforward principles. The first principle is that there is a tendency in many languages (including English) to place the more important information (sometimes called new information or theme) near the end of the sentence, and to put the information that is known from context (also termed old information or topic) near the beginning of the sentence. The second principle is that a pronoun tends to be used in those instances in which the referent is known. Thus, if a transformation places essentially thematic information (i.e., a pronoun) into a position reserved for rhematic information (i.e., the end of the sentence), strangeness results. This accounts for sentences such as (2a).

The second purpose of this paper is to offer a proposal concerning the use and/or misuse of *, #, ??, etc. in transformational literature. In Kuno (1972), at one point (p. 163)? means grammatical. At another point (p. 170) it means ungrammatical. This is clearly unacceptable. In addition, disagreements in grammaticality judgments abound. It is proposed here that many matters of disagreement are the result of viewing sentences in isolation, and the reading audience often imagines a different context for a sentence than the analysis originally intended. Thus, for any controversial example, the analyst is obliged to provide a complete context.

Reference


JOHN V. HINDS, Tokyo University, University of the Sacred Heart [FRI MORN:6]

Pronouns, passives, and themes and rhemes

In Kuno (1972) an analysis of English pronominalization is advanced which relies on the notion of "direct" versus "indirect" internal feelings in constituent clauses. That is, if (1) is considered to be the underlying structure for both (2a) and (2b), (2a) is unacceptable because the subject of the constituent clause originated as a pronoun and cannot be changed into a full-fledged noun phrase:

(1) John claimed, "I am the best boxer in the world."

(2a) *That John was the best boxer in the world was claimed by him.

(2b) That he was the best boxer in the world was claimed by John.

This paper has two purposes. The first is to offer an alternative answer for the data in Kuno's paper, based on two straightforward principles. The first principle is that there is a tendency in many languages (including English) to place the more important information (sometimes called new information or theme) near the end of the sentence, and to put the information that is known from context (also termed old information or topic) near the beginning of the sentence. The second principle is that a pronoun tends to be used in those instances in which the referent is known. Thus, if a transformation places essentially thematic information (i.e., a pronoun) into a position reserved for rhematic information (i.e., the end of the sentence), strangeness results. This accounts for sentences such as (2a).

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In Kuno (1972) an analysis of English pronominalization is advanced which relies on the notion of "direct" versus "indirect" internal feelings in constituent clauses. That is, if (1) is considered to be the underlying structure for both (2a) and (2b), (2a) is unacceptable because the subject of the constituent clause originated as a pronoun and cannot be changed into a full-fledged noun phrase:

(1) John claimed, "I am the best boxer in the world."

(2a) *That John was the best boxer in the world was claimed by him.

(2b) That he was the best boxer in the world was claimed by John.

This paper has two purposes. The first is to offer an alternative answer for the data in Kuno's paper, based on two straightforward principles. The first principle is that there is a tendency in many languages (including English) to place the more important information (sometimes called new information or theme) near the end of the sentence, and to put the information that is known from context (also termed old information or topic) near the beginning of the sentence. The second principle is that a pronoun tends to be used in those instances in which the referent is known. Thus, if a transformation places essentially thematic information (i.e., a pronoun) into a position reserved for rhematic information (i.e., the end of the sentence), strangeness results. This accounts for sentences such as (2a).

The second purpose of this paper is to offer a proposal concerning the use and/or misuse of *, #, ??, etc. in transformational literature. In Kuno (1972), at one point (p. 163)? means grammatical. At another point (p. 170) it means ungrammatical. This is clearly unacceptable. In addition, disagreements in grammaticality judgments abound. It is proposed here that many matters of disagreement are the result of viewing sentences in isolation, and the reading audience often imagines a different context for a sentence than the analysis originally intended. Thus, for any controversial example, the analyst is obliged to provide a complete context.

Reference

of grammars as non-rule governed (i.e., suppletive) alternations.

The question remains: Are there, then, any sets of subregularities which can be characterized explicitly, but which, nevertheless, are not in principle to be made the subject of rules? If so, then such putative M-rules as defricativization (in the pairs father/ paternal, mother/maternal, foot/ pedal, thin/tenuous etc.) and stop voicing (in such pairs as two/dual and eat/ edible) could be disallowed. An initially attractive hypothesis is that an admissible morphological process must be by itself the sole representation of some morpheme. If this hypothesis were to hold, we would admit unvowel in English did and breadth as a redundant marker because umlaut occurs independently as the sole morphological marker in goose, mice, etc. This hypothesis would disallow defricativization and stop voicing since neither of these processes is the sole representation of any morpheme in any systematic way.

Some of the consequences of this hypothesis are, however, undesirable. Such formatives as the Sanskrit na conjugation marker, which is never the sole marker of anything, could not be considered a classifier. Na would have to be listed repeatedly in the lexicon with every root with which it occurs. But to do so is to deny that there is a na class and to assert instead that there are a large number of roots which accidentally take na in conjugation. In fact, the description of any language with a complex system of conjugation and/or declension markers along with a full set of inflectional affixes will be unacceptable to most linguists if this hypothesis is maintained.

We are thus led to reject this hypothesis and have been unable to formulate any plausible alternative. We will, therefore, include such rules as defricativization and stop voicing among the English M-rules since we can find no principled way to exclude any subregularity from being the subject of a rule. In the absence of a principle, the burden of proof falls upon those who have claimed that certain possible generalizations for subregularities should not be admitted as rules.

Meredith A.B. Hoffman, University of California, Berkeley [SUN AFT:2]

Focal Vowels?

This paper is a report on an experiment to determine if there are "focal vowels" which are the same for speakers of all languages, irrespective of the vowel phonemes in the language or of their distribution. The existence of perceptually salient focal vowels will be shown to have implications for theories of language acquisition and language change. Methodologically, the concept of the focal vowel can be used in empirical investigations of the acquisition and structure of phonemic systems.

The concept "focal vowel" is analogous to that of "focal color" (Berlin and Kay, 1969; Heider, 1971, 1972). Berlin and Kay show that regardless of the number of basic color terms in a language, the focis of color areas are restricted to the same small areas of the color space. They further hypothesize that there is a hierarchy of acquisition of color terms cross-culturally. This hierarchical relationship can be compared with the order of acquisition of phonemes and with various phonemic implicational universals (Jakobson, 1941; Greenberg 1963). There is also circumstantial evidence concerning the existence of focal vowels in the literature on perception of speech sounds (Chiba and Kajiyama, 1961; Peterson and Barney, 1952; Delattre, Liberman, Cooper and Gerstman, 1952).

The Peterson and Barney figures were used to synthesize a set of "focal vowels", which were then systematically distorted. In the first experiment subjects were asked to identify each of the focal vowels and the distortions. This serves two purposes: it validates the Peterson and Barney figures and serves as a preliminary test for the salience of the focal vs. the distorted stimuli. The prediction is that focal vowels will be identified significantly more often as the same vowel than non-focal vowels. The second experiment will present pairs of stimuli, one focal vowel and one distortion, and subjects will be asked to indicate which is the "best example" of the stimulus (cf. Heider, in press). The prediction is that subjects will find the concept "best example" a workable one, and that they will show a significant choice of the focal vowels as "best examples", even when the distortions are well within the phonetic variation of the phonemes of their language.

If there are focal vowels, i.e., areas of the vowel space which have perceptual saliency across languages, this would to some extent explain the tendency toward symmetrical phonemic systems and the existence of push-chains and drag-chains. The existence of focal vowels can be linked to the order acquisition of phonemic contrasts in child language, and the regularities of implicational universals of vowel systems. Operationally, if focal vowels exist, then a number of experiments based on paradigms in cognitive and perceptual psychology may be adapted to explore the speaker/hearer's implicit knowledge of his phonemic system, the effects this knowledge has on perception and production, and ultimately to an empirical, cognitive-perceptual basis for universals of language acquisition and change.
An important device for discovering phonological information involves the use of word games. For example, CONKLIN (1956), HAAS (1957, 1969), NURKING (1970), SHERZER (1970) and HOMBERT (1973) give examples of what kinds of information can be derived from word games used in various languages.

In this paper I shall present the results of experiments done with native speakers of African languages (Bakwiri, Dschang, Igbo, Yoruba) and Asian languages (Cantonese, Taiwanese, Thai). To be able to make a comparative study, I did not use existing word games but rather taught my informants the rules of an experimental word game.

Each informant was asked to manipulate bisyllabic words of his native language. In the first experiment, each subject had to transpose vowels (the vowel of the first syllable was moved to the second syllable and vice versa: \( C_1 V_1 C_2 V_2 = C_2 V_1 C_1 V_2 \)); in the second experiment, syllables were interchanged (\( C_1 V_1 C_2 V_2 = C_2 V_1 C_1 V_2 \)). Such simple manipulations can provide a wide range of linguistic information - for example, information about syllable structure, as shown by SHERZER (1970) or about glides [HOMBERT (1973)].

But most important of all, such word games provide important insights into one of the hotly debated issues in the framework of generative phonology - the controversy over whether tone should be represented as a segmental or as a suprasegmental feature. McCAWLEY (1964) and WANG (1967) adopt the syllable as the domain of tonal features, but SCHACHTER and FROMKIN (1968), WOO (1969), MADDERSON (1971) argue for a suprasegmental representation.

Our study shows that tone in African languages behaves in a different way from tone in Asian languages and consequently the representation of tone should be handled differently in these two groups of tonal languages. The African speakers did not move the tones in either the first experiment, i.e., vowel switching game, nor in the second experiment, i.e., syllable switching game; e.g., 'to be thin' lungá = langú (word game 1) examples = ngáld (word game 2) from Bakwiri

But the Asian speakers moved the tones with the vowel, i.e., word game 1, and a fortiori with the syllable, i.e., word game 2, e.g.:

'I want to go' bákél = bikké (word game 1) examples = kléé (word game 2) from Taiwanese

This seems to provide evidence that tone (and sometimes vowel length, as in the Bakwiri case) should be analyzed as a suprasegmental feature in certain languages but as a segmental feature in others.
The reflexive particle, *si*, occurs in a large number of Italian sentences such as (1) and (2) where it is not interpreted as a reflexive:

(1) le finestra *si* ruppe
the window broke

(2) le mele *si* vendono al mercato
the apples (are) sold at the market

Example (1) corresponds to an English sentence with an intransitive verb. We do not want (1) to have an intransitive deep structure, however, for this would necessitate arbitrarily inserting *si* by means of some type of structure building rule. We must also explain the fact that such a rule must not apply to sentences containing true intransitive verbs such as the following:

(3) i fiori (*si*) crescono
the flowers are growing

Rather, *si* occurs only in sentences containing verbs such as rompere, 'break' which can occur as transitive verbs and only in case the sentences contain only one lexical NP. The latter fact is illustrated by example (4) below:

(4) Giovanni (*si*) ruppe la finestra
John broke the window

We do not want (1) to be underlyingly reflexive for this would give the wrong interpretation for it.

In sentences like (2), the lexical NP is the semantic object of the verb vendere, 'sell', which like rompere can also occur in a transitive sentence, in which case no *si* appears:

(5) Luigi (*si*) vende le mele
Louis sells the apples

We can further distinguish between examples (1) and (2) in that (1) excludes certain adverbials which can occur in (2):

(6) *la finestra si ruppe inavvertitamente
the window broke inadvertently

(7) le mele *si* vendono inavvertitamente
the apples were sold inadvertently

An explanation will be given for these facts by deriving (1) and (2) from structures (8) and (9) respectively:

\[ S'_{NP}(1a \_finestra)_{NP} \backslash\backslash(V(p)_{\backslash\backslash(\text{rompere})_V \_NP}^{\_NP}(\_\_NP)_{VP})_S \]

\[ S'_{NP}(\_\_NP)_{NP} \_NP(V(p)_{\_\_NP}^{\_NP}(1e \_mele)_{NP}^{\_NP}_)_S \]

where \( \_\_ \) represents an unlexicalized node which must be filled at some stage in the derivation. Two rules apply to accomplish this: one which copies a pronominal copy of the subject into object position in structure (8), and one which moves the object to subject position in structure (9) leaving a pronominal copy behind. The pronominal copies, occurring in the same clause as their coreferent NP's are ultimately realized as reflexives.

The analysis thus explains the distribution of the non-reflexive *si* as reflected in the above examples. By having \( \_\_ \) nodes present in the deep structures of sentences (1) and (2), it is not surprising that the proposed copying rules should exist, there is no need for a structure building *si*-insertion rule, and due to the nature of copying rules it is no accident that *si* and no other morpheme, appears. Moreover, we can attribute the occurrence of *si* in examples like (1) and (2) to the fact that, in both cases, a sentence containing a verb which can take two lexical NPs lacked one such NP at the deep structure level. The data in Italian also call into question the universality of Jackendoff's treatment of transitive and intransitive verbs of the 'open' class in English, of which 'break' is a member.

**Perceptual and Orthographic-Phonological Analysis of Spelling Strategies**

Advances in phonological theory since publication of *Sound Pattern of English* (1968) have greatly increased understanding of the correspondences between the orthographic and phonological systems of this language. Native English speakers' conception of orthographic rules, and their strategies for spelling, bear importantly on the psychological reality of Chomsky/Halle underlying forms (as per SPE). Spelling is also an important if problematic school subject, as witness the number of people claiming to be poor spellers. Nevertheless knowledge of English spelling strategies has not advanced appreciably in recent years. The present paper attempts to remedy this paucity of new information on a topic both theoretically and practically significant.

During the last several years I have conducted five studies on components of the spelling process, and am now conducting a sixth. The researches center on the hypothesis that someone will produce a correct orthographic token of the phonological shape of the given type as he perceives it. I have investigated separately the relationship of this spelled-token production to SES; short-term memory (measured by digit-span); confidence judgments on each token; intra-person consistency of error number and type; and gross perception (tested by repetition). Although the topic is too complex to permit summation here, the paper will present some of my conclusions (Example: Short-term memory correlates with no. of errors, a negative correlation of about -.8, for subjects with digit-span below about 5.5. For subjects with d-s above this figure the
correlation drops to around -.3). Other conclusions, and the results of the study now in progress, will be discussed.

On the theoretical aspects of this topic: if English orthography corresponds well to underlying forms, like that of most languages having orthographies; and if underlying forms represent some internalized psychophonological dictionary; and if (as must follow) orthographic form is well predicted by underlying systematic-phonological representation; then clearly native speakers are expected to conform to the hypothesis above, i.e., be able to produce good orthographic tokens of novel English-word types, at least to the limits of short-term memory. To the extent that subjects do not do this — which in general they do not — then either perceptual factors are intervening, or psychological generation of orthographic/phonological forms is more ambiguous than is currently believed. Put more simply, to hear, remember and write some new English word, a person presumably develops a systematic-phonological representation of it. SPE and other recent works indicate the rather highly-determined nature of such forms. But this theory is in conflict with the existence (and, I will show, the precise nature) of repeated spelling 'error' I will go into the implications of this for psycholinguistic/phonological theory in my paper.

Two possibly peripheral issues will also be covered, time permitting, namely development of a system for determining number and class of errors in a spelled token — the most difficult part of the research — and appearances of "dyslexic" manifestations in spelled sequences of 6th graders (the subjects for one of the five studies, that on SES; all other subjects were college students).

IRWIN HOWARD, University of Hawaii

Why 'Principle A' Deserves a 'C' [FRI AFT:3]

In SPE, Chomsky and Halle proposed that a phonological rule is applied simultaneously to all places in a string where its structural description is met. Several recent theories take issue with this claim, contending instead that at least some phonological rules must be allowed to apply to their own outputs. These alternative theories differ significantly, however, in their claims as to precisely how this iteration takes place.

Jensen and Stong-Jensen (1973a, 1973b) argued that the theory of rule application proposed in Howard (1972) is inadequate and presented an alternative based upon a principle referred to as Principle A. In the latter article, they also criticized the position taken in Kenstowicz and Kissberth (1972) that the principles governing rule application are essentially the same as those governing rule ordering.

The purpose of this paper is twofold: (1) to demonstrate that the positions taken by Howard and by Kenstowicz and Kissberth, though phrased in different terms and justified in different ways, are compatible and complementary; and (2) to provide empirical evidence against Principle A.

References:


HSIN-I HSIEH and AGNES CHENG, University of Hawaii

Syntactic Compression and Contrastive Syntax [SAT AFT:4]

In Mandarin, sentences differing in form but having like interpretations may sometimes be systematically described if we treat them as derived from identical basic conjoined or embedded constructions through different syntactic compressions.

Examine the following Chinese sentences (c1 through c7) and compare them with their English counterparts (el through e7):

(c1) ta shi congmingde she shi shi ling ren jingqi.
    (he is wise this fact make people surprised)

(e1) (The fact) that she is wise is surprising.

(c2) nanshi ling-ren-jingqi-de ta shi congmingde.
    (it is make-people-surprise-ly she is wise)

(e2) It is surprising that she is wise.

(c3) ling-ren-jingqi-di, ta shi congmingde.
    (make-people-surprise-ly she is wise)

(e3) Surprisingly, she is wise.

(c4) ta shi congmingde she shishi bu ling ren jingqi.
    (she is wise this fact not make people surprised)

(e4) The fact that she is wise is not surprising.

(c5) bu ling-ren-jingqi-de, ta shi congmingde.
    (not make-people-surprise-ly, she is wise)
Since cle or containing a negative affix (cf. c2), all of these sentences are acceptable. However, the latter sentences is permissible. In contrast, the English counterparts of those sentences are all acceptable. The following points of difference between Chinese and English are observed:

1) Extraposition is allowed in English but not in Chinese. This may well be correlated to the fact that the head-noun is followed by the factive complement in English but is preceded by it in Chinese.

2) In Chinese, when a higher sentence is negated (as in c4), it is prohibited from being compressed into an adverb preceded by a negative particle or containing a negative affix (cf. c5 & c6). In English, the former restriction generally does not hold and the latter is showing signs of relaxation (cf. e6).

3) In Chinese, a higher sentence can be reduced to a sentential adverb (cf. c3). In English, it is compressed into a lexicalized adverb (cf. c3). Since sentential adverbs are easy to create but lexicalized adverbs are restricted by usage, adverb compression is sometimes more productive in Chinese than in English. Thus, the adverb clause in (e7) cannot be compressed. This, however, is done in (e7) by compressing the clause into a sentential adverb.

The obvious question is why such a situation should obtain. The answer seems to involve the unique articulatory make up of the glottalic segments. Whereas all other segments require for their description a specific statement about the state of the oral articulator, the glottalic segments leave these articulators free. Consequently, the oral articulators typically assume a configuration similar to that of a neighboring segment. Total assimilation usually follows upon loss of the glottalic constriction.

Specific examples of such phonological assimilations are cited from among other languages, the Argentinean and Chilean dialects of Spanish, Ancient Greek, Finnish, and Mandaic.

GEORGE HUTTAR, Summer Institute of Linguistics

Sources of Creole Semantic Structures

It is well known that the "reflexes" of European (English, French, Portuguese, etc.) etyma in modern creoles often retain the central meaning of those etyma while diverging greatly from them in their extended meanings. Possible sources of the specific directions these divergences have taken are:

1) language near-universals from which the European languages have deviated;
2) pidgin/creole universals;
3) the non-European languages involved in the contact situations that led to the development of a particular creole (e.g., "African substratum");
4) non-European cultural traits;
5) other (e.g., Amerindian) languages in contact with the pidgin/creole-speaking group after the initial period of contact with the European language(s) involved.
This paper describes initial research on the sources of semantic structures in Djuka, an English-based creole of Surinam.

The areas of meaning of 20 morphemes (10 nominals, 10 verbals) in Djuka were compared with those of the corresponding morphemes in 38 other languages, including (1) other Caribbean creoles, both English- and French-based; (2) West African pidgins and creoles; (3) other pidgins and creoles; (4) other languages of West Africa; (5) Cariban and Arawakan languages; (6) various unrelated languages.

The data obtained on each of the six types of languages were compared statistically, and some of the languages were considered individually as well, in terms of the factors mentioned in the first paragraph. The evidence so far, although not homogeneous, indicates that the West African origin of Djuka has more to do with its present semantic structures than does any of the other factors mentioned, including putative general features of creoles. Non-Atlantic creoles resemble Djuka in this respect no more than do unrelated languages of various families around the world. Considering that creoles generally exhibit unusually wide areas of meaning for their restricted number of morphemes, this lack of correspondence between Djuka semantic structures and those of other, non-Atlantic pidgins/creoles is all the more striking.

Although the interpretation of this finding is confused by processes of post-creolization in some cases, it may still be concluded that the data do not support the hypothesis of a common, subsequently relexified source for all European-based pidgins and creoles.

LARRY M. HYMAN, University of California, Berkeley

How do Natural Rules Become Unnatural?

While there has been considerable interest in natural rules in phonology, relatively little attention has been paid to the means by which such rules lose their naturalness. In this paper I propose to look at three mechanisms which cause natural phonological rules -- i.e., rules which have phonetic plausibility -- to become phonetically implausible, as follows:

1) telescoping - the loss of an intermediate stage in a derivation; thus, if a language has a natural rule A → B and later acquires a natural rule B → C, the resulting synchronic reflex of these two rules may be A → C, which may not necessarily be in itself natural

2) morphologization - a rule A → B / X changes so that X is no longer a phonetic environment, but rather a grammatical one, either a boundary or some category; since the rule now becomes morphologically conditioned it is no longer phonetically plausible

3) rule inversion - a natural rule A → B / X is inverted so that A is now derived from B in the complement of the environment X, i.e., B → A / X, which is not phonetically plausible

While I show that natural rules enter into the phonology through the "phonologization" of universal intrinsic properties of sounds and sound sequences, once these rules do become part of the phonology (i.e., language-specific), they are subject to the above three tendencies.

It is suggested that morphologized and inverted rules, which are phonetically unmotivated, have a naturalness of their own, and given certain circumstances will in fact be preferred by speakers over phonetically conditioned rules. Finally, the ultimate loss of rules (whether natural or unnatural) is discussed, the resulting state being the "lexicalization" of alternating allomorphs.

All of the above concepts (phonologization, telescoping, morphologization, rule inversion and lexicalization) are illustrated with numerous examples from well-known European languages (English, French, German), as well as from a number of West African languages which I have personally investigated in the field (Igbo, Bamileke, Njue).

DAVID E. IANNUCCI, University of Utah

Numic Medial Consonant Processes: An Historical View

Sapir's analysis of Southern Paiute medial consonant processes, in his Southern Paiute grammar and elsewhere, has been subject to an abundance of synchronic reanalysis. This paper puts the above phenomenon in its historical context. Proto-Numic consonant segments are reconstructed on the basis of comparative data from Mono, Northern Paiute, Panamint, Comanche, Shoshone, and Southern Paiute.

Proto-Numic medial ( intervocalic) consonants are reconstructed to include /~C-/ and two consonant clusters, /~NC-/~ and /~bC-/. This three-way distinction for medial consonants accounts for: (a) a series of morphophonemic alternations at morpheme boundaries, and (b) an analogous series of consonant contrasts in morpheme-internal position. Medial /~C-/ can be regarded --
as in the modern languages -- as a 'spirantized' (intervocalic lenition) variant of the plain initial consonant. */m/ combines only with a following stop or nasal, thus producing a prenasalized stop or long nasal. In */h-Cl/- clusters, */h/ is viewed as a generalized consonantal segment which has features of aspiration and fortissimness associated with it (either or both transferring to a following consonant), and is also hypothesized as being a crucial conditioning factor in the devoicing of Proto-Numic vowels. It combines with the stops (*/p t c k kp k/), nasals (*/m n ng n/), */y/ and */w/, but not with */s/ and */h/ -- the latter two must be viewed as totally outside of the three-way distinction. Morpheme-final */h/ and */n/ are deleted if: (a) a following consonant is neutral to their transitional effect (does not combine with them), (b) the following segment is a vowel, or (c) in word-final position, although word-final */h/ may be retained as devoicing of the preceding vowel.

The historical development of the three-way medial consonant distinction is roughly as follows. */h-Cl-/ and */-Cl-/ merge into Momo and Northern Paiute geminate consonant. Comanche merges */-Cl-/ with */-C-/, with the result that Comanche segments being realized as plain (not spirantized) consonants, with the following exceptions: (a) the bilabial stop, where the Proto-Numic distinction is maintained as a plain versus spirantized stop, and (b) the alveolar stop, because of a split of */t-Cl-/ into (plain) */t/ and (spirantized) */r/, */h-Cl-/ is generally reflected in Comanche as a preaspirated consonant. In Shoshone and Panamint, */h-Cl-/ splits into a preaspirated series and a geminated series (Comanche may have an analogous split, but the details are not all clear to me). Southern Paiute retains the original Proto-Numic three-way distinction, with */h-Cl-/ being reflected as a geminated consonant.

Finally -- and back to modern Southern Paiute -- it will be argued that the comparative data (including more phonetic detail than above) suggest that Southern Paiute 'geminating' stems can best be viewed as ending in the specific systematic phoneme */h/; as opposed to setting up a 'generalized' obstruent as the stem-final segment (see Chomsky and Halle's discussion in SPE, pp. 345-347).

Phonological data are presented from two young children, one French and one English, who both manifest a process of FRONTING in their phonological development. FRONTING is defined as a process whereby the child orders the sounds in his words from those produced in the front of the mouth to those produced in the back. While FRONTING at first appears an uncommon strategy for phonological acquisition, an examination of its implied universals suggests that FRONTING at some more basic level may represent a general phonological process. Specifically, FRONTING suggests that a marked or unmarked relationship exists between the initial and final consonants of a CVC syllable dependent upon the adherence of their order to FRONTING.

From this, it is predicted that children would have greater difficulty acquiring words that violate FRONTING than those that do not. Data are given which suggest that such is the case. In addition, it is proposed that back consonants are less marked in final consonants than more fronted ones and evidence is presented that children acquire final back stops in CVC syllables before final apical or labial ones. A final discussion treats counterevidence and some conclusions about FRONTING.

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DAVID INGRAM, University of British Columbia

Fronting in Child Phonology

Phonological data are presented from two young children, one French and one English, who both manifest a process of FRONTING in their phonological development. FRONTING is defined as a process whereby the child orders the sounds in his words from those produced in the front of the mouth to those produced in the back. While FRONTING at first appears an uncommon strategy for phonological acquisition, an examination of its implied universals suggests that FRONTING at some more basic level may represent a general phonological process. Specifically, FRONTING suggests that a marked or unmarked relationship exists between the initial and final consonants of a CVC syllable dependent upon the adherence of their order to FRONTING.

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KYO KO INOUE, University of Michigan [FRI MORN:6]

Some Observations on a Japanese Present Perfect Form -ta koto ga aru

In "Tense and Time Reference in English," McCawley gives the following sentence as an example of the existential present perfect in Japanese -

Tanaka-san wa hon o kaita koto ga aru translated into "Mr. Tanaka has written books." By 'existential,' McCawley means 'time' is existentially quantified, e.g., the sentence above can be rephrased into 'there exists times when Mr. Tanaka wrote books' in an informal fashion. The opposite of 'existential' is 'universal'; that is to say, a sentence such as John has been waiting for two hours can be rephrased into 'for all times between t1 and t2, John has waited.' As an example of the universal sentence, McCawley gives Goji kara mat-te i-ru translated into 'They have been waiting since 5:00.'

In this paper, I would like to show that the form -ta koto ga aru in Japanese is not a simple 'existential' form as McCawley claims it to be, but it is ambiguous in two ways, namely, in one reading, the so-called 'existential' morpheme ar is a two-place predicate meaning 'have' and in the other, it is a one-place predicate meaning 'exist'. Not only that, the choice of one reading from the other is determined by the postpositional particle wa and ga attached to the first NP. Wa, the thematicization particle, appears only in the have-reading, but a sentence with ga can either be existential or possessive. To go back to McCawley's sentence, it means something like "Speaking of Mr. Tanaka, he has had the experience of writing books" rather than "Mr. Tanaka has written books."

The sentence with have-reading also has an interesting constraint in that the embedded sentence must describe an activity which can be repeated,
that is to say, we can say Dan wa sensō de ashi no hone o otte koto ga aru
"Speaking of Dan, he has had the experience of breaking a leg-bone in the
war" because breaking a bone is an experience which one can repeat under
some unfortunate circumstances. We cannot say, however, Dan wa sensō de
migi-no ude o nakushita koto ga aru "Speaking of Dan, he has had the expe-
rience of losing his right arm in the war" because an arm once lost is not re-
coverable, therefore, the experience of losing an arm is not repeatable.

Finally, it appears that the notion of 'present relevance' which is
significant in the English present perfect sentences, e.g., My mother has
changed my diaper many times is appropriate only if the speaker still wears
diapers and that his mother has and will have chances to change his diapers
many more times, does not seem quite relevant in Japanese. In Japanese, -ta
koto ga aru can be used in a sentence such as Kawabata wa Nobel Prize o
moratta koto ga aru "Speaking of Kawabata, he has had the experience of
receiving a Nobel Prize" although he is no longer alive and cannot receive any
more prizes. This opens up a difficult question of the meaning of the
'present perfect' in Japanese. Is the form -ta koto ga aru correctly named
'present perfect'? I claim, tentatively, that it can only be called 'perfect'.

GEORGETTE IOUP, Graduate Center of CUNY
[SHI MORD:
Grammatical Relations as a Parameter of Relative Quantifier Scope

Where two quantifiers are concerned, most linguists follow the views of
logicians (e.g., Reichenbach, 1947) and explain scope variation within a
simple sentence on the basis of the relative order of the quantifiers: the
one which is leftmost in the surface structure is interpreted with highest
scope. This paper argues that in natural language, order has little to do
with the determination of quantifier scope, but that it depends largely on
the grammatical relations of the quantified NP's which interact. Evidence
to support this claim is based on data collected from a large number of
languages. A hierarchy of grammatical relations is established resembling
in many ways the principle of rank recently proposed by Postal (1973), and
Keenan's hierarchy of accessible NP positions (Keenan, 1972).

Examples where the scope assignment is exactly opposite that predicted
by the left-right order hypothesis are presented. In the following English
sentences it is the rightmost Q which is assigned highest scope.

(1) I hit some balls with a bat.
(2) Selma bought several books for a friend.

(3) She took a picture of each child.
(4) Ethel has a dress for every occasion.

Additional examples will be presented from Hebrew, Arabic, Iranian, Greek,
Telo, Yoruba and Turkish.

These data are explained by the fact that certain grammatical positions
have a greater tendency to be assigned higher scope than others. The follow-
ing hierarchy of grammatical relations is established (where '>' reads
'greater tendency to higher scope').


HERBERT J. IZZO, University of Calgary
Tuscan Reflexes of Latin Voiceless Stops

Standard Italian, which is essentially the later pan-Italian development
of upper-class fourteenth-century Tuscan (chiefly Florentine), preserves
voiceless intervocal stops of Latin in some cases (e.g., Lat.
dico, Ital. dico) but voices them in others (e.g., Lat. strata, Ital. strada).
When Neogrammarian explanations (e.g., Ascoli, Meyer-Lübke) of the double
development as due to conditioning factors (place of stress, differences in
surrounding vowels) proved impossible, two diametrically opposed explanations
remained, and they remain to this day.

One group of scholars, running from J.T. Clark (in 1903) through the
late Clemente Merlo to R. Urciolo (a long monograph in 1967) maintains that
voicing is the normal evolution and that the cases of non-voicing are due
to learned influence, the result of the preservation of Classical Latin forms
in church and school and generally among the literate.

The opposing group, going from Silvio Pieri (in 1904) through Gerhard
Robitsch to P. Tekavčić (latest comment in 1972), claims that voiceless stops
normally remained voiceless and that the instances of voicing are borrowings
from north Italian dialects, in which voicing is regular.

This paper reviews the arguments that have been offered in support of
both views and presents new evidence from popular Tuscan speech, from Tuscan
toponymy, and from the earliest non-literary Tuscan texts, all of which show
that the preservation of voicelessness is indigenous and that it is voicing
that must be attributed to external influences.
Halle and Keyser (1971) make the claim in their Main Stress Rule (MSR) that bisyllabic English words with un nested constituent structure and a tense last vowel in their underlying representation always have final stress and never take a 13 stress contour. As exceptions to this claim, Halle and Keyser (1971:63) present a list of 24 bisyllabic nouns, e.g., argyle, envoy, satire, which they characterize as irregular. A list of regular items is also presented (p. 64).

This claim was tested in two separate experiments by presenting a set of 48 nonsense items in sentence contexts to a total of 34 native speakers of English, approximately equally divided by sex, to see whether the items would be stressed as Halle and Keyser predict. Most of the nonsense items used were orthographically similar to words in Halle and Keyser's regular and irregular lists referred to above, and for the other items an effort was made to have the orthography suggest the presence of a tense underlying last vowel, e.g., pelcoze, garfile, amprete, hastoy, etc. In addition, for the second experiment nine and five items were taken from a French and German dictionary respectively and included in the experiment to test whether the etymological source of an item might have an effect on its assigned stress contour. Justification for the use of nonsense items in the experiment can be found in Ross (1972:245n.).

Results of the two experiments ran significantly counter to Halle and Keyser's prediction, with 75% of the nouns, 64% of the verbs, and 77% of the adjectives receiving non-predicted stress in the first experiment, and 77%, 66%, and 77% of the respective parts of speech receiving non-predicted stress in the second experiment. That is, these percentages of items were assigned non-predicted stress, all of which they characterize as irregular. A list of regular items is also presented (p. 64).

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of interjections with other grammatical phenomena can reveal hitherto un-noticed, and sometimes mysterious, characteristics of those phenomena.

HECTOR JAVKIN and JOY CHUCK, University of California, Berkeley

Perceptual Confusions Between Palatal Affricates and Non-palatal Stops

Work in sound change suggests that palatal consonants are most likely to develop from velar and alveolar stops when these stops precede /i/, /e/, or /u/. This process can be partly explained in terms of a simple articulatory assimilation but it is also necessary to look at the perceptual effects of that assimilation. An experiment was conducted to determine the ordering of the palatalizing influence of six English vowels. This ordering should be reflected in perceptual confusions between the consonants /t/ and /k/ and the palatal affricate /tʃ/ when these are spoken in the environment of the different vowels. A recording was made of nonsense syllables consisting of /t/, /ʃ/, and /k/ preceding the vowels /i/, /e/, /æ/, /a/, /u/ and /ɪ/, each spoken four times by a speaker reading from a randomized list. This was mixed with pink noise to produce stimulus tapes with signal-to-noise ratios of -6, -9, and -12 dB. The tapes were played to subjects who were asked to identify the first sound in each syllable as "t", "ch", or "k".

The speaker and subjects were native speakers of American English. Although the experiment has not been completed at the time of submission of this abstract, the authors expect that, among the vowels with the greatest palatalizing effect, the number of confusions with the palatal affricate occur most often when /k/ precedes /i/, somewhat less often when it precedes /e/, and less often still when it precedes /u/, but that the order is /u/, /ɪ/, /e/ in the case of /t/.

ROBERT J. JEFFERS, Ohio State University

Hittite Conjunctions

Non-enclitic Hittite conjunctions can be separated into at least three classes on the basis of the position each can hold within a clause: (1) conjunctions which occur almost invariably in clause initial position (e.g., nu, mahban). Enclitic particles are generally attached to such clause-introducers; (2) conjunctions which may occur in clause initial position, but need not (e.g., kuitman); (3) conjunctions which rarely (if ever) open a clause, occurring at some point within the clause, often after a conjunction of types (1) or (2) and its associated string of enclitics.

There have been some attempts to classify these conjunctions on the basis of semantics, and the nature of the inter-clausal relationship with which a given conjunction might be associated (e.g., Friedrich 1960:155 et passim). However, in most of the literature, especially dictionaries and translations of texts, nuances of semantic differentiation are disregarded. mahban, kuitman, kuwapi, and kuit are all often translated as 'when', without any further discussions of distinctions in the usage of each.

An ongoing analysis of the texts has suggested to me that fairly clear-cut semantic differences exist, and moreover, that certain kinds of semantic distinctions are associated with the positional classes. While type (3) seems to represent straightforward indefinite/advertorial sentence connectors, each of the conjunctions of types (1) and (2) appear to be associated with a specific set of temporal-aspectual notions. (Hittite alone among the ancient Indo-European dialects does not extensively incorporate such information in the derivational and inflectional system of the finite verb.)

The three sentences which follow exemplify general patterns of usage. In (1) the indefinite usage of kuwapi is to be noted; in (ii) note the per-fective relationship associated with mahban; (iii) shows the use of kuitman in the context of an imperfective relationship.

(i) uš-kän-zi-ma İŠ-TÜ-MÛŞEN nu ku-wa-pî MÛŞEN,HI.A SIG -ah-ha-an-zi na-at an-da URU-ri-ya pa-a-an-zi. (Anniwiyān 2.24-26)

However, they take observations by means of birds, and when(ever) the birds give favorable omens, they enter the city.

(ii) GIN-an-ma-kän ŠES-YA NIR.GAL-îš ut-tar kat-ta a-us-ta...nu-mu EGIR-şä da-a-aš. (Apology 1.22-24)

When, however, my brother Muwattallis came (had come) to understand the matter,. he took me back.


And while I was still a child (and) was groom, My Lady Ishtar by means of a dream sent to my father Mursilis my brother Muwattallis.
JOHN T. JENSEN, University of Colorado

How Abstract is Abstract?

Since the non-publication of Kiparsky's *How abstract is phonology?*, linguists have revised their thinking about the relationship between rules and underlying forms. While most linguists accept the premise that "abstractness" is to be kept to a minimum, a number of papers have argued for a greater degree of abstractness than is allowed by Kiparsky's "alternation condition," including Kisseberth on Yawelmani, Jensen on Hungarian, and Hyman on Nupe. Other papers have defended a strict interpretation of the alternation condition, notably Crothers and Harms. I will not defend either of these positions, but rather try to clear up some of the confusion involved in the abstractness issue itself. I will show that Kiparsky's paper defends at least four distinct interpretations of abstractness, which I call the Recoverability Condition, the Subset Condition, the Condition of No Absolute Neutralization, and the Segment Paradigm Condition. The papers defining various degrees of abstractness have proposed three other, somewhat weaker conditions in line with Kiparsky's desire to limit abstractness to that which can be empirically justified. These are the Feature Paradigm Condition, the Feature Subset Condition, and the Nonarbitrariness Condition.

I analyze a number of "abstract" analyses in the light of these seven criteria, as in the following table.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Jensen Hungarian</th>
<th>Esztergar Hungarian</th>
<th>Harris Spanish</th>
<th>English</th>
<th>Hymen Nupe</th>
<th>Harms Nupe</th>
<th>Kisseberth Yawelmani</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recoverability</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
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<tr>
<td>Subset Cond</td>
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<td>YES</td>
<td>NO</td>
<td>YES</td>
<td>NO</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>No Absolute Neut</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Segment Paradigm Cond</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Feature Paradigm Cond</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>Feature Subset Cond</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
<td>YES</td>
<td>NO</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Non-arbitrariness</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
<td>NO</td>
<td>YES</td>
<td>YES</td>
</tr>
</tbody>
</table>

Each of these analyses is abstract by some of these criteria and non-abstract by others. There is no simple way to determine the acceptability of any one of them in terms of its abstractness. Until the nature of abstractness is clarified, it is futile to try to decide what degree of abstractness is allowed in analysis. My research is aimed at determining the correct abstractness condition, since there is now no single criterion by which to decide how abstract an analysis is.

LAURENCE JOHNSON, University of Southern California

Sound Change in Los Angeles

This paper reports on a study of a sound change in progress in the West Los Angeles speech community. The vowel /ɔ/ as in words like *down*, *caught*, *daughter*, and *cloth*, is shifting to /a/ in ordered phonetic contexts. While paralleling the same pattern of change found in other areas of the United States, in West Los Angeles the change is socially distributed and has come to serve as an "indicator" of social class.

Support for this conclusion derives from comparison of two sets of data. The data collected in 1953, from twenty-three informants interviewed in this area for the Linguistic Atlas of the Pacific Coast, have been compared with data obtained from thirty-seven new informants interviewed in 1973. Informants in both studies form a stratified sample of LMC, LMC and WC speakers. Those of the recent survey also represent four age groups: 16-25, 26-35, 36-45 and 46-55; thus the change is traced in both "real" and "apparent" time.

The change, introduced by large numbers of LMC and WC migrants from Midwestern states during and after World War II, is now rapidly advancing among the LMC and WC as well as among all younger speakers. The phonetic environments by which the change is advancing are ordered, with nasals as the most favorable context, followed by voiced fricatives, voiceless stops, etc. Less affected by the change from /ɔ/ to /a/ is the LMC, which retains /ɔ/ to a greater degree, even among the youngest group (aged 16-25).

Two factors appear to be responsible for this social differentiation: the marked decrease of in-migration during the last decade and a significant decrease in social mobility, which is reflected in a comparison of upward mobility within the two studies. Of the LAPC informants, forty-three percent were upwardly mobile; of the recent informants only nineteen percent are upwardly mobile and of these more than half are over forty-five years of age.

This study of an on-going sound change, now at an early stage, from "below," advances our understanding of the Actuation, Transition, Embedding and Evaluation problems.
The systematic use of these counter-mechanisms results in the avoidance of musical monotony and the maintenance of a discreet balance between linguistic, social, and aesthetic needs in Tsonga musical expression.

FRANCES KARTTUNEN
The Syntax and Pragmatics of Finnish -han

The appearance of the clitic -han attached to the first major constituent in the surface structure of a Finnish sentence is associated with a plethora of meanings, some apparently contradictory. It may signal a new discovery or the assertion of an old truth of current relevance:

"Finland is a small country, by golly." (I just found out.)
Suomihan on pieni maa.
Finland-han is a small country.
"Finland is a small country, after all." (I'm reminding you.)

Is that clause -han can have either meaning after verbs which can be taken as reports of direct discourse, external or internal, such as say, think (to oneself), and after semiaactive verbs such as discover, notice. The sentence Pekka sanoo etta Suomihan on pieni maa "Peter said Finland-han is a small country" either reports what he actually said, or it means that the speaker has just discovered this (probably because Peter told him so). But the negation of the sentence can only be understood as a report of direct discourse: "Peter didn't say, 'Finland is a small country, by golly.'" (Maybe he said, "Please pass the peas.") Simple belief by the speaker in the truth of the that clause is not a sufficient condition for the use of -han, because belief does not make the fact new or relevant:

+ On auta etta Suomihan on pieni maa.
+ It's peculiar that by golly Finland is a small country.

The other use of -han is as an ameliorative, and used in this way, it is always attached to the verb, which is preposed (whether because of -han or independently remains to be seen). There is a systematic ambiguity between the ameliorative -han and the "after all" sense of -han which parallels the ambiguity of English tag questions:

"You are my friend, aren't you?"
(I'm asking for confirmation.)

Olehan sinä ystäväni.
Are-han you my friend.

"You are my friend, aren't you?"
(= "You're my friend, after all.")
The ameliorative use of -han blunts the force of direct questions and commands:

Onko Suomi pieni maa? “Is Finland a small country?”
Onkohan Suomi pieni maa? “I wonder if Finland is a small country.”
Anna leipää: “Give (us) some bread.” (Either a command or a plea)
Annahan leipää: “Give (us) some bread, will you?”

-han in this sense appears in embedded clauses only in sentences which are requests for information, direct or indirect:
Hanhan tietää onkohan Suomi pieni maa.
I want to know if Finland is a small country.
*Pekka tietää onkohan Suomi pieni maa.
Peter knows if Finland is a small country.

It is not possible to account for the syntactic distribution of -han without reference to the conveyed illocutionary force of the sentence. For example, imperative sentences may be either commands or pleas. The ameliorative -han is only compatible with the former kind, softening it to a mere suggestion.

LAURI KARTTUNEN, University of Texas at Austin

Presupposition and Linguistic Context

This paper attempts to give content to the informal notion of ‘linguistic context’ which is often appealed to in explaining how certain lexical items and syntactic constructions are used. What do we really mean when we say that such-and-such-a-thing “has to be understood in context”? It will be shown that by giving a precise answer to this question we gain an important insight into a phenomenon that has been much discussed recently: the cancelling of presuppositions in compound sentences.

Here are some basic definitions: A context is a finite set of propositions. It can be taken as an incomplete specification of some state of affairs. A context can be incremented by adding to it new propositions. A proposition P is entailed by a context X just in case P is true whenever all the propositions in X are true. (P need not be a part of X in order to be entailed by X.) An initial context for a discourse is the set of propositions the speaker chooses to regard as being already known to him and to his intended audience. (Whether it really is so or whether he really believes it to be so is another matter.) In other words, the initial context is a set of common background assumptions, it consists of all the presumed facts the audience supposedly no longer needs to be informed of.

The central idea in this paper is the following. Given the above definition of an initial context for a discourse, we can develop a very useful derived notion, that of a local context for a sentence, which is defined recursively. For each of the constituent clauses in a compound expression, there will be a corresponding local context, which in general will be some incremented extension of the initial context for the compound. This notion enables us to solve the so-called projection problem for presuppositions in a particularly simple and natural way.

Virtually all who have struggled with this problem have tried to derive the presuppositions of compound expressions from those of their constituents. This has turned out to be an extremely complicated approach (see Karttunen’s “filtering conditions”). We can get a much simpler answer by not asking what the presuppositions of the compound actually are with respect to a given initial context. Instead we ask what the initial context has to be like in order to guarantee that the presuppositions of all the constituent clauses are entailed by their respective local context. It is exactly the same problem: we only have to turn it upside down to see how easy it is to solve.

JONATHAN KAYE, University of Toronto

On Deep Constraints in Phonology: Loan Words

In several recent papers (e.g., Shibatani (1973) Lg. 49, 439-446 and Harms (1973) Lg. 49, 439-446) the role of morpheme structure conditions has been called into question. Specifically Harms has stated in discussing the treatment of loan words that “neither the phonological rules nor the morpheme-structure conditions of current theories provide meaningful explanation of the available data” (442). The role of surface phonetic constraints has been emphasized in this area. The aim of this paper is to give an example of the treatment of loan words in Odawa (Ojibwa) where the operative phonetic constraints play no significant role. The ultimate underlying representation of these loan words can only be explained by recourse to a morpheme-structure condition.

Ojibwa has an MSC which specifies that no major category morpheme may begin with a consonant cluster. This is NOT a surface phonetic constraint. Surface initial clusters arise as the result of a rule that deletes unstressed vowels. Ojibwa stresses alternate even numbered lax vowels, starting from the beginning of the word or a tense vowel. Thus, akkwew ‘woman’ is realized phonetically as [kkwe]. The crucial examples here involve cases where Odawa borrow English words with initial voiceless obstruents and clusters. English
voiceless obstruents are treated as fortis consonants in Odawa. These are underlying clusters and accordingly obey the MSC which prohibits their occurrence initially. The English word *pen* is borrowed into Odawa as *[ppen]* where CC represents a fortis consonant. The possessive form *[ntappen]* ("my pen") shows us that the underlying form must be *[appen]*. If *pen* were simply borrowed as *[ppen]*, we would expect the possessive form to be *[ntppen]*. This latter form is perfectly ok and violates no phonetic constraint. Thus, the only explanation for the initial vowel in the underlying representation of *pen* is that loan words must conform to this MSC. This fact is made more apparent when one considers loan words with initial voiced obstruents. The word *bus* is borrowed into Odawa as *[pass]*. The possessive form is *[mpass]* indicating that the underlying form must be *[pass]*, with no initial vowel.

From these and other examples to be mentioned, it is clear that the treatment of English loan words in Odawa cannot be explained by surface phonetic constraints. MSC's play a crucial role in the shaping of loan words.

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DEBORAH KELLER-COHEN, SUNY, Buffalo

**Deictic Reference in Children's Speech**

The purpose of this paper is to examine the status of deictic reference in the speech of 19 Black three-year-old children. The deictic verbs of motion will be examined in depth with reference to other aspects of the deictic system where they add further credence to a particular finding.

The data for this study are approximately 8 hours of spontaneous speech collected in a pre-school classroom.

The hypothesis to be investigated is that *go* and *take* are more frequent than *come* and *bring* in the speech of children at this age due to two sets of feature constraints on *come* and *bring*.

- a) Frequently the action expressed by *come* and *bring* does not originate at the speaker's location at coding time but terminates somewhere closer to the speaker.
- b) The anchoring of the speech event is with the speaker or the hearer in *come* and *bring* while anchoring is only with the speaker in *go* and *take*.
- c) The child first learns the core meaning of a lexical item within a semantic field and only later acquires the derived meaning. Reasons for believing this will be offered.

The anchoring of the speech event is with the speaker or the hearer in *come* and *bring* while anchoring is only with the speaker in *go* and *take*.

1. "I'm not coming to school again."
2. "This one go out."

The importance of this study is two-fold. First, it explores the appropriateness of Fillmore's description of deictic verbs (1973, Ad Hoc Packet, 1973 Linguistic Institute) for child language. Second, it attempts to establish certain characteristics of the deictic system in child language.

This area in child language has been neglected in linguistic research to date.

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B. KENDALL, Vassar College

**/-k/ and /-m/ in Yavapai: A Problem of Explanatory Adequacy**

In Yavapai, an American Indian language spoken in Arizona, there are two mutually exclusive final affixes, /-k/ and /-m/, appearing with high frequency on both nouns and verbs. On nouns these affixes may be defined as non-formal case markers, in that they do not mark formal syntactic relations (subject, object) but function as markers of directional-locational and associational cases, e.g.:

1. *(wa.-v-k) ya.m-c-kin* (house-dem-from come-pl-compl.)
   - They came out of the house.
2. *(wa. qano·-m ?-yov-kin)* (house mud-with 1-build-compl.)
   - I built a house with adobe.

In the verbal system, however, the function of these morphemes is not nearly so clear, bringing up the question whether there is some underlying semantic unity to the various uses of /-k/ versus those of /-m/ or whether there are in fact three or more homophonous uses of each. It is argued that while every language has a certain amount of homophony, an appeal to homophony as the solution to the /-k/ ~ /-m/ problem in Yavapai should be highly suspect, given the distribution of these morphemes and their frequency of occurrence.
A partial solution to the problem is to relate the uses of \(-/k/\) and \(-/m/\) to two general systems: one for signalling a switch in reference from the subject of one clause to the next, the other for indicating the factivity or non-factivity of the assertion made. Examples of reference switching follow, with \(-/k/\) indicating that the subject of the next highest clause is the same as the preceding one and \(-/m/\) indicating a different subject for the two consecutive phrases:

(3) tokatoka-è gala u-t-k. čikwa'r-kqm (Tokatoka-subj Thala see-temp-prox, smile-incompl.)

When Tokatoka saw Thala, he (Tokatoka) smiled/was smiling.

(4) tokatoka-è gala u-t-m, čikwa'r-kqm (Tokatoka-subj Thala see-temp, smile-incompl.)

When Tokatoka saw Thala, she (Thala) smiled/was smiling.

Examples of the factive and non-factive use of \(-/k/\) and \(-/m/\) are given below, the \(-/m/\) indicating factivity and \(-/k/\) non-factivity of the assertion.

(5) savakyuva-t man-kif mpar qal'ep-m (Savakyuva-subj fall-comp knee bad-fact)

Savakyuva fell because his knee is bad.

(6) savakyuva-t man-kif mpar qal'ep-k (Savakyuva-subj fall-comp knee bad-nonfact)

Savakyuva fell because he has a bad knee.

The difference between (5) and (6) is essentially the difference between a description of an event and an explanation of it. The morpheme \(-/k/\), in other words, indicates speaker’s opinion or judgment. Other examples of \(-/k/\) and \(-/m/\) are given and related to the reference switching rule, the factivity rule or the nominal case marking system.

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MICHAEL KENSTOWICZ, University of Illinois

Mutually Contradicting Rules

This paper is another contribution to the delimitation of the conditions under which it is appropriate to appeal to the device of rule ordering in phonology. In a recent study, Charles W. Kisseberth has suggested that certain kinds of "mutually bleeding" interactions may be the only situations in which the appeal to precedence relations is required for a theory that makes full use of "derivational history" and sequences rules according to a principle of "minimal opacity."

In this paper another general type of rule interaction is isolated whose proper description seems to require a language-particular rule ordering statement. Schematically, these situations involve the following kind of relationship between two only partially overlapping rules A and B: one rule A specifies a segment for some value \(a (\pm + \text{or} -)\) for a feature \(F\), while another rule B specifies a segment for the value \(-a\) \(F\). A rule ordering statement will be required for those contexts in which the two rules overlap.

For example, in Slovak there is a rule A that lengthens the final vowel of a noun stem in the context \(\text{C}\) (cf. kopit-o n. sg., kopit: g.pl. "hoof"). Another rule B shortens a long vowel after a syllable containing a long vowel (cf. mest-o n. sg., mest-a: n. pl. "city"; but dialto-o n. sg., dialto-dialto-a: n. pl. "chisel"). These two rules overlap in the derivation of the underlying form \(/\text{pi:smen}/\), g.pl. "letter". Rule A requires the \(a\) to be long, while rule B requires it to be short. Thus, the two rules contradict each other. The derivation of the correct output, which is \(/\text{pi:smen}/\), has nothing to do with "derivational history", "minimal opacity", "maximal rule utilization", "proper inclusion", or "simultaneous application", to mention the most well known principles that have been proposed to guarantee the proper sequencing of rules in a derivation. In a situation like the one just described, it seems that a rule ordering statement that A precedes B is the most appropriate way to insure derivation of the correct output.

In addition to Slovak, I have found examples of such mutually contradicting rules in a number of other diverse languages. These include Rundi, Swahili, Tubatulabal, Nootka, Makah, Carib, and Hebrew. Time permitting, some of these examples will be discussed as well.

I conclude that mutually contradicting rules constitute one of the most serious challenges to "no ordering" theories of phonology and define a general category of rule interaction for which the device of rule ordering is appropriate.

(SISTER) CAROLYN KESSLER, Immaculate College of Washington; Stanford University

Postsemantic Processes in Children with Language Delay

In examining the acquisition of postsemantic processes (Chafe, 1970) by children who have passed beyond the normal critical period for development of certain processes, focus is given to realizations of surface structures and their relationship with the abstract configurations that account for semantic content. This paper reports the findings of a longitudinal study of a group of ten children undergoing therapy because of language delay.
is given to the acquisition of a set of eight grammatical morphemes such as noun plurals, progressive verb markers, prepositions, and articles, as determined from language samples collected from each child at three-month intervals according to standardized procedures.

Findings of this study indicate that children manifesting linguistic delay follow the same basic route as normal children in constructing their grammars. The overall pattern, constructed from averaging mean scores for each structure at each of Brown's (1973) developmental stages, corresponds to a normal acquisition curve. Furthermore, the sequencing of specific structures with respect to each other corresponds to the ordering observed for normal children.

In addition to implications for practical applications in diagnostic and therapeutic work with language delayed children, the findings of this study support the concept of language universals and the species-specific nature of language itself. Delay in language acquisition may well have some of its roots in failure to construct the underlying configurations or failure to apply the postsemantic process linking the semantic structures with the surface form. But results of this study indicate that acquisition of semantic configurations and postsemantic processes derives from a pattern common to first-language acquisition.


KONG-ON KIM, University of Southern California [SUN AFT:2]
The Nature of Temporal Relationship Between Adjacent Segments in Spoken Korean

This paper examines the relationship of duration between adjacent segments in spoken Korean and discusses the implications of the observed relationship with special reference to the unit of time programming in speech. It is argued that the current claim that segments are not the units of time programming has no ground. Results of two experiments are described. Duration measurements are made from spectrograms made from recordings of test utterances by native speakers of standard Korean.

The first experiment deals with the relationship between eight selected consonants and adjacent vowels in VCV sequence (-apa-, -asa-, -ama-, etc.). Along with such previously known factors as manner and place of articulation of the consonants, this experiment demonstrates that the duration of the consonants plays a significant role in affecting the duration of adjacent vowels. The high degree of negative correlation between the eight consonants and the vowels indicates that a consonant with a relatively long intrinsic duration shortens the vowels adjacent to it. Statistical data also show that the syllable boundary between the first vowel and the consonant does not play any significant role, suggesting that the syllable is not the unit of time programming in speech.

The second experiment investigates the relationship of duration between adjacent segments in a sentence as observed from numerous repetitions of the sentence. Interestingly, the results are similar to those from English and Russian as reported by Lehiste, Kozhevnikov et al, and others. That is, there is a significant negative correlation between adjacent segments regardless of the boundaries of the syllable, morpheme, or word. However, statistical data of my experiment suggest that recent attempts to use the negative correlation between adjacent segments as a clue to finding the unit of time programming could be groundless. The data presented in this paper argue that the segments (or phonemes) are the units of time programming.

KONG-ON KIM and LARRY M. HYMAN, University of Southern California [SUN MORN:6]
On the Non-status of Morpheme Boundaries in Phonology

Morpheme boundaries have played a key role in the development of phonological theory. On the one hand, redundancies on the systematic phonemic level have in most cases been stated in terms of constraints on morphemes (either by morpheme structure rules or morpheme structure conditions). On the other hand, phonological rules have often been written with morpheme (+) boundaries. In fact, the + boundary has been so widely accepted by generative phonologists, that it has been questioned only recently. In particular, Hooper (1972) and Vennemann (1972) argue that certain constraints on phonological structure, as well as certain phonological processes, should be stated in terms of syllable boundaries.

While we accept their position for the examples they discuss, we should like to further argue in this paper that other cases must be stated in terms of morpheme structure conditions (MSC's). It is claimed that all phonological and phonetic constraints and processes (rules) can be adequately stated in terms of syllable and word boundaries, and that morpheme boundaries have no place in generative phonology.
We shall focus on examples from Korean, Japanese, English and Nupé, which illustrate the speakers' unawareness of morpheme boundaries. The one reservation we shall make is that languages do appear to require something akin to a "stem" boundary, which we suggest should be treated as an "internal" word boundary in all cases -- as required, for example, in the underlying representation /sing'er/ in English, in order to obtain the deletion of /g/ (cf. on the other hand /long'er/, where, as we would predict, the + boundary has no effect and the /g/ remains.

The implications of this strong constraint on phonological theory -- that phonological conditions and rules not make reference to the + boundary -- are discussed. Specifically, it follows from our position that the lexicon consists solely of words and grammatical morphemes. Finally, it is argued that this modification of generative phonology correctly limits the degree of phonological abstractness which is permitted in underlying forms.

SOURCE: ROBERT KIRSNER, University of California, Los Angeles  
Less is More: The Semantics of Sensory Verb Complements in English

The analysis of sentences of the form *I saw her drown/drowning appears to be initially unproblematic. The incoherence of *I saw her drown, but I didn't see her suggests (i) that the subject of the plain -ing form in a sensory verb sentence is the logical direct object of the sensory verb. Similarly, the oddity of *I saw her drown, but she didn't suggests (ii) that the sensory verb implies the perceived event, as in Karttunen (1971). Finally, such contrasts as *I saw her drowning/drown, but I rescued her appear to (iii) substantiate traditional characterizations of the plain/-ing opposition as NON-PROGRESSIVE/PROGRESSIVE (Palmer (1966)) or PERFECTIVE/IPERFECTIVE (Zandvoort (1960)). It is not difficult to show that all three of these claims are false. A sentence such as *I have watched poverty ruin many farmers does not imply *I have watched poverty, thereby falsifying (i). In like manner, (ii) is invalidated by The delirious patient saw the window turn into a giant eye, which does not imply that the perceived transformation actually took place. Sentences such as We are really seeing Jim grow up this year, implying in Palmer's terms not *We are seeing + Jim grows up but rather We are seeing + Jim is growing up, vitiate the correlation of plain/-ing complements with non-progressive/progressive, falsifying (iii). In addition, sentences such as *We saw her just sit there, where her sitting need not be completed, fail outside traditional notions of perfectivity, further falsifying (iii). It would thus appear that while (i) - (iii) may characterize the messages communicated by particular examples, they cannot be considered the explicit assertions of sensory verb sentences in general. Rather, they are inferences in the sense of Bolinger (1971). The crucial task in understanding the semantics of sensory verb complements is to determine just how such inferences are made. And this, we submit, can be done only by first delineating what sensory verb complements actually claim and what strategies and considerations are involved in their use.

In the case of (i) and (ii) above, the solution is transparent. All that the sensory verb sentences claim explicitly is that the situation given by the complement is perceived in the manner specified by the sensory verb. It is the respective nature of the situation in the complement and of the perception process that determine whether one must perceive the individual participators in the situation.

The inference that the perceived situation is real results from the overwhelming practicality of accepting the evidence of one's senses and of assuming that others are sane; it is thus understandable that - in the absence of evidence to the contrary - sensory verb sentences will be taken as referring
to fact.

The issues raised by perfectivity, on the other hand, are relatively complex. Here we argue that the plain/-ing contrast signals not traditional notions of duration or perfectivity but rather that the situation named by the complement is to be taken, respectively, as BOUNDED or UNBOUNDED in time. One way a situation can be temporally bounded is if it is controlled-on and off-by the participants involved. When the participants cannot be agents and when no other reason is given for the delimitation in time, the use of the plain form may be incoherent. Compare, e.g., I saw the girl/your glasses lie on the bed but I saw your glasses lying on the bed, where girl is more likely to be agentive than glasses, and lie but not lying claims temporal boundedness. This inference of agentivity clearly accounts for the interpretation of We saw her just sit there not as claiming that we saw her sit down or get up, but that during some fixed period she refused to do anything but sit.

Given the invariant semantic content of sensory verb complements and the basis for the inferences that speakers regularly make from them, we can explain the interpretation of a wide range of examples. We conclude that the analysis of sensory verb complements provides considerable evidence that the grammar specifies far less of the message than has previously been thought.


JARED S. KLEIN, University of Georgia
Vedic tām u and Sanskrit āsū

The purpose of this paper is to demonstrate the paradigmatic relationship of Vedic tām u to the Sanskrit āsū pronoun.

It has been generally maintained since Brugmann that Proto-Indo-Iranian *sāu (Avestan hāu, Sanskrit āsū) contains the nominative singular *sē, *sā of the demonstrative pronoun together with an u-element, probably related to the particle *u. The *sē/*sā- pronoun was in Indo-European a neutral demonstrative, non-commital as to the position of its referent. *u, on the other hand, was a pronominal element of distal reference. The distal nuance is present in Sanskrit āsū. It is also present in the Rig-vedic collocation tām u 'that one' which, when employed anaphorically following a relative pronoun, represents the original locus of u in the Rig-veda. E.g.:

(1) yāṁ yuṣjānti tāṁ v ā sāthāpayanti (VI.45.16a)
Harold J. Koch, The Australian National University

The Hittite Factitive Verbs in -nu-

This paper studies the transitive verbs in -nu- which are derived from adjectives. It attempts through internal reconstruction to discover the original status of this class in the Anatolian languages.

The individual verbs are examined with particular regard to the stem of the founding adjective. It turns out that almost all these factitives are derived from i-stems (e.g., maknu- ‘multiply’, mekki- ‘many’, harganu- ‘whiten’, harki- ‘white’), or from u-stems (e.g., teenu- ‘diminish’, tepu- ‘little’, parganu- ‘raise’, parku- ‘high’).

Comparison with an alternate factitive formation in -ahh- yields the following distribution, which admits of only few exceptions. i-stems form derivatives only in -ahh- (newa- ‘new’ → newahh- ‘renew’), u-stems only in -nu- (tepu- → tepnu-). Of the i-stems, those with inflectional ablaut produce factitives in -nu- (harki/-/-sy- → harganu-) while non-ablauting stems have factitives in -ahh- (nakkii- ‘heavy’ → nakkiyahh- ‘make heavy’). Since ablauting i-stem adjectives are not an inherited category, the factitive formation in -nu- must originally have been restricted to u-stem adjectives, just as the derivatives in -ahh- were formed originally from stems in -a- (IE *-e-). In the derivatives from u-stems the formation is to be analysed as the inflexion of -n- before the adjectival suffix.

Scholars have traditionally claimed that the factitives in -nu- resulted from an extension to adjectival bases of a deverbal, transitivizing suffix -nu- found, e.g., in wahnu- ‘turn’ (cr.) → weh- ‘turn’ (intr.) and liogenu- ‘put under oath’ → link- ‘swear’. But the fact that -nu- is here analysed as a suffixal unit rather than as a prefixed nasal plus -u-, together with the extreme productivity of the deverbal type, indicates that this formation is posterior to the factitive construction. In fact, we can see how it arose from the derivatives of u-stem adjectives.

The formation of factitives by the inflexion of -n- into adjectival stems in -y- represents an archaic derivational process that deserves to be explored further in its Indo-European context.

In his paper "Abstractness, Opacity, and Global Rules," Kiparsky (1973) proposes the following universal principle of rule-application:

**Non-automatic neutralization processes apply only to derived forms.**

It will be shown that this constraint is incompatible with the existence of extrinsically ordered rules in a large class of cases involving potential counter-feeding relations. Kiparsky's natural and well-substantiated neutralization constraint will thus be seen to provide additional independent support for the hypothesis that all rule-ordering constraints are determined by universal rather than language-specific principles.

The relation between rule-ordering and neutralization restrictions will be demonstrated with respect to two well-known standard analyses based on the power of extrinsic-ordering. The first involves the proposed rules of Diphthongization and Loss of Medial Voiced Continuants in Modern Standard Finnish.

Kiparsky (1968) argues that these rules must be extrinsically ordered in a counter-feeding relation to account for the fact that long mid vowels arising as a consequence of the loss of a medial voiced continuant (e.g., *reː > reː) do not undergo Diphthongization (e.g., *teː > teː) in this dialect.

Thus, contrary to Kiparsky (1973), the demonstrably non-automatic neutralization process of Diphthongization is permitted to apply to non-derived forms but not to derived forms.

The second analysis involves the proposed rules of Vowel Shift and Velar Softening in Modern English. Chomsky (1967) and Chomsky and Halle (1968) argue that these rules must be extrinsically ordered in a counter-feeding relation in order to account for forms like medicate (cf. medic, medicine), where a non-softened velar occurs before a derived non-low vowel, and criticize (cf. critic, critical), where a softened velar occurs before a vowel that is superficially low but derived from a vowel that is non-low. Again, contrary to Kiparsky's constraint, the non-automatic neutralization process of Velar Softening is permitted to apply to non-derived forms (as in cent, giraffe, courage), but not to derived forms (as in medicate, allegation).

For each of these cases it will be shown that, given Kiparsky's neutralization constraint, it follows that one of the rules proposed in the standard analysis is not a possible rule for the language in question. A natural alternative analysis for each language will be presented, and it will be shown that these analyses are consistent both with the neutralization constraint and with the assumption that no rules of grammar are extrinsically ordered.
Exposure to primary linguistic data is apparently sufficient for successful language acquisition by children. For adult second language learning, however, it has been supposed that some sort of formal instruction is necessary as well. In this paper, studies aimed at determining the necessity and kind of instruction are described. The results of such studies shed light on child-adult differences in language acquisition and on cerebral processes involved in language acquisition in general.

While there have been some informal reports of adults "picking up" foreign languages with great success (Hill, 1967), Krashen and Seliger have recently provided empirical support for the necessity of formal instruction for most adults involved in language learning. It was found that for adults learning a second language in the country in which the language is spoken, proficiency in the spoken language was significantly related to years of formal study and not to the amount the language had been used by the learner.

Accepting the necessity of formal instruction, what is the best method? In general, no clear-cut superiority of one method over another has been demonstrated (Scherer and Wertheimer, 1964; Chastain, 1970). Research in progress in Conjugate Lateral Eye Movement and language learning helps to resolve this problem by showing that different kinds of learners exist and succeed at different methods. Bakan (1969, 1971) has shown that the direction of eye movement in response to questions requiring reflection is an indication of cerebral hemisphere dominance; right eye movement reflects left hemisphere thought (propositional, analytic, linear) and left eye movement reflects right hemisphere thought (analog, inductive). Krashen and Hartnett have found that successful students of the Bull method of learning Spanish, a deductive, analytic method, showed significantly more right Conjugate Lateral Eye Movement than successful students of the Barca method, a more inductive method.

The results of the eye movement study indicate that adults may use either deductive or inductive strategies in learning languages while the results of the first study show that they need formal language environments in addition to exposure to primary linguistic data. Children, however, are uniformly successful with induction in informal learning environments.

The finding that adult left movers (right hemisphere preference) are most successful with induction raises the possibility, suggested by R. Harshman, that the right hemisphere may play a greater role in first language acquisition than previously thought. This hypothesis is consistent with observations of language impairment with right hemisphere lesions observed in young children. (R. Harshman, S. Krashen, and D. Harshman).

To account for the Nupe consonant-glide-vowel sequences [Cya] and [Cwa], Hyman (1966, 1967) posits underlying /Ce/ and /Ct/ and two rules. The first one palatalizes or labializes the consonants. The second, a rule of absolute neutralization, rewrites /e a o/ as [a].

The analysis to be proposed here has neither Hyman's Palatalization/Labialization Rule nor the Absolute Neutralization Rule. Instead, the features of Hyman's underlying /Ce/ and /Ct/ are sequenced by rule: 

- If the feature [-front] (or [+round]) precedes [+low], sequencing rules are implicit in analyses of complex segments such as /Ce/ and /Ct/, where the features [-continuant, +sibilant] and [-continuant, +labial] must be sequenced on the phonetic level. An important consequence of sequencing vowel features in Nupe is that all of the features posited for the underlying representations appear also in the corresponding phonetic representations. Consequently, the features that serve to distinguish /e a o/ on the phonological level provide the same function on the phonetic level. There is no elimination on the phonetic level of any distinctions existing on the underlying level, i.e., there is no neutralization of any type in this analysis. Thus, contrary to Hyman's claims, Nupe phonology does not provide support in favor of the notion of absolute neutralization.

A recent proposal by Harms (1966, 1967, 1969) will also be discussed, and it will be argued that the underlying representations posited by Hyman (and utilized in the alternative presented here) are superior to those proposed by Harms.

LIN KYPRIOTAKI, University of Rochester
My Smelly Nellie Knelt (Not Kneed): A Case for Vowel Harmony in English

A pilot study suggested that where two forms of a verb are acceptable, (such as knelt, kneeded), if one of those forms contained a nuclear vowel which corresponded to the stressed vowel of the preceding subject NP, informants regularly favored that form. I will present the evidence in detail from an expanded study, and conclude with a discussion of the implications of vowel harmony as an influential factor governing stylistic choice.

Fifteen verbs whose simple past tense can be both regular (/-t, -d, -id/) or irregular (internal vowel change, with or without an additional
consonant suffix) were presented to 60 college students in a number of ways. The first step was to obtain the relative frequencies of each of the two variants for each verb in a neutral environment: that is, either in isolation, or where the preceding and following stressed vowels were midway different from that of the verb nucleus, using the Chomsky-Halle feature system as a matrix. Next minimal pairs were constructed so as to sway the subjects' choices towards or away from each variant. For example, when informants were asked to give the past tense of the following sentences:

- Michael dives bellyflops from dizzying heights
- Marconi dives bellyflops from dizzying heights

they responded more frequently with "Michael dived," but "Marconi dove." In both cases, the number of responses giving the corresponding variant represented a significant increase from the ratio found in neutral environment.

The results thus far indicate that a preceding corresponding stressed vowel has far more effect than a following one. I am presently investigating the effects of multiplying the preceding vowels, as in

- Smelly Nellie kneels nightly in her knickers
- Mealy-mouthed meenials kneel nightly in their knickers.

The analysis is extended to masculine and neuter D pl. in -um -en; to weak nouns; and to the pret. pl. of certain verbs.
D. Neg-And: It is not the case both that all my gerbels qualified for the Rodent Race and that Fred's rat qualified for the Rodent Race.

Existing models of rule ordering (including models in which rules are unordered) cannot account for both (3) and (4) when the standard generative semantics analysis of quantifiers as higher predicates is applied to these sentences. My informants who find (1) ambiguous find that the Not Transportation (NT) environment disambiguates to a Neg Q reading (e.g., (3)); but (4) continues to have the same preferred Neg V reading as (2) (and also the possible secondary Neg Q readings).

(3) I don't think all the arrows hit the target.

(4) I don't think all my gerbels and Fred's rat qualified for the Rodent Race.

To account for the unambiguous Neg Q reading of (3), Quantifier Lowering (QL) must be constrained to apply after NT. But to account for both the A and B readings of (4), QL must apply before NT, since NT cannot apply until Conjunction Reduction (CR) has applied, and CR cannot apply until QL has applied.

A model that assigns scope on the basis of a hierarchy of primacy relations, using derivational constraints or surface structure interpretation rules, cannot account for the preference of the Neg V reading for (2), nor for the improvement, but continued 'secondariness', of the Neg Q readings when the conjoined quantified NP occurs in post-negative position. Adding conjunction to the hierarchy does not improve matters: the conjunction contexts cannot be fitted into a linear hierarchy.

These largely negative results suggest the speculation that relations like stress, linear order, conjunction, etc. interact, at least in part, in a continuous fashion, and that this complex interaction determines the scope of logical predicates in a sentence.

BEATRIZ LAVANDERA, Universidad de Buenos Aires

Once we go "above and beyond phonology" to account for syntactic and semantic variation, some of the internal factors that influence the actuation of the variable rules may be semantic features. If so, where is the limit between non-social meaning differences that can be included probabilistically in a structurally simple variable rule and those differences which must already be present at deeper levels?

We will present an example taken from an exhaustive qualitative and quantitative analysis of [-Past] hypothetical si-clauses in Buenos Aires Spanish. (Example: Si tuviera (Imperfect Subjunctive) ~ tuviese (Imperfect Subjunctive) ~ tendera (Conditional) ~ tengo (Present Indicative) ~ tenfa (Imperfect Indicative). The main sample of 90 interviews of 45 minutes each represents three age groups, three educational levels and both sexes. Two styles were elicited at the informal end of the scale. The analysis of the data from the sample was checked against data from 40 interviews not included in this design. A complementary sample of 20 informants -- boys and girls between 13 and 15 -- of Argentine grade school and college parents, was used for comparison.

As reported previously for two of the variants, we can predict the variation with a variable rule:

\[
\text{Impf. Subj.} \rightarrow \langle \text{Condit} \rangle / \langle \text{and condit} \rangle (\text{NP}) \quad \langle \text{Past} \rangle / \langle \text{+Fut} \rangle / \langle \text{+college} \rangle
\]

However, once meaning is included, speakers who have 4 or 5 variants in their repertoire definitely base their choice more on what they mean than on anything else and all other factors yield to the intended message.

The challenge of dealing with syntactic variables is thus not so much the rarity of their occurrence as their frequently meaningful component. Even if we could infer from the statistical observed frequencies probabilistic estimates as to the occurrence of these different "variants", where does this begin to differ from predicting probabilistically the ratio of occurrence of [+Past] to [-Past] tenses, or of [+Neg] to [-Neg] for paraphrastic sentences?

We will propose an analysis for Spanish which shows that the variation between ra vs. se is more suitable to be accounted for in a scalogram or a variable rule than re vs. rfa where meaning may occur for some sociolinguistic groups as an outweighing factor, and that quantitative methods are no longer revealing for the variation

\[
\text{Impf. Subj.} \left\{ \begin{array}{c} \text{ra} \text{ vs. Pres. Indic.} \text{ vs. Imperf. Indic} \\
\text{se} \end{array} \right. 
\]

The relationship among the five variants of this syntactic variable is thus not the same among all of them and must be dealt with at different points in the grammar.
Most English sentences can be said with a variety of stress contours. With some of these possible contours are associated special emphases or meanings; yet sentences of some complexity can generally have several neutral declarative contours. For instance, for the sentence Only two men left, all of the following contours are fairly neutral:

4 3 2 1,
3 4 2 1,
3 2 3 1,
2 3 4 1.

I propose that some of the alternatives in such cases result when a sentence may have several different superficial structures. An optional adjustment rule may eliminate any of several tree nodes, thus simplifying constituent structure. A stress assignment rule then associates with each structure a stress contour. There will be as many contours associated with a sentence as there are ways of simplifying the structure of the sentence; furthermore, the most "relaxed" intonation will correspond to the simplest constituent structure.

This approach can easily be extended to account for many facts concerning the stress contours of English words. One need only to assign each non-compound word a multiple-branching structure in which each syllable counts as a constituent.

Observers of English language behavior in Nigeria have noted its varying range in usage from something very much like Standard English to what is called Pidgin, with "various admixtures" in between (Bamgbose, 1971). But work by this author with a speaker of Nigerian Pidgin (NP) shows these various admixtures existing within one speaker as well as within the speech community as described by Bamgbose. In fact, NP seems to exhibit the characteristics of a creole continuum, i.e., a system of variation between the two extremes of a standard language and a creole. But the notion of continuum has, up to this point, been exclusively applied to creoles, i.e., native speakers of the language have not as yet been attested. And yet the situation of NP fulfills the criteria for the establishment of a "creole" continuum: 1) dominant official language must be standard language corresponding to the creole, 2) former rigid social structure must be broken down to a degree which allows "sufficient social mobility to motivate large numbers of creole speakers to modify their speech in the direction of the Standard" (DeCamp, 351).

The Standard in Nigeria is English. NP is English based. Increasing urbanization in Nigeria has brought many Africans into the cities from the villages, exposed them to Nigerian Pidgin and increased their chances of upward social mobility.

The following is an example of variation in a speaker of Nigerian Pidgin. This variation is not a function of style switching.

"But this girl she teaches, but she is a substitute, like she doesn't go to school like everyday...she can go to school like three times...a week...that's too much work for her...like I told her, how do you go to school and work?"

Variation in this sample is primarily in the pronominal forms, specifically, him -- shi -- ha -- am. /shi/ and /ha/ are more toward the standard end of the scale and /him/ and /am/ are more Pidgin. /him/ and /shi/ are equivalent forms as are /ha/ and /am/ and they are used interchangeably, all within the same discussion without change of topic, or focus or style.

Positing a continuum for Nigerian Pidgin (a concept which has only been applied to post creole speech communities) seems to be the most plausible means of accounting for the variation exhibited in Nigerian Pidgin.


Perlocution and Illocution

In certain types of speech acts the distinction between illocutionary force and perlocutionary force is difficult to perceive in a purely intuitive manner. In this paper I provide several explicit tests for distinguishing illocution from perlocution.

The distinction is a crucial one for speech acts which involve causation between the speaker and hearer, such as orders, requests and suggestions. These impositive speech acts are attempts to change or influence the behavior of the hearer, and consequently their illocutionary force always includes an intended perlocutionary effect. For this reason, determining whether the impositive effect of a speech act is illocutionary or perlocutionary is problematic.

The tests I describe are of two types: contextual and syntactic. The contextual test concerns the appropriate sorts of responses which can be made to an illocutionary impositive act but not to an utterance having essentially the same perlocutionary force but which is not an illocutionary impositive. An example of this kind of test is the response OK which is appropriate to the indirect illocutionary request I'd like you to close the door but not to the perlocutionary request, The flies are getting in.

There are several syntactic tests which distinguish illocution from perlocution. Among them is the placement of the sentential adverb please which occurs at the end of the sentence for indirect illocutionary requests (e.g., I'd like you to close the door, please) and at the beginning for perlocutionary requests (e.g., Please, the flies are getting in). Another rather large category of syntactic tests concerns various kinds of tags which may occur on illocutionary impositive but not on purely perlocutionary ones. Examples of some of these are: I'd like you to close the door, if you will vs. *The flies are getting in, if you will; How about a drink, huh? vs. I'm thirsty, huh?; Get the telephone, can you? vs. *The telephone's ringing, can you?

Perlocution and illocution are concepts essential to a semantic or pragmatic theory of language; hopefully the differentiation between them presented here will help clear the way for the development of such a theory or theories.
Both ELT's hypothesizing an implicational scale and Greenbaum's testing the similarity of the sentence means ignored and obscured the problem of determining which of the 16 logically possible response patterns occur sufficiently frequently to justify linguistic analysis. This question can be answered by applying a Scheffe-type multinomial comparison to the pattern relative frequencies. None of the studies however, had a large enough sample size to provide a clearcut answer with this test.

Using the same relative frequencies for the patterns found by ELT and by Legum, but artificially setting the number of informants at 300, it can be shown that only patterns 1, 2, and 3 occur with sufficient frequency to warrant theoretical analysis. Treating the Greenbaum data in a similar fashion shows that only patterns 3 and 5 warrant theoretical analysis. This discrepancy could be due to the order effect demonstrated by Greenbaum or to an effect caused by Greenbaum's constraining the response time to a 5 second interval. An experiment is in progress to determine if either of these two possibilities accounts for the discrepancy, and to provide a sufficient number of subjects to demonstrate which of the patterns do, in fact, need to be explained by a grammar of English.

ADRIENNE LEHRER, Center for Advanced Study in Behavioral Sciences

Verb and Adverb Interaction: A Problem for Semantic Interpretation

Jackendoff (1972) discusses several classes of adverbs, two of which are speaker-oriented and subject-oriented adverbs. He proposes rules of semantic interpretation to provide the scope of the adverb whereby the interpretation depends on information provided by the deep structure of the sentence and the lexical entry for the adverb. Jackendoff's rules are incomplete for certain verbs' adverbs, however.

Some verbs (e.g., believe, think, assume) involve no entailments as to the truth of the complement when unmodified. But when these verbs are combined with certain subject-oriented adverbs (e.g., cleverly, intelligently, stupidly), the sentence implies that the speaker believes the complement to be true or false. Compare

1) John believes that his wife is a CIA agent
   which does not entail that the complement is true or false with
   2) John stupidly believes that his wife is a CIA agent
   which implies that the complement is false, or at least that the speaker
   thinks it is false.

A second group of adverbs (regretfully, happily, sadly) may be either
speaker or subject-oriented, and sentences with such adverbs can be ambiguous.

For instance

3) John regretfully discovered that his wife was a CIA agent
   can be paraphrased by
   4) I (we, people) regret that John discovered that his wife was
       a CIA agent

or by

5) John regrets that he discovered that his wife was a CIA agent.

In some sentences the content of the complement may tend to force one orienta-
tion or the other, such as

6) John regretfully thinks that his wife is faithful,
   which suggests a speaker-orientation. Pragmatic factors are at work here,
   since it is normally expected that John would not regret it for his wife to
   be faithful.

To fully interpret sentences with these verbs and adverbs, one must
look at the complex interaction of syntactic, semantic, and pragmatic
factors: Jackendoff's rules are not enough.

TIKTOM LIGHT, Cornell University

The Cantonese Final: an exercise in indigenous phonology

The traditional division of the Chinese syllable into Initial, Final and Tone has received little phonological status in modern segmental phonologies, though segmental analyses have generally had to begin with an ad hoc division greatly resembling the traditional one. Two impediments to understanding the traditional treatment as genuine phonology have been the lack of a means to translate the Final as a unit into our segmental terms, and sound changes that have in many dialects obscured such validity as the traditional analysis may have had in Middle Chinese and earlier.

It is proposed that for the consonantally conservative Cantonese Final, a rendition of traditional concerns could be accomplished by the application of a small number of redundancy rules to a small set of ad hoc articulatory features not unlike those of the Sung rime tables. It is further proposed that, while this quasi-syllabic phonology does not do the job of a segmental phonology in rigorous description of single vocalic and consonantal units, it does highlight certain characteristics of Chinese phonology that have been obscured by the alphabetical bias of modern treatments.
The proposed rules take the form of "If ..., then ..." and one example is: 'If a vowel is nonhigh, nonfront, nonlabial, then all consonants and glides may follow.' A succeeding rule is, 'If a vowel is high, it may take only succeeding front vowels.' Formalization is also provided for in these rules.

Among the discoveries encouraged by attention to the final as a unit are: 1) The well known labial dissimilation tendency of Chinese is manifested more strongly in the Final than in the whole syllable in Cantonese (compare sum to fo). 2) Most vowels have a 'mirror' form; if the 'long/tense' vowels are taken as 'basic' then the remainder of the vowels in Cantonese can be seen as 'short/lax' and the opposite in the assignment of the feature [high]. 3) There is a noteworthy similarity between the Cantonese distribution of /a/ and /o/ (universally among all possible succeeding segments) and that of the She in late traditional phonology, suggesting that similar (but not the same) redundancy rules may have operated in Middle Chinese. 4) There appears a tendency for other dialects not to display Final redundancy (but perhaps Initial redundancy instead) in rough proportion to their loss of the Middle Chinese final consonants.

In conclusion, examining the Final in this way brings us one step closer to giving meaningful content to the frequent observation that the syllable is fundamental to Chinese in a way that is not true of European languages. Speculations that arise from this conclusion concern the relative strength of redundancy rules in sound change in Chinese, and the appropriateness of the Chinese writing system to the Chinese sound system.

D.W. LIGHTFOOT, McGill University

SUN MORN:1

Indeterminacy in Syntax

In this paper I shall raise the question of what could constitute a counterexample to the concept of deep structures found in Aspects. I shall discuss syntactic 'blends' and set them up as candidates for legitimate counterexamples. I shall examine the syntactic arguments for the easy/eager and persuade/expect distinctions and I shall show that for many predicate-taking adjectives, e.g., sure, silly, tough, there is no satisfactory syntactic basis for assigning them either an easy or an eager structural configuration. Furthermore, we make many wrong predictions if we derive them from both an eager AND an easy deep structure; they are not 'ambiguous'. Rather these adjectives seem to be neutral with regard to the arguments in Aspects and are 'blends'. In analyzing this kind of thing Chomsky TC forces us to make an arbitrary choice and is not only unhelpful but also counter-productive.

There are two possible wrinkles: one is to say that the deep structure of John is easy to please is in fact much closer to its surface form, in particular that there is no rule of Tough movement at work and that it is the same as the deep structure of John is eager to please. The second wrinkle is to admit semantic factors in making a choice between two possible deep structures. I shall argue (i) that there is no deep structure distinction between John is easy to please and John is eager to please, basing my case on a refutation of Postal and Ross, 'Tough Movement Si, Tough Deletion No!!' (Ling. Eq. 2.4) and (ii) that the deep structure of order is determined on semantic grounds and only on semantic grounds. I shall show exactly how semantic considerations will resolve the syntactic indeterminacy of order (but not of the predicate-taking adjectives) and then extend this kind of analysis to another syntactic problem, the problem of the correct source of restrictive relatives (where there are 3 analyses in the literature which look equally good from the syntactic point of view; but one can be shown to be appropriate for capturing a set of semantic generalizations).

The problem addressed here is the one faced by Perlmutter in his work on begin. Perlmutter's solution was that there are two verbs begin. This misses the point and leads to the absurd result that almost any begin sentence can be derived from either of his deep structures.

Conclusion: a truly autonomous syntax cannot handle this kind of indeterminacy. Deep structures must, in certain respects, be closer to surface structures and semantic rules must be exploited in building the syntax (but not in the standard Generative Semantics way where all relevant semantic distinctions must be incorporated into the 'syntactic' structures).

LEIGH LISKER, University of Pennsylvania

SUN AFT:2

On "Explaining" Vowel Duration Variation

Perhaps more time has been spent by phoneticians on measuring the durations of selected acoustic segments than on any other single aspect of the speech signal. In part the aim has been to find out how well such measurements confirm the linguistic classification of phonetic segments, usually vowels, on the basis of length. Much attention has also been directed to facts of a durational nature whose linguistic relevance is less certain, but whose importance for our understanding of the speech mechanism is undeniable. Studies of this sort have provided the basis for two well-known and generally accepted formulations: that the duration of a vowel depends
very much on its degree of openness, and that vowel duration depends also on the nature of a following consonant. For these relations several explanations have been offered, all of them plausible, but none without certain flaws when considered within a more general phonetic framework.

The relation between vowel height and duration has been understood as due to a time constraint on the movement of the relatively large mass of the mandible: if low vowels involve more jaw movement than high vowels, then the greater "intrinsic" duration of the former follows naturally. Three points may be raised: 1) If it is reasonable, as one important article states (Lehiste and Peterson, 1961), to analyze a vowel as a sequence of onglide, steadystate ("target") and offglide, we should suppose that low vowels have longer glides and shorter steadystate intervals than high vowels. This same study, however, fails to show any systematic difference durations, and the greater total duration of low vowels is in fact a greater duration of their steadystate intervals. 2) Might not one plausibly expect low vowels to exhibit, not greater duration, but a greater amount of target "undershoot", i.e., departure from a target formant pattern inferred from measurements of sustained isolated vowels? 3) Admitted the fact of articulatory compensation in speech, would it not be possible that acoustically satisfactory low vowels might be produced without the large amplitude jaw movements assumed necessary for such vowels?

The observed relation between vowel duration and following consonant has provoked no less than four explanations: 1) Vowels are shorter before voiceless consonants because such consonants are fortis and fortiness causes earlier onset of closure. 2) Vowels before voiceless (= fortis) consonants are shorter because the strong closing gesture is accomplished more rapidly. 3) Vowels are lengthened before voiced stops to allow time for laryngeal re-adjustment needed to maintain stop voicing. 4) Vowels are longer before voiced and shorter before voiceless consonants according to a rule of constant energy expenditure for the syllable, longer vowels and voiceless consonants both being relatively costly of energy. The force-of-articulation argument is flawed by the absence of an agreed-upon physical correlate of articulatory force; the explanation that posits vowel lengthening before voiced stops objectionable on several grounds, one of them that available evidence does not support the notion of a shift in laryngeal state as a feature of voiced stops. The one feature not referred to in explanations offered is laryngeal adjustment for voiceless stop production, and it is precisely here than an explanation of vowel duration differences before voiced and voiceless consonants is perhaps to be found.

The purpose of this paper is to briefly explore various weaknesses in the current models of the pseudo-cleft construction -- some of the weaknesses common to all of these models and some to particular ones. For example, current models predict a semantic difference between (1) and (2) which does not exist.

(1) What did I then was call the grocer.
(2) What did I then is call the grocer.

Ross' model also predicts a non-existent ambiguity in both (1) and (2) with respect to then. He claims that it is present twice in the deep structure of each of these sentences, but does not deal with the case where the second occurrence is not generated, which would yield the identical sentences (1) and (2) with the identical meanings.

The model presented in this paper claims that the entire deep structure of a pseudo-cleft sentence differs from its non-pseudo-cleft counterpart only by the presence of a Wh as the left-most daughter of the node to be focused, and that it differs from its Wh-question counterpart only in that the focal node of the pseudo-cleft is lexically filled while that of the question is filled by a Pro element. To take the simplest case,

(1) I saw a dog. [I] [saw] [a dog]
(2) What did I see? [I] [saw] [Wh Pro]
(3) What I saw was a dog. [I] [saw] [Wh a dog]

In the course of the paper a rule is developed which relates such deep structures in detail to the full range of pseudo-cleft sentences. The interaction of this rule with other rules involved is examined.

This paper is relevant not only to the study of the pseudo-cleft construction, but to the analysis of questions as well. It also argues against the tendency toward ever-increasing complexity of deep structure.
the fact that even within a small speech community there may be found a large amount of diversity--differences in the phonological, morphological, and semantic properties of the "same" word.

The authors studied a village of some 1300 individuals divided by ethnicity into two principal speech communities, one monolingual and one trilingual. As expected, intra-speech community linguistic homogeneity in the common language was even greater than inter-speech community homogeneity, but even within the speech community the degree of linguistic diversity was surprisingly high, considering that the individuals concerned engaged in frequent face-to-face interaction.

This paper will briefly summarize the situation with respect to the semantic domain of anatomy and will discuss the factors, both linguistic (e.g., ethnolinguistic reconstruction and language change) and social (e.g., the rise of education, the decline of village life with the concomitant flight to the city of the village youth, and the direct contact with the national standard language via the mass media) which account for it.

As is to be expected, this diversity is not uniform throughout the vocabulary. Four categories of terms are recognizable within the domain of anatomy--general, peasant, urban, and medical; each of which has been affected differently by the complex set of linguistic, psychological, and social factors operant in the community.

PATRICIA DONEGAN MILLER, Ohio State University

Chain Shifts, Reported Mergers, and Natural Ordering in Phonology

The purpose of this paper is to show that both the synchronic organization of phonological processes and the historical order of phonological changes can be explained by the functions of these processes and changes. Segmental processes in phonology fall into two functional classes: syntagmatic processes, which operate to ease the transition from one segment to another in connected speech, and paradigmatic processes, which serve to clarify the phonetic properties of individual segments. I will furnish examples from my research on vowel quality changes. Stampe has proposed that paradigmatic processes are ordered prior to (contrary) syntagmatic processes, and that this ordering responds to their distinct functions. I will demonstrate other natural ordering principles between processes within each class and show that these likewise respond to the processes' respective functions.

Syntagmatic processes, since they function to eliminate difficulties in spoken phrases, are usually mutually unordered. Although this results in many superficial neutralizations, it insures that the function of such processes will be fully realized in surface representations, where syntagmatic difficulties are encountered. In the extreme case of fast or casual speech, syntagmatic processes are the rule, and they never apply in "anti-feeding" orders. Paradigmatic processes, on the other hand, since they intensify the properties of individual segments, are characteristic of carefully articulated speech, and they typically apply in "anti-feeding" orders. Only in children is "feeding" order common in paradigmatic processes; adult language can rarely tolerate the massive neutralization of underlying distinctions which several paradigmatic processes applying in feeding order would produce. A non-neutralizing order seems natural in processes whose function is, after all, to intensify the distinctive features of segments.

These differences in function can explain the at first unbelievable cases reported to the LSA by Labov and Wald in 1969: informants merging segments in careful speech (e.g., minimal pairs) which they unconsciously distinguish in connected speech. The critical fact in these mergers, which I will discuss individually, is that each results from a paradigmatic process; the application of paradigmatic processes, as opposed to syntagmatic ones, is favored in careful, self-conscious speech, and often fails to occur in casual, unguarded speech.

Labov’s data is a clear refutation of the Jakobson-Martinet theory that sound change occurs in order to maximize phonological distinctions. In some of Labov’s reports, the more clearly an informant tried to pronounce a minimal pair, the more identical the pair became. This is because such mergers result from processes intensifying phonetic rather than phonological properties of segments. But Martinet is correct in observing that, at least for such paradigmatic processes, chains are more frequent than mergers. This is not, as Martinet believed, evidence that chains are causes. They are effects: given the function of paradigmatic processes--to intensify phonetic properties--it follows that their acceptance in diachronic change and their organization in the synchronic phonological system will ideally be in an order which minimizes merger. The cumulative effect is a series of processes in anti-feeding order, apparently a chain, but in reality only a reflection of the natural function of the processes themselves.

ROCKY V. MIRANDA, University of Minnesota

The Assumptions Underlying Internal Reconstruction

One of the fundamental assumptions of internal reconstruction is that a
phonological alternation is the result of phonological change and that prior to the change a non-alternating stage existed. Is this a reasonable assumption? Evidence from attested earlier stages of languages appears to be quite favorable. In general, alternations do not stand still. They originate in sound change and get eroded by processes like paradigmatic regularity. Even if some alternations go back to the earliest attested stages it is reasonable to assume that if still earlier stages of the language were available we could arrive at a stage when these alternations had not yet come into existence. We must exclude here some alternations that are not due to phonological change but to inviolable articulatory constraints. Thus, if in a language non-retroflex vowels alternate with retroflex vowels before retroflex consonants they cannot go back to a non-alternating stage when non-retroflex vowels occurred before retroflex consonants as well, since it is impossible to pronounce non-retroflex vowels before retroflex consonants. If we exclude this special class of alternations due to inviolable articulatory constraints, the assumption of a non-alternating stage appears to be a reasonable one. Some linguists have the mistaken impression that reconstructing a stage in the history of a language when none of its current phonological alternations had yet come into existence implies that the language at that stage had no phonological alternations at all. There is, however, no such implication in internal reconstruction. The language at that stage could have had any number of other alternations which got eroded or wiped out by various leveling processes in the course of history.

When there is an alternation between sounds X in environment E1, and Y in environment E2, one of the main tasks confronting the historical linguist is to determine whether X → Y in E2 or Y → X in E1. The task is simple if one of the alternatives is not a possible sound change. (Take for example, X=voiceless stop, Y=voiced stop, E1=non-front vowel, E2=front vowel.) But in many cases, both X → Y in E2 and Y → X in E1 are known to be possible (for instance, when X=voiceless obstruent, Y=voiced obstruent, E1=word boundary, E2=intervocalic) or we do not have sufficient knowledge about possible phonetic changes. The standard approach adopted in internal reconstruction is as follows: If X occurs only in E1 but Y occurs in E1 as well as E2 then the alternation goes back to X. Y → X in E1 is ruled out. It is well recognized that this approach does not help when X and Y are in complementary distribution (e.g., X in E1 only and Y in E2 only). However, it has not been recognized that even in cases of apparent neutralization (e.g., occurrence of X and Y in E1 and only of Y in E2) the validity of the standard approach depends on the underlying assumption that the neutralization does not go back to a case of complementary distribution. Unfortunately, this assumption can be wrong. In an apparent case of neutralization, if one of the environments, say E1, is actually a merger of two different environments, Ela, in which only X occurred, and Elb, in which only Y occurred, we have here a case in which X and Y occurred in complementary distribution at an earlier stage. An apparent case of neutralization can go back to a case of complementary distribution also when Y in environment E1 develops from a different phoneme Z. Examples of the above types are available at least in Sanskrit and Gothic to show how internal reconstruction can lead us astray when the underlying assumption about neutralization is wrong.

BERGNARD MOHR, California State College at Dominguez Hills [SAT AFT:2]
The Role of Tone in Syllabic Phonology

The suprasegmental elements of speech, such as stress, pitch, accent, and tone must be represented on the lexical level as features on morphemes, even though the domain of their phonetic realization is the syllable, and ultimately the string of segments. Since some phonological rules refer to tones in their suprasegmental representation, while others refer to them in their segmental realization, I suggested in a paper on Tone rules and the phonological representation of tones, two conventions for the interpretation of suprasegmental elements. Convention 1 maps a suprasegmental feature onto every segment of the string, while Convention 2 interprets a segmental feature with identical specification on every segment of a string as a suprasegmental feature. Both conventions operate at the lexical level and at any point in a derivation.

It appears now that these conventions work in the intended sense in the tone languages of South-East Asia where most morphemes are monosyllabic, and in languages with stress or pitch accent where polysyllabic morphemes have only one most-prominent syllable. However, many tone languages in Africa and America have large numbers of polysyllabic morphemes with distinctive tones on each syllable. Since the syllable is again being recognized as a significant element in linguistic theory (cf. Hooper, Lg. 48, 1972, 525-540), it has been suggested that tones be represented as features on syllables rather than on morphemes. Certain tone sandhi phenomena in Mixtec as described in Pike, Tone Languages, 1948, turn out to be crucial examples in this matter. With the exception of a few particles, all Mixtec morphemes are disyllabic, and each syllable may occur with a high, mid, or low tone. Across morpheme boundaries (but not within morphemes), a low tone on the first syllable is changed into a high tone, while a mid tone on the first syllable is changed into a high tone only when it is not followed by a high tone on the second syllable, after certain morphemes with raising influence.
But "raising influence" must be a morpheme feature since it is not predictable on the basis of syllable structure or tone sequence. In fact, the grammatical morpheme 'going on at the moment' also has the raising feature even though it has no segmental realization at all. Pike concludes "that in the tonemic sandhi the morpheme as a whole, not the isolated syllable, is the basic unit." (p. 81)

I conclude that tone features must be morpheme features, not syllable features; that the suprasegmental matrix must allow the specification of tone sequences in the same way that the segmental matrix allows the specification of segment sequences; and that the suprasegmental mapping conventions suggested above must be sensitive to the syllabification conventions suggested by Hooper, such that suprasegmental features are mapped from morphemes onto syllables, and from syllables onto segments (and from segments to syllables to morphemes as required). This type of suprasegmental mapping, like syllabification, must be applicable both before and during derivation.

JEAN-YVES MORIN, McGill University

On the Syntactic Cycle

The purpose of this paper is: (1) to demonstrate that the hypothesis of cyclic application of syntactic rules, although generally accepted by syntacticians, is, empirically as well as methodologically, untenable; (2) to propose an alternative theory of the mode of application of syntactic rules.

On methodological grounds, it is easy to show that the hypothesis of the cycle is based on the (implicit) assumption that rules are extrinsically ordered. As a matter of fact, the essential function of the cycle is to overcome bad consequences of total linear ordering of rules (e.g., to allow sequences of the type Passive-Equi-Passive, which are prohibited if all rules are linearly ordered). Once this hypothesis (extrinsic ordering) is discarded, which appears to be a good step in the light of presently available evidence concerning syntactic rules, primary motivation for the cyclic principle disappears completely.

Empirical evidence against the cyclic principle is harder to find. Transformational theory, as presently formulated, allows for so many exception mechanisms that any particular hypothesis seems to be able to escape blocking devices. Extrinsic ordering is saved by the cyclic principle, the cyclic principle is saved by having non-cyclic rules be pre- or post-cyclic, and so on. Furthermore, if we add the power of global rules to the theory, we are likely to be able to handle all possible counterexamples to the principle of the transformational cycle.

Having discussed the issue of the (apparently) unfalsifiable character of the cyclic principle, we shall present empirical evidence against such a principle.

This evidence will be based on the interaction of three syntactic rules of French (Quantifier Postposition, Agreement, and Subject Raising). It will be demonstrated that:

(1) these processes are all syntactic, Quantifier Postposition moves certain quantifiers in post-verbal position, Subject Raising moves complement subjects into matrix subject position (it can move pieces of idioms), Agreement of predicate adjectives cannot be interpretive, it must be "mixed" with QP on the cycle (if there is a cycle).

(2) they cannot be pre- or post-cyclic (they are mixed with "cyclic" rules like Passive, Equi, etc.).

(3) Agreement cannot be stated as a global rule (it must be able to refer to an indefinite number of coreferential nodes).

(4) the interaction of these three rules is incompatible with the cyclic principle (they must work sometimes cyclically, sometimes anti-cyclically).

(5) only a theory of simultaneous application with free reapplication can account for these facts.

PAMELA MBNO, University of California, San Diego

The Mojave Auxiliary: How the Subject Came Up

In Mojave, a Yuman language spoken on the Colorado River, the imperfective and perfective aspects are distinguished by the use of two separate groups of auxiliary verbs. This fairly uninteresting situation is enlivened by the fact that the two groups of auxiliaries force the lexical verbs they modify (and dominate) into very different complementation patterns -- in particular, the lexical complements of the perfective auxiliaries assume the form of object clauses -- which leads to problems in the assignment of underlying structures. The specific syntactic structure selected seems to be related more to the ordinary (non-auxiliary; lexical) meaning of the auxiliary verb than to its derived aspectual meaning.

The imperfective or progressive is indicated in Mojave by one of a group of position or location verbs -- <i>bu</i>: 'be in', <i>idi</i>: 'lie', <i>jw</i>: 'sit', <i>idaw</i>:...
The auxiliary selected for a given sentence may thus add information, but is often redundant:

(1a) ?-ima:-k
1-dance-same-subject aux-1-be-pres/past 'I was dancing'

(b) mohan-k
v-iva:-k
watch-same-subject aux-sit-pres/past 'He's watching it (-sitting)

The lexical verbs here are only loosely embedded: their suffixed -k's show that the subject of each verb is the same as that of the following higher verb (the auxiliary). This construction is almost like conjunction; it seems appropriate to the ambiguous lexical/grammatical status of these auxiliaries. The perfective auxiliaries are used in a complementation pattern like:

(2) ima:-p-m
-dance-p-different subj 1-see-tns? 'I saw him dance'

where -p appears to be an object complementizer (the suffix also occurs on the object form of the pronoun ?in'y (-c is a subject marker), which is ?in'y)

Examples of this construction with perfective auxiliaries are:

(3a) ima:-p-k
idu:-c
dance-p-same-subj be-e
'He danced'

(b) tapuy-p-k
a?wi:-c
kill-p-same-subj do-e
'He killed it'

The choice of the auxiliary is determined by the modified lexical verb: idu: 'be' is used with intransitives; a?wi 'do' is used with transitives (it is similarly used with some verbs of communication). Sentences like (3) are presumably the source for the commoner reduced forms in:

(4a) ima:-p-c
He danced' (b) tapuy-p-c 'He killed it'

-- the -p-c suffix significantly is used only on statives or past-tense verbs.

We may fairly comfortably assign to sentences like (2) an underlying tree structure like that in A below; the corresponding tree sketched in B, then, might be put forth as a source for (3). If DO is selected as the realization of AUX in tree B, the result is identical to Ross' proposed source (in "Act", 1972) for all sentences with active verbs -- although this should have no necessary connection with the perfective. But selection of BE as the higher verb in tree B (as in a sentence like (3a)) results in a funny sort of deep-structure topicalization ("He was his dancing?) which unaccountably does not surface semantically -- and, further, there seems to be no reason (cross-linguistically or elsewhere in Mojave) why the second argument of BE should be object-marked. Possibly the BE perfectives start out with a structure more like tree C, and assume the pattern of the DO perfectives only after a (poorly motivated) application of Subject Raising, which would fit them into the B mold. Intransitive sentences would then have the intransitive underlying auxiliary structure C, and transitives the transitive pattern B.

A. S. NP FP VP S
B. NP1 NP2 V S
C. NP1 NP2 V

By Myers, Queens College, CUNY

On the Tonal Evidence for Higher Verbs in Kikuyu

The peculiarities of the operation of tone assignment in Kikuyu have occasioned a relatively large body of linguistic literature on the topic. Among the contributors are Armstrong (1940), Harries (1954), Pratt (1972), and McCawley (1973).

In this paper I shall describe the essentially simple nature of the system of tone assignment rules for Kikuyu -- on which I differ from Pratt in several particulars -- and then show that the apparent violations of this simplicity which appear in some contexts can be satisfactorily described if the proper syntactic analysis is employed. I shall show that the description of the tonal anomalies which appear in negations, assertions with yes/no, questions and commands/requests, is most easily formulated within an analysis which treats these forms syntactically as higher verbs.

Nobliography:

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1 3 1 0
SUN MORN:5
followed by stress retraction to the initial syllable \( \text{Hottentot} \). His analysis tries to explain why the word does not receive expected penultimate stress \( \text{Hottentot} \), and further implicitly predicts that there are no words of the stress pattern \( \text{Hottentot} \) (words with 1-0-0 stress). However, many words with 1-0-0 stress do exist, such as \( \text{Cedergrden} \), \( \text{Pfmpern21} \), \( \text{lrundln} \), \( \text{Athelstgn} \), Protestant. The existence of such words casts serious doubt on the correctness of Ross’ analysis.

Regarding words with 1-0-0 stress, it is possible to predict not only the stress in these words, but also that in other three-syllable words having closed medial syllables. Words with 1-0-0 stress typically have sonorants at the end of the second syllable (r, l, n; sometimes also s) and a sonorant or sonorant cluster at the end of the word (see examples above). The same generalization includes such words as \( \text{lavender} \) and \( \text{energy} \) (with an underlying lax (i) vowel), which are treated by Ross in a different way. Words with 1-0-3 stress also have sonorants at the end of the second syllable, but have obstruents at the end of the word, as in \( \text{Hckens\~nc}\), \( \text{Blderd\~sch}\), and \( \text{Abelm\~sk}\). The 1-0-3 pattern is strengthened when the first two syllables and the last syllable each resemble a morpheme, as in \( \text{Balder} \) and \( \text{dash} \). Sometimes a single word shows both patterns, as in \( \text{Athelst\~n/Athelst} \) and \( \text{Pmpern\~l/Pmpern\~l} \) (the alternants show that the words contain three vowels). When the second syllable ends in an obstruent, then that syllable is likely to be stressed, as in \( \text{Mon\~nd\~nc}, \text{Pn\~nb\~sc\~r}, \) and \( \text{Hop\~rk\~ng} \) (Ross handles these in a different way).

This analysis is supported by the way speakers pronounce novel forms (in a testing situation), as in the pronunciations \( \text{~merd\~r, ~mlej\~nc} \) and \( \text{~nasb\~k} \).

Similar effects of obstruency and morpheme resemblance can be seen in other environments. Speakers accept \( \text{ponderst\~nk} \) as a pronunciation, and the same sequence before primary stress also seems quite acceptable (with the same stress), as in \( \text{ponderst\~nkal\~an} \). Also, a four-syllable word may be given initial stress if it is seen as being composed of two-syllable look-alikes, as in \( \text{Pf\~tenmor\~d\~p} \) (\( \text{Pf\~ten plus mor\~d\~p} \)). These effects are not currently predicted.

Given these discoveries regarding obstruency and morpheme resemblance, many current analyses (including Ross’) need to be discarded. Even beyond such matters as accepting or rejecting current analyses, these facts open up a whole new area of investigation in English stress.

The basic locative relationships represented in Standard English by \( \text{to} \) and \( \text{from} \) are expressed in Gullah by \( \text{to} \) and \( \text{from} \). Analysis of the Gullah texts of Turner (1969) and of Cunningham (1971) shows that \( \text{STATE-TO} \) locatives involve location at or movement toward a deictic center, as in \( \text{I’m to the pot} \), while \( \text{FROM} \) locatives involve movement away from a deictic center, as in \( \text{He run back the kitchen from the coffee} \). The deictic contrast between \( \text{ago} \) and \( \text{non-ago} \), as described by Kury\~lowicz (1972), may be seen as the source of the underlying marking relationships which obtain between the \( \text{STATE-TO} \) and the \( \text{FROM} \) categories.

The positing of such a fundamental semantactic contrast is necessary to account for the particular lines of development represented by the basic locative prepositions of three contemporary varieties of English: a West African pidgin of Nigeria, the creole Gullah of coastal South Carolina and Georgia, and Standard American English. A comparison of these three varieties of English -- historically related but typologically distinct -- shows increasing complexity of this basic locative set from the pidgin to the standard, along lines predictable from Hymes’ (1961) evolutionary approach to the functions of speech.

Both a functionalist and a universalist approach are needed to account for the development of the semantactic categories represented by the \( \text{TO} \) and \( \text{FROM} \) locatives of Gullah.

The Correlation Between Gender and Other Semantic Features in American English

Some 500 words were gleaned from the 1964 College Edition of Webster’s New World Dictionary of the American Language which included either a visible marker of +masculine such as \( \text{fellow, son, nan, pater, master, king, etc.} \) or a visible marker of +feminine such as \( \text{daughter, girl, frau, maid, mistress, queen, etc.} \). Masculine terms outnumbered feminine terms in a ratio of three to one.

All of the terms were analyzed for the existence of the following semantic features: +Occupation, +Prestige, -Human, +Person (in the generic sense), +Abstract, +Unusual age, +Family relationship. The differences between the ratio of masculine to feminine words in each of these categories
reveals something about the social structure of English speaking peoples. For example, high prestige words and words dealing with occupations were five times as apt to be masculine as feminine. In the occupation terms, even though the total number of feminine words was so small, there were still twice as many feminine as masculine terms which signified low prestige. The only categories of the seven mentioned above where there were more feminine than masculine terms were those dealing with age and family relationship.

One of the interesting findings was that having matching pairs of male and female words does not necessarily guarantee linguistic equality as some feminists seem to think it would. For example, the masculine word is usually considered more basic and more important as shown by the fact that it is the one that travels into other lexical items. For example, craftsman--craftswoman, or king--queen, kingdom but not queendom. Also meanings vary considerably in the list of words where there is no apparent masculine marker but where for some reason feminine counterparts have been created. For example, a governor is not the same as a majorette is not the same as a major. Poetess and authoress have negative connotations compared to poet and author. And certain feminine terms are more likely to have developed sexual connotations than are the masculine counterparts, e.g., madame compared to sir and mistress compared to master.

Of current interest are the more than 80 words which carry the +Person (in the generic sense) feature. Historically most of these words meant male exclusively, then through changes in the culture they began to be used when referring to either, or both, males and females. It is ironic that the words which feminists are currently protesting, such as chairman or freshman, are actually the most common words in this list and have been used with people of both sexes so long that they probably trigger few people to think of males exclusively. If there are words which are subconscious influences on people’s attitudes regarding the respective roles of males and females, it is more likely that they are the less common words such as manpower, masterpiece, sportsmanship, gentleman’s agreement, innerman, workmanship, etc.

Michael Noonan, University of California, Los Angeles

The Time Reference of Infinitives

Within the generative tradition, infinitives, gerunds, and that-clauses have typically all been taken to derive from full sentences. One way in which infinitives, however, differ from both gerunds and that-clauses is in the restrictions on time reference relative to the time reference of the matrix (or embedding) clause that are imposed on infinitives and not, in general, on gerunds and that-clauses. The time reference of infinitives depends on the presence or absence of an implicational relationship (presupposition, 1-way implication, or 2-way implication) between the embedding sentence and the infinitive. The implicational relationships are determined by the main verb of the embedding sentence.

Infinitives define adverb-like relationships to their embedding verbs; for instance, they resemble when-clauses rather than that-clauses in their limitations on time reference. Infinitives, like adverbs, have a sentential reference, whereas that-clauses and gerunds have a discourse reference.

Given the limitations on the time reference of plain infinitives, and the fact that no verb takes perfect infinitives without taking plain infinitives also, we can predict, on the basis of their semantic structure, which verbs will take indefinite complements.

Geoffrey Nunberg, Lehman College

Several attempts have been made to account for the alternation of it and so as English pro-complementizers. In particular, Kiparsky and Kiparsky (1970) argue that so can pronominalize only non-factive clauses, and Cushing (1972) suggests that it and so pronominalize sentences to which the features [+ definite] and [- definite], respectively, have been assigned; this feature is identified with the logical notation p.

Both suggestions, however, fall far short of descriptive adequacy. With some verbs, such as tell, the use of a so-complement suggests truth much more than does it; of tall tales, for example, we say "Tell it to the Marines." With other verbs, such as be afraid, a so-complement is used just in case the truth of the complement is asserted. What is more, the acceptability of a so-complement is linked, not only to truth conditions, but also to such factors as sentence position; we can say so I say, but not I say so; or if you so wish, but not if you wish so. Finally, sentences with so-complements behave idiosyncratically with respect to negation: I believe not, I don’t believe so, I hope not, but +I don’t hope so.

Many of these anomalies can be understood if we assume that complement so is identical with the pro-adverb in such sentences as You wrote it with abandon, and we printed it so, along the lines that Bouton (1970) suggests for do so. So-complements, then, establish only that the manner of performance of
the complementizing verb bears in some way upon a previous assertion; so and
it are distinguished in the degree of precision with which their referent is
identified with the object of the complementizing verb. Bob said it commits
Bob to having produced a specific utterance; Bob said so commits him only to
having some utterance which resembles an earlier assertion. The nature of the
relationship between the referent of so and the complementizing verb can thus
be determined only upon examination of the semantics of that verb.

Speakers exploit the imprecision afforded by the use of a so-complement
with those metaphorical extensions of such verbs as believe, guess, and be
afraid which are used as "hedges", so soften the effect of a bald assertion,
as in John is upstairs, I believe. This explains the restriction of so with
such verbs to the first-person, excepting in reported speech.

CAROLYN NYGREN, Central Institute for the Deaf

A Classification Scheme for Instrumental Verbs

Several attempts to classify instrumental verbs have been made. McDawley
classified them according to shared aspects of underlying semantic structure.
Binnick put verbs in the same class if the same item could appear in sentences
with them. Tile and paint were in the same class because the particle over
occurs with both, and they are in a different class from chain and fence be-
cause the particle occurring with chain and fence is in. Chain and fence
occur with adjectival complements (He chained the prisoners together.), while
tile and paint do not. Both schemes proved unsatisfactory. Evidence will be
presented in this paper that verbs can be classified by the items that appear
in sentences with them, and that this classification by the grammatical class
of those items corresponds to the semantic classification by Vendler (1967)
of verbal elements as Activity, Accomplishment, and Achievement terms.

Instrumental verbs will be classified first by whether they can be used
both in a sentence with an adjective and in a sentence with a particle,
He chopped the log apart.
He chopped the log up.
in a sentence with either an adjective or particle.
He ladled the soup out.  #He ladled the soup Adj.
He bombed the building flat.  #He bombed the building Prt.
or only in a sentence with neither particle nor adjective.

Verbs plus their appropriate particles and/or adjectives are accomplish-
ment terms. Accomplishment terms refer to processes that "go on in time, but
proceed toward a terminus which is logically necessary to their being what

they are." Vendler gives drawing a circle as an example. Verb plus particle
refer to the accomplishment of an activity, and verb plus adjective refer to
the accomplishment of a purpose.

He mopped the water up.
He mopped the floor dry.

The verbs will be classified then by the grammaticality of the questions
that result from their presence in the appropriate test frames. The questions
are (sentences with rake used as examples):

Particle
How long did it take you to rake the leaves up?
How long did it take you to rake the leaves?
How long did you rake the leaves up?
How long did you rake the leaves?

Adjective
How long did it take you to rake the yard clean?
How long did it take you to rake the yard?
#How long did you rake the yard clean?
How long did you rake the yard?

Verbs which result in grammatical sentences for the same questions will be
considered to be in the same class. This scheme may provide the basis for
a formal description of the structure of instrumental verbs.

CHOH-KYU OH, University of Kansas

Functions of Presupposition in the Grammar

The goal of the present paper is to reveal different uses of presup-
position in syntax or different ways that presupposition is realized in a
grammar. It is shown in the paper that presuppositions so far discovered
tall into one of the three categories: referential, transformational, and
residual. All explicitly mentioned presuppositions are referential. In
making an assertion with respect to a certain person, object, or event, the
speaker identifies that person, object, or event by means of the presupposi-
tion. Both uses of definite descriptions in Donnellan --referential and
descriptive-- will be discussed in connection with referentially used pre-
suppositions.

Transformational and residual presuppositions are not explicitly men-
tioned in the sentence. But only transformational presuppositions can be
detected from the application of certain transformational rules, both lexical
and nonlexical. A transformational presupposition triggers certain
transformations, thus making a lexical choice (e.g., criticize vs. accuse) or selecting a certain construction type (e.g., Karttunen's observation that different complement constructions are sometimes associated with different sets of presupposition.) The validity of certain arguments discovered in recent linguistic literature such as those employed by Fodor and Shibanami in their discussions of three reasons not to derive kill from cause to die will be weighed in the light of the present analysis of presupposition. Attempts will be made to explain away such pseudo questions as whether transformational rules should preserve the meaning or whether semantic interpretation should be allowed to be attained from the surface structures as well as from the deep structures. Finally, the paper will discuss such concepts as invited inference and conversational implicature in connection with residual presuppositions, whose presence is not directly marked in a sentence.

MANJARI OHALA, University of California, Berkeley

The schwa-deletion Rule in Hindi: Phonetic and Non-phonetic Determinants of Rule Application

On the basis of the phonological alternations exhibited by morphemes such as /pišč<kš "squeeze" and /pič<kš "squeezed", many linguists have posited a schwa-deletion rule for Hindi. In this paper I propose a new formulation of this rule. In applying or not applying this rule to a particular morpheme, native speakers of Hindi give evidence of taking into consideration not only the immediate phonetic environment, i.e., the syllable structure preceding and following the schwa, but also the following additional factors:

(a) Whether or not the cluster that would result upon the deletion of the schwa violates a consonant cluster constraint of Hindi. Thus, though /jangː+ː/ "forest + suffix", is /jangːː/ "wild", experimental evidence shows that /eɡumː+ː/ "spoon + plural", is /eɡumːː/, i.e., with the geminate simplified, or /eɡumːː/, but not /eɡumːː/. This parallels some findings of Kisseberth with respect to some American Indian languages.

(b) Sociolinguistic factors such as whether the word is a Sanskrit or Perso-Arabic loan and is used in "high" vocabulary, whether the speaker is speaking casually or formally.

(c) Whether there is a morpheme boundary in the environment preceding the schwa. Thus /be + pəɡː+ː/ is /bepréha/ "illiterate", and not /bepréha/. Experimental evidence is provided to show that the morpheme boundary must be posited by the native speaker and not simply by the linguist who knows the history of the language.

(d) The environment for the deletion of the schwa must not be supplied by one of the suffixes that blocks the application of the schwa-deletion rule, e.g., the suffix -lyːa. Thus, for many speakers /kəsɾ+ː/ "saffron + plural", is /kəsɾː/ but /kəsɾ+ːya/ "saffron + adjectival suffix", is /kəsɾːya/, not *kəsɾːya/.

BELGI ÖSTERREICH, University of New Mexico

Learning to Express 'Place': Locatives in Estonian Child Language

The study of syntactic development in children has seen an evolution in the last decade from purely structural analyses to an attempted integration with cognitive development. Thus, the early utterances of children are analyzed in terms of 'semantic relations' compatible with what is known about children's concurrent cognitive development. To some extent, such analyses remain unsatisfying -- there is a failure to account for varying proportions of the utterances in a corpus (it varies with individual children and the language being learned), and often the 'semantic relations' postulated seem uncomfortably close to what is known about adult semantics.

The purpose of this study is to examine the learning of a semantic subsystem -- the expression of location -- (initially defined in adult terms) in order to gain insights both into the child's system and his learning of the adult one.

The children whose language is analyzed were recorded in natural settings over a six month period, and range in age from 1 year 11 months to 2 years 10 months. All were learning Estonian as a first language.

Preliminary analysis of the data indicates that 'locative' is not necessarily a relevant category at the earliest stage. As an example, ova auto could mean either 'the man's car' or 'the man is in the car' in adult interpretation. But in terms of the child, there may be only one interpretation -- he is simply expressing an association between the man and the car. A more fitting category therefore might be 'associative', which covers both locatives and possessives (cf. Greenfield, Smith and Laufer, forthcoming). At a slightly later stage, location is expressed mainly by use of both locative and directional adverbials. The fact that the expression of 'motion towards' comes so early and is very noticeable (this is also true in Finnish -- Bowerman 1970) indicates that much may be missed about the semantic systems of children unless many languages which make differential distinctions are examined. All
of the children make more use of adverbials (which always have case endings) than of case endings on nouns or noun + postposition to express location and direction. This can be related both to children’s focus on what is present (i.e., it is unnecessary to specify the object) and to the use of locative expressions in Estonian (i.e., adverbials and double adverbials are very common also in adult speech). When discussing semantic relations in language development and their relationship to cognitive development, it is fruitful to 1) look for children’s own semantic categories; 2) take into account relations the child may be capable of expressing but that are not expressed in the adult language and 3) examine differential use of different ways of expressing the same relation in adult language.

References:


DAVID M. PERLMUTTER, Massachusetts Institute of Technology [SAT:1]

Evidence for a Post-Cycle in Syntax

Given a cyclical theory of grammar, it is logically possible that all rules apply cyclically. At various times, however, some generative grammarians have maintained that there exists a class of rules that are post-cyclical, not applying until after the cyclical application of cyclical rules has come to a halt, while some grammarians have maintained that there is no post-cycle in syntax, but rather a class of last-cyclical rules, which apply only during the final cycle. More recently, in connection with work that calls into question the existence of extrinsic rule ordering in syntax, it has been maintained that all grammatical rules are cyclical, and that post-cyclical or last-cyclical rules do not exist. Certain rules that had previously been thought to be post- or last-cyclical have been claimed to be higher-trigger cyclical -- that is, cyclical rules that do not apply until the cycle of their triggering element is reached.

In this paper I show that grammatical theory must countenance the existence of post-cyclical rules since there are two rules that cannot be cyclical, pre-cyclical, last-cyclical, or higher-trigger cyclical. The data are automatically accounted for, however, if these rules are post-cyclical. The two rules in question are Cliticization in Spanish and Subjectivization in Japanese.

First, I show that Cliticization in Spanish must be prevented from applying before the following four cyclical rules: Object Raising, Passive, Equi, and Reflexivization. Cliticization thus cannot be cyclical, for if it were, it would apply one cycle earlier than Object Raising, producing ungrammatical sentences. To prevent it from applying before Passive, Equi, and Reflexivization, superfluous constraints would be needed if Cliticization were cyclical. If it is post-cyclical, however, no special constraints are needed to prevent it from applying before these four rules; the fact that it will not apply till after them follows automatically from the fact that they are cyclical while Cliticization is post-cyclical. The fact that Cliticization cannot apply before cyclical rules shows that it is not pre-cyclical, and since there is no higher trigger that triggers it, it cannot be higher-trigger cyclical. Finally, if Cliticization were last-cyclical, special constraints would be needed to prevent it from applying before Object Raising, Passive, Equi, and Reflexivization on the last cycle. Since this follows automatically from the hypothesis that Cliticization is post-cyclical, I conclude that it is post-cyclical.

Second, I show that Subjectivization in Japanese must be prevented from applying before the following six rules: Predicate Raising, Subject Raising, Equi, Passive, GA/NI Conversion, and Reflexivization. The interaction of Subjectivization with these six rules provides arguments (analogous to those given for Cliticization in Spanish) showing that Subjectivization is neither cyclical, pre-cyclical, last-cyclical, or higher-trigger cyclical. The data are accounted for automatically, however, if Subjectivization is a post-cyclical rule.

Since Cliticization in Spanish and Subjectivization in Japanese are post-cyclical rules, linguistic theory must posit a post-cycle. Furthermore, since arguments of the type given there lead one to prefer a theory with post-cyclical rules over a theory with last-cyclical rules, it is claimed that no data supporting the existence of last-cyclical rules will be found in natural language.

THOMAS PERRY, University of Vienna [SAT:4]

Symmetric and Asymmetric with

Lakoff and Peters note the semantic connection between and-conjoined NPs and locutions containing with-phrases, and posit a derivational relationship
between the sentences of (1) and those of (2):

(1) a. John and Bill left
   b. John left with Bill
(2) a. Bill and John left
   b. Bill left with John

The synonymy of (1b) and (2b) follows, in their framework, from the synonymy of (1a) and (2a), which follows from the symmetrical nature of and. We will refer to this as symmetric with.

In addition to symmetric with, at least two other withes must be dealt with, neither of which can be derived in the way proposed for symmetric with because they have different syntactic and semantic distributions. Both of these withes are asymmetric, but one is comitative, as is symmetric with, while the other is instrumental. Thus, (1b) and (2b) are actually ambiguous between an asymmetric and a symmetric reading. In the symmetric reading of (1b), it is presupposed that Bill left; in the asymmetric reading it is asserted that Bill left, along with the assertion that John left. This conclusion is supported by facts from negation and complementation. If we abandon the Lakoff-Peters analysis of (1) and (2), however, we can reduce all instances of comitative with to the asymmetric case, deriving the "symmetry" of with in (1) and (2) entirely from the symmetry of and. This requires a return to the analysis of Gleitman, in which the conjoined subjects of (1) and (2) are derived from underlying conjoined sentences with with-phrases in their predicates.

It now becomes possible to explore the relationship between comitative and instrumental with. Both withes behave similarly with respect to presuppositions, and in certain semantic contexts, the difference between them seems to be neutralized. Further investigation reveals a complex interaction between sentences containing with and asymmetric and. This points the way to a possible solution to the problem of asymmetric and, which involves many of the same problems of temporal and causal priority as with.

ELLEN F. PRINCE, University of Pennsylvania

Negative Transportation in French

This paper deals with the differences between sentences like

1a. Je ne crois pas que Marie ait trouvé le livre
b. Je ne crois pas que Marie a trouvé le livre
'I don't believe that Mary found the book'

by positing an optional NEG-transportation rule, which raises a negative from an embedded object complement to the higher sentence and leaves as a trace the subjunctive mood on the embedded verb, just in case the matrix verb belongs to a particular class (penser, croire, imaginer, etc.). Therefore, (1a) is derived from something underlying its paraphrase.

1a. Je crois que Marie n'a pas trouvé le livre,
while (1b) does not differ in this way from its underlying structure with regard to the location of NEG.

The particular syntactic evidence presented by R. Lakoff (1969) for the existence of this rule in English is not applicable to French (until, tage), but other syntactic facts exist, supporting the positing of such a rule in French.

A. Negative particles:
French has double negatives consisting of preverbal ne and postverbal pas (unmarked), personne 'no one', rien 'nothing', jamais 'never', etc.

Consider:

2a. Marie n'a rien trouvé. 'Mary found nothing'
b. *Marie a rien trouvé.
c. Je ne crois pas que Marie ait rien trouvé. 'I don't think Mary found anything'
d. ?Je ne crois pas que Marie ait rien trouvé.

The presence of rien without ne in the complement of (c) is explainable if (c) is derived from something underlying c'. Je crois que Marie n'a rien trouvé.

It appears that, when a negative containing any of the marked particles is raised, those particles remain behind in the complement.

B. Partitive:
The partitive in French consists of de + definite article, except after a negative, where the definite article is deleted. Consider:

3a. Jean a mangé du pain. 'John ate (some) bread.'
b. *Jean a mangé de pain.
c. Je ne crois pas que Jean ait mangé de pain 'I don't think John ate any bread.'
d. ?Je ne crois pas que Jean a mangé de pain.

The absence of the definite article in (c) is explainable if (c) is derived from something underlying c'. Je crois que Jean n'a pas mangé de pain 'I think John didn't eat any bread.'

C. Negative-polarity items:
A small number of idiomatic expressions in French occur independently only in the negative. Consider:

4a. Ce n'est pas le peine d'y aller. 'It's not worth going there'
b. *Ce n'est pas le peine d'y aller.
c. Je ne crois pas que ce soit la peine d'y aller.
'I don't think it's worth going there'

d. Je crois que ce n'est pas la peine d'y aller.

(e) may be accounted for if it is derived from something underlying'

(c'). Je crois que ce n'est pas la peine d'y aller.

Attention will then be given to interrogative sentences containing this class of verbs, as they also display a subjunctive-indicative alternation. An attempt will be made to account for the difference between

5a. Croyez-vous que Paul est riche? 'Do you believe that Paul is rich?'
   b. Croyez-vous que Paul soit riche? 'Do you believe that Paul is rich?'

(5a, b) may be answered by (6a, b) respectively:

6a. Je le crois. 'I believe it'
   b. Je crois que o ui. 'I believe so'

Finally, the subjunctive-indicative alternation will be considered in light of Bolinger's certainty-uncertainty principle (G. Lakoff, 1970, 'Pronom, Neg, and Anal of Adv')

ERNST PULGRAM, University of Michigan

Prosodies of Vowel and Syllable in Greek and Latin

Vocalic quantity and syllabic weight are presented as phonological properties of Greek and Latin; syllabic quantity is accounted for through an additional non-phonological rule for metrical purposes only.

Three prosodic systems are set up. VQ (vocalic quantity) with long and short vowels distinguished by durational and/or other features. In Attic Greek, where the place of the accent is (with some constraints) free, or prosodemic, the type of accent is predictable from vocalic quantity. Syllabic weight is irrelevant, as is syllabic quantity in non-metrical speech.

SW (syllabic weight) with heavy syllables, which are long-vowel syllables or short-vowel closed syllables, and light syllables, which are short-vowel open syllables. The place of the accent in Latin is stable in terms of syllabic weight, without the traditional reference to syllabic quantity: the accent is on the penultimate syllable (if there is one). SQ (syllabic quantity) counts as metrically long all long-vowel syllables and all short-vowel syllables whose vowel is followed by two or more consonants; all other syllables are short. Thus not only all heavy syllables are counted long (which would be phonologically defensible since weight is stated in phonological terms) but also light syllables like the first in O-ke and inter-grum. The view that two or more consonants invariably close the syllable preceding them, hence render it heavy and therefore long on phonological grounds, is untenable because some such consonant groups form permissible syllable-initial clusters, as in the examples cited. (The rules on syllabation here applied are: (a) whatever cluster occurs lexeme-initially is permissible also syllable-initially in lexeme-medial position, except sequences whose first member is /s/, which is always detached from following consonants at lexeme-medial syllable boundaries, (b) in any syllabation a maximum number of syllables must be kept open.) Syllables counted metrically long on this consonant-counting, non-phonological basis are called long (/he-saI' by axio, by agreement, positione', which came to be understood as referring to the position of the vowel before two or more consonants.

The positione rule increases the number of long syllables provided naturally, by the structure of the language, whether VQ or SW. Since Greek has a greater variety of syllable-initial clusters than Latin (where only muta-liga and cu /hu/ occur, neither of which invariably makes positione), Greek is more affected than Latin by the rule. But since all Latin meters (except the probably autochthonous saturian) are borrowed from Greek, as is the positione rule, the reason for the origin of this extra-phonological rule must be sought in Greek.

Since presumably a native metric fits the phonology of the language without adjustments like the positione rule, one is led to wonder whether Greek metrics was not borrowed from another language (as was, later, Latin metrics from Greek). Indeed Mycenean Greek appears to have had many more short syllables than long ones, and Homer may place a short syllable in a metrically long slot so as to satisfy the requirements of the hexameter.

Metrical syllabic quantity is signaled by duration (since the rhythm of classical meters resides in an arrangement of time-patterns), in particular by vocalic duration, and not by added consonantal duration (not all consonants have a duration, nor do they necessarily belong to the syllable long positione). Hence the syllable long positione must be pronounced with a long allophone of its short vowel. Since long and short vowels differ pairwise also in quality (close goes with long, open with short in Latin; in Greek the opposite seems to hold), a long allophone of a phonemically short vowel has an open quality by which it is properly identified; it cannot collide phonetically with the long but close allophone of a phonemically long vowel. In metrical discourse such an unusual allophone is not disturbing, especially since it occurs according to known rules and is predictable.

Non-metrical Greek is therefore a VQ language, Latin an SW language; but both employ the SQ rule in their metrics.
Grosu (1972) has argued that the facts previously assumed to be accounted for by Ross' Island Constraints (that is, by constraints on grammars) are to be explained as consequences of perceptual strategies.

The purpose of this paper is to present evidence bearing on Grosu's hypothesis which is of a rather different sort from that which Grosu proposes.

The authors have carried out a pilot study in which 22 native speakers of Japanese living in the continental United States who had learned English as adults were asked to make relative well-formedness judgments about pairs of English word strings. The study focused on Ross' upward boundedness constraint on right movement rules (henceforth, the UBC) and sentences in English the derivations of which involved an application of the transformation Extraposition from NP. Since the grammar of Japanese contains no Extraposition rules, transfer of constraints on rules from the grammar of the subjects' native language was eliminated as a possible source of constraints on Extraposition from NP in the grammars which the subjects had constructed for English.

The results indicated that native speakers of a non-Extraposing language will nevertheless tend to make well-formedness judgments about Extraposition sentences in accordance with the UBC when they learn a second language which includes such sentences. In some cases this was true even of subjects whose judgments about other pairs of strings indicated that their grammars for English did not include Extraposition from NP. This suggests that the constraint in question cannot be a constraint on grammars but must be a perceptual constraint.

This paper presents the results of a broader and deeper study of these questions using subjects living in Japan and Hawaii.

Reference:
An important island-weakening factor will also be discussed.

In conclusion, the notion of a fuzzy island is needed in the grammar to account for the wide range of fuzzy-grammatical strings produced by violations of island constraints.

ANDY ROGERS, University of Texas, Austin

Meaning Relations Among Verbs of Physical Perception

In this paper I shall sketch and attempt to justify a lexical decomposition analysis of a group of 20 verbs of physical perception in English which appear to be systematically related. Four distinct subgroups of five verbs each, one for each of the commonly accepted human physical sensory modalities (sight, hearing, taste, smell, and touch), will be isolated in terms of their syntactic/semantic properties, and an analysis, in terms of semantic-model interpretable logical forms will be offered, which relates the members of each of the semantically more complex subgroups to the members of the semantically more simple group. The classification is illustrated in the table below:

<table>
<thead>
<tr>
<th>Sensory Mode</th>
<th>Sight</th>
<th>Hearing</th>
<th>Taste</th>
<th>Smell</th>
<th>Touch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stative</td>
<td>see</td>
<td>hear</td>
<td>taste</td>
<td>smell</td>
<td>feel</td>
</tr>
<tr>
<td>Inchoative</td>
<td>see</td>
<td>hear</td>
<td>taste</td>
<td>smell</td>
<td>feel</td>
</tr>
<tr>
<td>Active</td>
<td>watch</td>
<td>listen</td>
<td>taste</td>
<td>smell</td>
<td>feel</td>
</tr>
<tr>
<td>Flip</td>
<td>look</td>
<td>sound</td>
<td>taste</td>
<td>smell</td>
<td>feel</td>
</tr>
</tbody>
</table>

The Statives and Inchoatives are distinguishable, on the one hand from the Actives by Agentivity and Staticity tests, and from the Flips, on the other hand, by reversal of subject and object co-occurrence restrictions. The Statives are distinguishable from the Inchoatives on the basis of co-occurrence with durative versus point-time temporal adverbs and gerundive and infinitival complements, as examples (1)-(6) begin to illustrate.

(1) I heard the crickets [AMBIG.]
(2) I heard the crickets [UNAMBIG.]
(3) I heard the [crickets] [the rock, *odor]
(4) The crickets [AMBIG.]
(5) The crickets [UNAMBIG.]
(6) The crickets [AMBIG.]

An analysis of the relationship among the semantic function-types, in terms of the atomic predicates of inchoation, agentivity, and causation which simultaneously captures these relationships and accounts for the criterial properties of these verbs, e.g.

Hear Incho (A, B) as come about (Hear St (A, B))
Listen (A, B) as do (A, (Hear St (A, B))
Sound (A, B, C) as cause (Hear (A, B), believe (A, (BE(B, C))))

LAURENCE ROSENFIELD, Hunter College

The Effect of Two Syntactic Cues on Reader Perception of Source Personality Traits

An experiment was undertaken to determine the manner in which the occurrence of verb voice (active-passive) and sentence complexity (simple-complex) would influence reader perception of an anonymous author's personality. More specifically, the study (based on Goffman's notion that an auditor is constantly seeking in the source's performance an "unintentional product of the individual's unconscious response to the facts of the situation") sought to determine: 1) to what extent these two particular linguistic units influence reader perception of a source; 2) what information about the source's personality the two units provide; 3) the relation of the two variables to each other in their role as a personality cue.

The experiment employed a personality profile derived from Semantic Differential scales to assess reader reaction to short prose passages whose verb voice and sentence complexity had been systematically varied. The results of the analysis (using Anova procedures to determine statistical significance) indicate: 1) messages containing a high proportion of active verbs are perceived as being written by a less "masculine" author than corresponding prose containing a high ratio of passive verbs; 2) messages with a high ratio of simple sentences are perceived as authored by a source both less "masculine" and less "self-confident" than comparable messages with a high ratio of complex sentences; 3) an interaction effect between linguistic variables produced a single cue which readers took to reflect an author's "awkwardness."
These findings have implications for similar psycholinguistic investigations in the area of journalism (cf. Tannenbaum et al.), but also with respect to studies in syntax acquisition by Piaget, Brown, and Berko. It may well be that adults take increasing variation in syntactic usage as an indication of the adolescent's social maturation.

JOHN ROSS, Massachusetts Institute of Technology

"Negginess"

In Klima's pioneering work on the syntax of negation, it was asserted that the ability to occur before a positive tag, a neither-tag and a not even-tag, defined a concept of sentence negation (cf. (1)),

1. He will *(not) go, {will he? (and neither will I. (not even if you tickle him.)

and that certain words (not, never, few, no, hardly, etc.) in the appropriate environments, conferred negativity upon a sentence.

This paper argues that these three types of tags are not in fact co-extensive - that sentences followed by positive tags are "more negative" (neggier) than are those followed by neither-tags, and that the latter are neggier than those followed by not even-tags. (cf. (2) and (3)).

2. He ate nothing {?*he did he? (and neither did I. (not even the Peking duck.)

3. He read few books {?*he did he? (and neither did I. (not even short ones.)

Thus sentence negation is not a binary property of sentences, which they either have or do not have, but rather a quantifiable, or squishy, one. The paper elaborates the finer structure of this squish, showing how various morphemes contribute different amounts of negginess, depending, among other things, on their position in the string. (cf. (4)).

4. a. ?*He arrested few men, and neither did she.

Few men were arrested, and neither were many women.

The fact that a developmental psycholinguist writes a "grammar" of a child's speech might suggest erroneously that the child has one set of rules at a particular point in time. Since it is known that adult speakers have a repertoire of speech styles, or possibly a continuum of styles determined by the situation, it is possible that even young children's speech is responsive to situational cues. Until recently, it was assumed, in line with Piaget's concept of egocentricity, that the young child could not take account of characteristics of the listener. In fact, this has been demonstrated experimentally with such situations as listeners who can not see what the child is talking about. It is possible, however, that other listener characteristics more intrinsic to normal communication might be responded to differentially by the child, and, in fact, Shatz and Gelman (in press) have shown that 4-year-old children speak more simply to 2-year-olds than to 4-year-olds. The purpose of the current study was to investigate further children's control over their own speech style.

Tape recordings were made of 6 3- and 4-year-old children in two situations: 1) With the child talking to different listeners (adult, peer, an 18-month-old baby and a baby doll), and 2) With the child role-playing a "baby who is just learning how to talk." Each child's speech in the several situations was analyzed with respect to such attributes as mean length of utterance, percentage of various sentence types, frequency of certain constructions (e.g., complements, relative clauses), types of questions (e.g., information-seeking, instructional, polite imperative), types of verb tenses, and mean number of words before the main verb.

The child's speech was different on almost all measures when talking to a younger child or a doll as compared with the speech to a peer or an adult. The differences in general were of the same sort as have been found for adults speaking to young children. Many of the changes were not obvious ones. For example, children tended to use mainly instructional questions when speaking to a baby, but mainly information-seeking questions to a peer. The speech to a baby doll was similar to that addressed to a real baby, indicating that feedback from a listener is not necessary for the speech modifications to occur. Rather, the children seemed to "know" how to modify their speech appropriately for young listeners. Similarly, in the role-playing situation, children changed and simplified their speech when talking as a baby. The fact that children modified so many attributes of their speech indicates a complex approximation to earlier developmental levels, rather than the use of a simple learned "stereotype". For example, children might have role-playing baby simply by using some superficial characteristics, such
as substituting /w/ for /r/.

The kind of ability shown in this study may be an aspect of the child's "specialization" for language acquisition since it appears at a time when the child's general level of cognitive development would imply insensitivity to listener characteristics. In many cultures, young children learning language have the speech of other children as their primary linguistic input, and a responsiveness to the age of the listener could have evolved to facilitate language acquisition in the younger child. We suggest that a study of the development of the ability to modify speech style in different situations is relevant not only to the field of language development, but is relevant more generally for our conceptions of what kind of linguistic knowledge speakers have and how language is produced.

JILALI SAIB, University of California, Los Angeles

The Treatment of Geminates: Evidence from Berber

In many recent studies, geminate consonants have been treated as unit segments with the inherent feature specification [+long] or [+tense]. While these feature analyses appear adequate for some languages, in others the status of geminates is far from being settled, and theoretical issues raised by these segments are far from being resolved.

In this paper, a close look is taken at one such language, Berber, where geminates cannot be handled by the feature specification [+long] or [+tense]. Rather, the data clearly indicate that the correct analysis is one which treats them as a sequence of two identical segments.

In this discussion, a distinction is made between three kinds of geminates: lexical, phonological and morphological. I shall focus most of my attention on geminates which are derived by phonological and morphological rules. It is shown that the morpheme structure conditions as well as several phonological rules (e.g., schwa insertion, spirantization, plural formation, etc.) require that geminates be treated as double consonants if the generalizations of the language are to be captured.

These data therefore raise a number of questions pertinent to phonological theory which will be discussed in this paper. In particular, data from other languages (e.g., Italian, Finnish, Arabic, etc.) lead one to the conclusion that geminates should always be represented as double consonants on the systematic phonemic level.

ROSS (1972) discusses syntactic phenomena which suggest that the lexical distinction Verb/Adjective/Noun is not discrete but "squishy".

In this paper I discuss syntactic phenomena which suggest that the functional distinction Subject/Direct Object/Indirect Object/Agent Compl. is also not a discrete one. The phenomena I discuss suggest furthermore a relation of relative "strength" within the functional subcategories as follows:

1. SUBJ > DOBJ > IOBJ > AG

The syntactic phenomena under discussion involve the behavior of sentential complements of periphrastic causative verbs in Romance (the examples in this abstract are from Italian) when they undergo the processes of Raising and Pruning. In 2-4 items (b) have undergone these processes, items (a) have not.

2. (a) Maria fa sì che Gianni(SUBJ) scriva
   (b) Maria fa scrivere Gianni(DOBJ) a Gianni(AG)
   'Maria has/makes Gianni write'

3. (a) Maria fa sì che Gianni(SUBJ) scriva la lettera(DOBJ)
   (b) Maria fa scrivere la lettera(DOBJ) a Gianni(IOBJ)
   'Maria has/makes Gianni write the letter'

4. (a) Maria fa sì che Gianni(SUBJ) scriva la lettera(DOBJ) a Luigi(IOBJ)
   (b) Maria fa scrivere la lettera(DOBJ) a Luigi(AG)
   Note that in 2 SUBJ > DOBJ, in 3 SUBJ > IOBJ, and in 4 SUBJ > AG. The phenomenon identified is that a functional category, SUBJ, undergoes mutation with structure reduction resulting from Raising and Pruning. The direction of the mutation indicates a parameter of functional strength as in 1. In this paper I propose that the surface syntax of Romance (but not Latin or English) is constrained to only one member for each functional category in my one simplex structure. As a consequence, with Raising and Pruning a functional category will mutate according to a variable defined on the strength parameter 1.

Classification is a model which can deal with such variation. However, it encounters serious difficulty in the fact that no consistent phonological variation is found in the grammar of the child aphasic than in the normal child. Both of these differences are attributed to the cluster of phenomena customarily considered diagnostic of minimal brain dysfunction as characterized by Wender (1971).

Data from four aphasic children seen at the Institute for Childhood Aphasia is compared with that from a large number of normal children.


The Apachen languages are a group of closely related Athabaskan dialects spoken in the Southwestern United States. Attempts to classify these dialects have utilized either a Stammbaum model or a dialectal model, treating categorical phonological correspondences essentially as isoglosses. Either model encounters serious difficulty, however, in the fact that no consistent isoglosses can be drawn nor any discrete groupings distinguished because some of the phonological variations found in the area are consistently confined to any particular group. For instance, Hoijer's classification of these dialects used the [s]:[k] correspondence as a major criterion for distinguishing Eastern and Western Apachean, but both variants are widely attested in both divisions, and within individual dialects as well. What is clearly needed in this situation is a model which can deal with such variation.

A possible model is to be found in the Brainard-Robinson seriation technique originally developed for use in archaeology to determine relationships between sites on the basis of surface collections of artifacts. Adapted to linguistic data, the method would permit the determination of relative degrees of proximity or distance between dialects or languages on the basis of the relative frequency of specified phonological (or other) variables.

For the purpose of this study, word lists for various Apachean dialects collected during the nineteenth century were employed (including all those available in the Smithsonian archives). Some of these lists contain data on Apachean dialects which are now extinct and have never been classified. The following sound correspondences were selected for study and their relative frequency in the various word lists computed: [t]:[k]; [yl]:[z]; [ul]:[o]; [n]:[d]; and [yl]:[w].

The results, displayed in a matrix, show the relative order of similarity, in terms of these features, among the attested Apachean dialects. Brief consideration is given to comparing the degrees of relationship indicated by this method with results from previous lexicostatistical classification.

Michael Schutt, Indiana University

Kiparsky (1971) has proposed the hypothesis that only those rules may be lost, in the course of historical change, which have become opaque. This hypothesis was given additional support by King (1973, unpublished). In this paper I propose a stronger version of this hypothesis, namely that a rule must be opaque in order for it to undergo any change.

An example of this is to be found in the historical development of vowel nasalization in French, which can be divided into four stages. The first stage is that which follows the introduction of an automatic, fully transparent vowel nasalization rule:

\[ V + [+\text{nas}] \rightarrow [+\text{cons}] \]

The second stage is characterized by the addition of another, independent rule deleting consonants in preconsonantal or prepausal position:

\[ [+\text{cons}] \rightarrow \emptyset \]

(This rule is oversimplified, but the simplification has no effect on the argument.) This rule, by eliminating some of the environments which condition the first rule, renders the latter partially opaque.

In the following stages, the nasalization rule changes its environment by incorporating the environment of the (originally unrelated) consonant-deletion rule. Thus the former rule has changed as a direct result of the
opacity introduced by the latter rule. Opacity, therefore, can be shown to be the direct cause of a change in a rule other than loss. Considerations of opacity, indeed, far outweigh considerations of paradigm regularity in this case, which operate only in the fourth stage to repair paradigms made irregular in the first three.

HANSJAKOB SEILER, University of Cologne

The Principle of Concomitance: Instrumental, Comitative, and Collective

1. Purpose. Given a specific problem, the notion of an Underlying Principle, as distinct from an underlying representation or deep structure, is explicated by stating: (a) the regularities obtaining between different sentence structures, and (b) the communicative purposes (the "Teleonomy") which are served by these regularities.

2. The problem. In "Instrumental Adverbs and the Concept of Deep Structure" G. Lakoff (1968) has presented evidence for a systematic relationship between two sentences of different structure but referring to the same extra-linguistic reality. In grammatical terms, the relationship is between

(1) a. N₁ V with N₂'
   b. N₁ ' V' (=use) N₂ to V

(numbering and symbolism are mine, irrelevant detail omitted). Under the various underlying structure hypotheses it has never become clear what a structure underlying both a. and b. would look like and how a. and b. should be derived. On the other hand, the linguistic nature of the relationship between a. and b. has been seriously questioned (Coseriu, 1970).

In experimenting with Modern Standard German (-the situation in English is very similar-) I have come to the conclusion that the relationship between a. and b. sentences is linguistic and holds for a much broader range than was previously assumed. It holds for three otherwise distinct categories, termed Instrumental, Comitative, and Collective.

3. The Manifestations of the Principle of Concomitance:
1) Basically predicative nature of phrases containing mit 'with'.
2) Two complementary sentences in paraphrase relationship, one showing mit and no "extra" verb V', the other showing V' and no mit.
3) The V' and the N₂' within each syntactic type (Instr., Comit., Coll.) are automatic, i.e., given an a. one can generate a b., and vice versa.
4) Each syntactic type comprises a marked and an unmarked representation. In the marked, V' is chosen from three restricted sets of verbs which are synonyms of, respectively, verwenden (Instr.), Partner sein (Comit.), ein Gesetz umzusetzen (Coll.). In the unmarked representation, the V' can be extracted from N₂' which

MARATSUMI SHIBATANI, University of Southern California

On the Semantics of Causative Sentences

A few pieces of evidence have been advanced for or against deriving a lexical causative, e.g., kill, from the underlying structure similar to the one that gives rise to a grammatical (or periphrastic) counterpart, e.g., cause to die. However, the controversy has evolved around evidence which is syntactic in nature, and surprisingly little has been said about any possible semantic difference between the two types of causative forms. This paper contends that these two types of causative forms have different semantic properties: In particular, in many languages that lack an abstract verb like
English *cause*, the features "manipulative" and "directive" are associated with the lexical and its corresponding grammatical causative form, respectively. (In the case of English *cause*, the verb is vague as to these features.) These features represent an apparent semantic difference observed in the pairs of the following type: John stood Bill up vs. John had/made Bill stand up.

There are two types of systematic exception to the above generalization. One has to do with whether a grammatical causative form has its lexical counterpart or not; in case it does not, it expresses manipulative as well as directive causation. E.g., the Japanese grammatical causative form *agar-ase-* 'rise-cause' has its lexical counterpart, *aga-* 'raise/lift'; consequently, the former expresses only directive causation, and the latter manipulative causation. The form *suar-ase-* 'sit-cause', however, lacks its lexical counterpart, and it expresses directive as well as manipulative causation. The other type of exception has to do with whether or not a lexical causative sentence expresses a situation that has a conventionalized purpose associated with it; if it does, and if the speaker's interest lies in the associated purpose rather than the causative situation itself, then the sentence expresses directive causation. This consideration accounts for the fact that a sentence like *I stopped a man in the street* does not always express the manipulative situation, where I, for example, grabbed the man. Also it sheds the light on the meaning difference between the above sentence with the non-manipulative reading and the counterpart grammatical causative sentence *I had a man stop in the street*.

The two types of exception discussed have a significant implication toward semantic theory; in particular, they present concrete cases where the entire range of meaning of a causative sentence cannot be understood just by looking at the sentence itself. In the case of the first type of exception, it is necessary to look through the lexicon to find out whether a particular grammatical causative form has its lexical counterpart or not. And in the case of the second type, one needs to know whether or not a sentence has any implicature, and whether or not the speaker is interested in the implicature rather than the causative situation.

A speaker cannot know the meaning of sentences because they are infinite; rather he must know some finite set of primes and combinatory principles. In this connection, there is a need to explore the distinction between main verb arguments and other constituents. Constituents required by a verb always number among its arguments, e.g., the NP and PP following *put*. Consider optimal constituents. I propose the twin criteria of entailment and logical dominance for the definition of main verb arguments. In regard to the first criterion, "Ed moved the refrigerator" entails "Ed moved the refrigerator from someplace to someplace else", hence SOURCE and GOAL qualify as arguments for *move*. The same sentence does not entail "Ed moved the refrigerator for someone" so BENEFACTIVE does not qualify. There would appear to be every reason not to make reference to this semantic function in lexical entries for main verbs, any more than to sentential modifiers of TIME, PLACE, CIRCUMSTANCE or CAUSE, or the adjunct a crook in "Ted came back from Newark a crook". But then there is need for a set of principles for integrating propositional meaning not determined by lexical heads into the semantic structure of the sentences as a whole.

The part of sentence meaning governed by the main verb (the nucleus) is characterized by a principle of predicate hierarchy where arguments must conform strictly to the meaning which is determinate in their predicates. Prepositional phrases are propositional heads in their own right: the base rule for PP should be like the one for VP, PP → P(NP) (PP) (S): they impose semantic interpretations on their objects just as verbs do (e.g., Why we can say "on the house" but not "on the room"; "The party is behind the carnival" imposes a spatial interpretation on carnival while there is a temporal one in "The party is after the carnival"). No pair-wise selectional features will be adequate between verbs and prepositions, rather acceptability depends on the interpretation of all the word meanings operating in the hierarchy of a proposition. "They hurried through the crowd" is acceptable, "They stayed through the crowd" is not, but not because of any incompatibility between stay and through as can be seen from "They stayed through the last act."

Prepositional phrases outside the nucleus are free from the semantic influence of the main verb, and furthermore, are never involved in idioms governed by main verbs.
Roles of Underlying Structure in Diachronic Syntax

Recent studies in diachronic syntax have raised several exciting questions: should syntactic changes be analyzed in terms of addition, loss, and reordering of rules (Klima, 1965, 1969) or in terms of redundancy rules that govern transformation (Robin Lakoff, 1969): do they simply involve regularization in surface structure (Naro, 1969, 1971), or does the underlying structure have any bearing on it (Reighard, 1971). In this paper an attempt is made to show that in the process of syntactic changes, the underlying semantic structure plays an important role. If a certain component of the underlying structure is not realized by the changed surface structure, new surface structure shows up in its place. This hypothesis is supported by the history of weor3an and get passives in English.

Old English beon (of southern and midwestern dialects) and wesen (of west saxon dialect) were later on grouped together (both replaced by be in Modern English) but weor3an (which became wurthe, in middle English) could not be assimilated by be passives because of its unique semantic function. This paper analyzes examples from the prose of Alfred and ME texts of Genesis and Exodus and from Piers Plowman to prove the point. It is shown that in the process of change from Middle English to Modern English weor3an was lost and a number of auxiliaries (especially become and get) were used in its place for some centuries. Several examples are given from Shakespeare, Goldsmith, Jane Austin and Charles Dickens to show competing auxiliaries in similar environments and a historical account is given of how get passive is used in its place more frequently since the end of the eighteenth century.

It is claimed that get passives (and before that weor3an passives) are used mostly in situations which demand the use of reflexive verbs in French and Spanish and related inchoative verbs in Hindi. An attempt is made to show how all these are semantically related to IE middle voice and a brief account is given of how the underlying structure of a Sanskrit middle voice sentence is similar to that of a get passive sentence in English. It is suggested that the similarity proves the hypothesis of this paper: although the middle voice was lost, its underlying structure did not lose any component and its semantic function was realized in different IE languages in different ways.

References:
2. Frary, Louise Grace (1929) Studies in the Syntax of the OE Passive. (Supplement to LSA, no. 5)

In this paper I will discuss three specific examples of analogical change
and show how a morphological theory directly accounts for the changes that take place, while the theory of generative phonology, as currently practiced, fails completely. I will first show that analogical change is a change in accordance with a psychologically-real morphological rule. Second, a morphological theory can explain the so-called complication and globalization of phonological rules. Finally, exceptions to regular sound change can be easily explained by a morphological theory. The specific examples to be discussed will be to past-tense forms and the gradation of plural stems in Finnish, and the classical example of honoo > honor in Latin.

CLARENCE SLOAT and JAMES HOARD, University of Oregon

The Asymmetry of English Inflectional Endings: The Implications for Rule Schemata

The regular alternations of the past tense ending do not determine a unique underlying shape for the formative. The underlying form may or may not contain a vowel. Neither do the regular alternations of the past participle, plural, possessive, and third-person singular endings determine unique underliers. The regular endings are all subject to external sandhi.

However, certain past tenses, past participles, and plurals are internal. These include such verb forms as kept, left, hit, wed, built and such plurals as wives, moths and paths (with voiced stem finals), and houses. All aspects of the internal past tenses and past participles can be accounted for with independently motivated rules only if a vowelless underlying form is posited. On the other hand, the internal plurals can be accounted for simply only if a vowel plus consonant ending is assumed.

Positing an underlier with a vowel in one case and one without a vowel in the other requires that there be a vowel epenthesis rule and also a vowel deletion rule. Prior treatments of inflectional alternation have universally assumed a parallelism in the past and plural endings. The assumption of parallelism apparently sprang from a desire to write either a unified epenthesis rule or a unified deletion rule. But the formulation of either unified rule employs alpha variables in a theoretically questionable way. The variables are used to pair parts of the environment rather than to pair the environment to the output (as is clearly legitimate in assimilations). A unified rule leads inevitably to ad hoc restrictions on the applicability of rules and leads also to an ordering paradox which can be resolved elegantly only by invoking local reordering.

The problems inherent in the unified rule approach can be avoided completely by restricting rule schemata in such a way that it is impermissible to write the unified rule or to modify rule order locally. A general prohibition should be placed on alpha variables such that they cannot be used to pair parts of the environment only. Local reordering can apparently be abandoned without loss. Reordering has been suggested to account for certain vowel and ultimate primary stresses in English and for some cases of deaspiration in Sanskrit. Local reordering was suggested for the former by Hoard and Sloat (LSA Summer 1973) and for the latter by Anderson (1970). But these proposals are inconclusive evidence for reordering. Equivalent, and apparently preferable, treatments can easily be formulated without reordering.

The separate vowel deletion and epenthesis rules are each simple and require no ad hoc restrictions. Each fits into the rule order independently at an appropriate point. Thus, prohibiting local reordering and limiting the use of variables is no impediment but forces one to find a more insightful solution within a more tightly constrained and, hence, stronger theory.

RILEY B. SMITH, Venice, California

Hyperformation and Basilect Reconstruction

A serious problem in nonstandard dialect research is the elicitation of competing forms (especially phonetic forms), often from the same informant. Though a careful correlation of style with topic, or the positing of variability rules (or probability rules) often allows the analyst to give an orderly sociolinguistic accounting of much dialect variation, such a macro-linguistic approach ignores, perhaps even denies, the separate reality of a nonstandard basilect. Further, it fails to consider the influence which the fieldworker's dialect and the interview situation might have on the informant's natural tendency to monitor his speech in the direction of, and often beyond, what he perceives to be the standard language. Though hyperformation has been invoked before as collateral evidence to support categorical generalizations about nonstandard phonology, its justification has not been discussed in any detail. The use of the hyperform is proposed here as both clue to the discovery of basilect phonological rules, and as corroboratory evidence for the psychological reality of those rules -- i.e., as a tool for synchronic basilect reconstruction.

From the evidence of an empirical study of the English of Blacks in rural east Texas, it is generalized that phonological hyperformation is an adult phenomenon which can best be accounted for not by generative rules in the traditional sense, but by what might be termed "correspondence" and "conversion" rules -- rules which involve an inaccuracy based on a categorical
stereotype on the part of the basilect speaker of the emulated dialect. The interpretation as hyperform of the devoicing of homorganic post-nasal stops, for example, as in Lynda and tendency, not only sorts out this phenomenon from that of competing forms, but provides additional evidence of the existence in basilect phonology not of the devoicing of stops, but of the assimilation of stops to the preceding homorganic sonorants and their subsequent loss. Conversely, the absence of hyperformation (through 170 interviews) involving /e/ and /o/ provides weight to the generalization that these phonemes indeed do have an underlying reality in this basilect.

An accurate detection of elicited forms as hyperforms is of importance in all research in nonstandard language not simply because it immediately solves part of the “competing forms” problem by eliminating these as non-genuine forms from the data, but more importantly because these forms are the output of “conversion” rules which provide indirect evidence of genuine basilect phonological rules. A frustratingly unproductive interview can thus often produce a wealth of evidence for the analyst where it was least expected precisely because there was an attempt on the part of the informant to avoid basilect forms and to monitor in the direction of the prestige language -- and thus to produce high incidence of hyperforms.

An accurately detected elicited form as a hyperform is of importance in all research in nonstandard language not simply because it immediately solves part of the “competing forms” problem by eliminating these as non-genuine forms from the data, but more importantly because these forms are the output of “conversion” rules which provide indirect evidence of genuine basilect phonological rules. A frustratingly unproductive interview can thus often produce a wealth of evidence for the analyst where it was least expected precisely because there was an attempt on the part of the informant to avoid basilect forms and to monitor in the direction of the prestige language — and thus to produce high incidence of hyperforms.

In “English as a VSO Language” (Lg. 46.286-299) McCawley contends that the underlying order of English clauses is verb (predicate), subject, object. It is shown herein that this analysis is in direct conflict with a coherent account of English contraction and that McCawley’s syntactic arguments are unpersuasive.

McCawley’s best syntactic argument concerns subject-raising. If raising-to-object (a) and raising-to-subject (b) are a single rule, then the VSO analysis is considerably simpler.

(a) I believe Ernie to be intelligent.
(b) Ernie seems to be intelligent.

In “On the Unity of Subject Raising” (9th Reg. Meeting Chicago Linguistic Society 652-658) Szamosi, based on data from French and Hungarian, has argued that raising-to-subject and raising-to-object are not a single rule. Here we shall show that these are different rules in English.

If extraposed it is raised to subject sentences such as (c) would have two derivations: one from applying extraposition in the lower sentence and

subject raising (of the extraposed it) in the higher sentence, and the other derivation from applying subject-raising followed by extraposition in the upper sentence. Only the latter derivation provides the correct derived structure.

(c) It seems to be unlikely that Ernie is intelligent.

McCawley claims that extraposition must be post-cyclic in order to block raising-to-subject of extraposed it. But post-cyclic extraposition would also block raising extraposed it to object, and thus make it impossible to derive (d).

(d) I believe it to be unlikely that Ernie is intelligent.

Since raising-to-subject and raising-to-object have different conditions for their application, they are different rules.

Arguments countering McCawley show only that there is no reason to suppose English is a VSO language; they do not show that English is an SVO language. Such evidence does exist. There is a global condition on the contractibility of forms of be in English, which holds implications for the underlying order of constituents. Assuming English to have SVO order this condition can be stated: “If the constituent following a contractible form of be in its ‘initial’ position also follows be in the surface structure, then be can be contracted. Any transformation moving be establishes a new initial position for be.”

The reformulation of this condition for English as a VSO language would require that the second constituent following be remain in the same position in the surface structure. But this change is not sufficient to achieve the correct results, since be is not moved by the same transformations in VSO as it is in SVO, and the notion of “initial position”, crucial to the condition, can no longer be defined. Sentences such as (e), for example, allow contraction, even though, in VSO, the second constituent following be has been moved and be has not.

(e) Where’s Ernie?

I see no non-ad hoc way of describing the conditions on be-contraction if English is a VSO language.

In “English as a VSO Language” (Lg. 46.286-299) McCawley contends that the underlying order of English clauses is verb (predicate), subject, object. It is shown herein that this analysis is in direct conflict with a coherent account of English contraction and that McCawley’s syntactic arguments are unpersuasive.

McCawley’s best syntactic argument concerns subject-raising. If raising-to-object (a) and raising-to-subject (b) are a single rule, then the VSO analysis is considerably simpler.

(a) I believe Ernie to be intelligent.
(b) Ernie seems to be intelligent.

In “On the Unity of Subject Raising” (9th Reg. Meeting Chicago Linguistic Society 652-658) Szamosi, based on data from French and Hungarian, has argued that raising-to-subject and raising-to-object are not a single rule. Here we shall show that these are different rules in English.

If extraposed it is raised to subject sentences such as (c) would have two derivations: one from applying extraposition in the lower sentence and

subject raising (of the extraposed it) in the higher sentence, and the other
derivation from applying subject-raising followed by extraposition in the upper sentence. Only the latter derivation provides the correct derived structure.

(c) It seems to be unlikely that Ernie is intelligent.

McCawley claims that extraposition must be post-cyclic in order to block raising-to-subject of extraposed it. But post-cyclic extraposition would also block raising extraposed it to object, and thus make it impossible to derive (d).

(d) I believe it to be unlikely that Ernie is intelligent.

Since raising-to-subject and raising-to-object have different conditions for their application, they are different rules.

Arguments countering McCawley show only that there is no reason to suppose English is a VSO language; they do not show that English is an SVO language. Such evidence does exist. There is a global condition on the contractibility of forms of be in English, which holds implications for the underlying order of constituents. Assuming English to have SVO order this condition can be stated: “If the constituent following a contractible form of be in its ‘initial’ position also follows be in the surface structure, then be can be contracted. Any transformation moving be establishes a new initial position for be.”

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(e) Where’s Ernie?

I see no non-ad hoc way of describing the conditions on be-contraction if English is a VSO language.
The multiple occurrence of the accusative suffix -ta in VP complements with the agentive suffix -q poses a difficult problem for the formulation of adequate phrase structure rules. In (1) the accusative inflection of the direct object NP wamra-n-ta 'his child' and of the subordinate predicate maqa-q-te 'hit' follows from well established phrase structure rules. But the accusative inflection of the subordinate subject NP runa-ta 'man' in (1) is anomalous.

(1) runa-te wamra-n-ta maqa-q-te rikā-rqa-ta:
   man-accusative child-his-accusative
   hit-agentive-accusative see-past-first singular.
   'I saw the man hit his child.'

The anomaly is resolved with the analysis of additional data (2), (3) in which equi-NP deletion and reflexivization occur:

(2) nuqa-qā rikā-kū-sqa-ta-mi isphu-cu
   I-topic see-reflexive-completive-first singular
   validational mirror-in
   'I saw myself in the mirror.'

(3) swīhu-y-ni-:-cu, nuqa-qā rikā-kū-sk1-sqa-ta:
   dream-infinitival-empty morph-my-in I-topic
   see-reflexive-surprise-completive-first singular
   you-accusative twist neck-progressive-agentive-accusative
   'In my dream, I saw myself twisting your neck.'

In (2), (3) equi-NP deletion and reflexivization apply cyclically to erase the underlying direct object NPs and subordinate subject NPs and to reflexivize the matrix verbs with the reflexive suffix -ku.

But in (1) only the lowest NP in the underlying structure is deleted by identity erasure; the remaining subordinate subject NP runa-ta, which is referentially different from the matrix subject and thus unaffected by equi-NP deletion or reflexivization, is inflected with the accusative by the phrase structure rules established -- thereby resolving the apparent anomaly.

Thus the two transformational rules provide substantial support for the formulation to be presented in this report of the phrase structure rules which generate VP complements in Quechua.

ARThUR SPEARS, University of California, San Diego

Quantification, Plurality, Aspect, Reference, and Conjunction

Several linguists (e.g., Lakoff, Lawler, Carden, Jackendoff, Shopen, and Tai) have dealt with the question of how quantification, plurality, aspect, reference, and conjunction are related to one another, although to my knowledge none have attempted in one writing to dwell in any detail with their interrelationship. In this paper, a brief summary of some previous work is presented, and the interrelationship of all of these phenomena is explored within the framework of generative semantics as elaborated by G. Lakoff in Linguistics and Natural Logic.

Through the analysis of the sentences

(1) All of the boys carried a couch upstairs.
(2) Each of the boys carried a couch upstairs.

both of which have one reading in common and, consequently, under that reading should have the same logical form, it is shown that some, if not all, quantifiers which occur in surface forms do not correspond to any one atomic predicate in logical form. These quantifiers are decomposable into different types of referential relations, e.g., temporal reference (i.e., aspect), locative reference, and NP reference, relations which can be captured in logical form only through conjoined S's with singular NP arguments indexed to capture the difference in definiteness and specificity of the surface NP's they underlie.

DAVID STAMPE, Ohio State University

Speech as Music: Toward an Understanding of the Prosodic Characteristics of Language

There is a rich literature on the various prosodic characters of languages and their individual histories, but none of this literature sheds much light on why prosodic constraints and changes occur. This programmatic paper attempts to bring linguistic prosody under the same universal principles of rhythm that govern music and verse. Its basic point is that linguistic units are organized into speech units analogous to musical measures. This metrical structure is responsible for the placement of ('predictable') accents, primary and secondary, and for the determination of syllabic quantity, by principles identical to those governing accent and duration in the musical systems of the world. The paper falls into three parts:

The first is a typology of speech-timing principles of languages of the world, from isosyllabic/isomorphic types like Chinese/Japanese to isotonic types like English. This typology makes reference to the instrumental and perceptual studies of Lehnert and others, the metrical typologies of Jakobson and Lotz, the distinct sorts of phonological processes (vowel harmony, reduction, cliticization, etc.) specific to each type, and to the occurrence of the various types in children's speech.
Accent placement in languages of the world is typically on the syllable/mora that is initial or penultimate in the word. This is understandable if the word is treated as a measure of common-time music: the first syllable/mora after the bar-line or the next-to-last before the bar-line is accented. (Final accent requires special discussion.) Apparent exceptions involve languages which for morphological reasons 'strip' (in Lee's terminology) affix-like final or initial syllables.

A handful of metrists (Heusler, Leonard, Stewart) perceived that in certain verse systems, like that of Germanic, accent and quantity are interdependent. What has not been perceived is that this interdependence explains the changes on accent and quantity that these and other accented languages undergo. Here the analogy of language and music is most striking: an exhaustive survey of prosodic processes in these languages (vowel quantity changes, deletion of syllable-final consonants, syncope, accent reduction, etc.) shows that each process brings the rhythm of speech into closer conformity to that of regular common-time music.

Horn (1972) argues that there is a necessary connection between the root sense and the epistemic sense of English modals, e.g., the two meanings of may -- permission and possibility -- are necessarily related semantic concepts. He predicts, therefore, that the modal systems of other languages will be similar to the English modal system in that they will exhibit systematic relationships between the same semantic concepts. This paper will examine that hypothesis through a consideration of modals in Kapampangan, Thai, Luiseno, and Classical Aztec.

Horn's outline of modal concepts delimits the class of modals at the outset to morphemes which mark possibility or permission, probability or weak obligation, and certainty/necessity or strong obligation, although there is no assumption that modals in these four languages will be ambiguous between the paired meanings. All four languages include possibility, probability, and certainty in the spectrum of epistemic modals although Luiseno subsumes the first two in one morpheme. The root modal notions of all four languages involve weak and strong obligation; Aztec, Kapampangan, and Thai include permission as well.

Horn's hypothesis that there is a necessary connection between root and epistemic modal meanings is supported. Not all modals in these languages are ambiguous between root and epistemic meanings, but when they are, they are ambiguous in the predicted manner. Furthermore, the modal systems of all but Luiseno show the predicted systematicity. Even if the concepts of possibility and permission, for example, are represented by different morphemes, they are both represented. Although the notions of possibility, probability, and certainty/necessity and the related root modal notions do not exhaust the semantic parameters which must be considered in a comprehensive discussion of modals, the striking resemblances between the modal system of English and the modal systems of the other four languages suggest that modal semantics may be universal.
(3) Is é an rud a chonaic mé (n6) seomra. What I saw was a room.

C it the thing Rel saw I (namely) room

This suggests that all focus NPs originate sentence-finally in Irish, but are moved to post-copular position; where movement is blocked, it may be due to possible ambiguity.

Finally, there is a process of copula-predicate inversion, shown in (4). This applies to (1a) for emphasis of the predicate, but may also apply to the already "emphatic" cleft sentence (1c), in which case it is said to provide "extra emphasis."

(4) a. Seomra dorcha is ea é. (from 1a) A dark room it is.

room dark C it it It's a dark room,

b. Seomra is ea a chonaic mé. (from 1c) It's a room that I saw.

I argue that this construction is the only true emphatic. Whether or not the focus sentences of (1) are felt to be emphatic depends on the existence of parallel focus-neutral sentences with which they can be compared. On this basis an attempt is made to define the relationship between focus and emphasis in Irish. Anomalous behavior has been noted for the copula in many other languages as well, and it is possible that an examination of its relationship to focus and emphasis mechanisms may prove fruitful on a broader scale.

MARJORIE SWACKER, Texas A&M University
Speaker Sex: A Sociolinguistic Variable

Speaker sex - the sex of the speaker - as a sociolinguistic variable asks only that the informants be grouped by the one distinction which is both universally standardized and biologically predetermined. This, however, runs counter to most studies using speakers of English (in which the underlying assumption is that verbal behavior within the same socio-economic, educational, professional and regional groupings is completely androgenous).

When other than standard, adult English has been the subject of research, speaker sex studies have proved valuable; Black English, English of the barrio and the speech of New England youngsters have all demonstrated significant differences when viewed with an eye to speaker sex. Phonological, lexical and/or syntactic variations according to the sex of the speaker have appeared in studies of Japanese, Korean, Yana, Chiquito, Spanish, Chiglit, to mention but a few.

Over a half century ago, Jespersen (1922) devoted one chapter to the speech of women; he cited incomplete sentences, an avoidance of taboo words and great verbosity as typical of the female sex. Since that time, both professional and popular publications have dutifully presented variations on the Jespersen theme: men are the strong, silent type and women simply talk and talk and talk.

Recently, however, work by Mary Richie Key (1972), Nancy Barron (1971), and others on such topics as male and female linguistic behavior in general, sex roles and case, women as part of semantic categories, women's use of the tag question and sex-specific lexical items indicate that speech is not at all an androgenous behavior.

My own work, using picture description as the elicitory device, demonstrates in several areas that speaker sex must be considered as an independent variable. The study I conducted, in the spring of this year, used an equal number of male and female students all of whom were attending the same university. A successful attempt was made to keep such variables as age, income, units completed and region of origin constant. Three areas demonstrating a specific speaker sex distinction follow:

Verbosity

The informants were given as much or as little time as they wanted; they were urged to try to leave nothing out of their descriptions. When given an unlimited amount of time, men spoke for a mean time of nearly ten minutes longer than women. In fact, the differences between male and female means is several times larger than the standard deviation for female mean scores. Women, it was found, do tend to speak slightly faster than men, but this rapidity was well below the level of significance.

Topic Shifts

The pictures used for the descriptions were 16th century woodcuts, rich in detail and containing some unfamiliar objects. When one part of the picture (a shelf or the podium, for example) had been described to the satisfaction of the speaker, a "topic shift" was required. These shifts were marked by pauses, interjections and conjunctions. While pauses were found in both samples, interjections were exclusively used by males while females used conjunction markers significantly more often than did males.

Numbers

When stating a number, fully half of the women used an estimating element; only one man in the sample exhibited this pattern. Further, counting as part of descriptive discourse was discovered to be a purely male behavior.

Male verbosity, sex specific topic shift patterns, as well as the specialized use of numbers all indicate that speaker sex is a significant variable without the consideration of which much sociolinguistic research may be rendered invalid.
Chinese grammarians have analyzed (1) as (1') and (2) as (2').

(1) tā tì-kāi-le mén
(he)(kick)(open)(asp.)(door)

(1') subject-verb-complement-asp.-object

(2) tā pāo de kùài
(he)(run)(de)(fast)

(2') subject-verb-(de)-complement

It has hitherto been assumed by both traditional and transformational grammarians in Chinese syntax that the center of predication in Chinese verb-complement constructions (as represented by (1) and (2)) falls on the 'verb'. The purpose of this paper is to show that the center of predication in these constructions falls on the 'complement' and not on the 'verb'.

It will be argued that the Chinese action-result verb-complement constructions (as represented by (1)) are syntactically analogous to adverbial-verb constructions in Chinese. Thus, the proper analysis of (1) in the surface structure is (1'').

(1'') subject-manner adverbial-verb-asp.-object

It will also be argued that the complement kūài 'open' in (1) is in fact a causative transitive verb and serves syntactically as the center of predication.

As to the so-called predicative complements in sentences like (2), it will be shown that they are in fact adverbials which have a dominance over the verb and which therefore become the center of predication. It is to be argued that the function of adverbials in Chinese has a peculiar feature in that they assume the function of 'modification' only when they precede the verb, and when they follow the verb, they become the center of predication.

Thus, while kùài 'fast' in (2) is the center of predication, it is an adverbial with the function of 'modification' in (4).

(4) tā hān kùài de pāo-le
(he)(very)(fast)(de)(run)(asp.)

Theoretical implications of the proposed theory will be discussed in relation to Chinese syntax and the theory of adverbials in general.
with the semantic object in the accusative, and not with the grammatical subject, and even

(4) u nego uexano 'by him there has been going'

prep. neut.sg.

which is derived from an intransitive. In addition, the dialect constructions differ from standard Russian in the case used to express the agent, and in the treatment of aspect.

These constructions represent a spatial, historical, and structural gradation. This gradation, however, represents a single reanalysis of the passive in North Russian: whereas the standard Russian construction is a true passive, the North Russian constructions are passive impersonal, with a perfect or resultative meaning. The gradation can be understood as a gradual implementation of the basic reanalysis.

As in phonological change, then, there are two facets to syntactic change: reanalysis and implementation.

DOROTHY TYACK, Institute for Childhood Aphasia
DAVID INGRAM, University of British Columbia
The Inversion of Subject NP and AUX in Children's Questions

In recent years, a number of publications on child language have referred to unpublished work by Ursula Bellugi on the acquisition of questions. From that work, one of the most mentioned findings is that children go through a stage during which they invert Aux and subject NP in yes-no questions but not in WH questions. For example, they will ask "Are you going to make it with me?" with inversion, but "What did you do?" without. In a recent study, we examined questions produced by 22 children (9 boys, 13 girls) for this stage. Approximately 200 questions were collected per child; their ages ranged from 2.0 to 3.10. From these questions, we calculated percentages of inversion for yes-no questions and WH questions. In no case was there any clear evidence of the stage discussed by Bellugi. There were some instances of WH questions without inversion, but these children showed a similar number of yes-no questions without inversion. It is concluded that Bellugi's proposed stage of acquisition may be either 1) a limited strategy that only some children follow, or 2) a very brief period of acquisition that requires longitudinal observations.

Most linguists believe that there are certain signals between speaker and listener that mark the location of boundaries, stress and possibly higher grammatical features. These signals are thought to be associated with non-distinctive differences in speech sounds: duration, pitch, intensity and allophonic variation. But the knowledge of these signals is vague, because there have been no large scale studies of non-distinctive factors in spoken language. Based on a large body of natural speech data (readings of about 60 minutes in total, by four speakers), we report a systematic study on duration, intensity and other non-distinctive variations of speech sounds in American English.

A consonant in the initial position of stressed syllable possesses consistent physical properties that are markedly different from those in other positions. For example, voiceless fricatives have higher intensity with wider glottis opening in initial position than other positions. Initial voiced stops, nasals and liquids show higher amplitude in vocal cord oscillation but lower intensity in output than their final counterparts. Voiceless stops have long aspiration with widely open glottis in initial positions, but almost no aspiration with almost closed glottis in final positions. This is not to say, however, that these variations form two clearly defined classes. Initial consonants of function words retain characteristics of initial allomorphs, but to lesser degrees than those of strong content words. Consonants in clusters sometimes take values in between those of initial and final allomorphs, depending on the tightness of the clusters and on relative "constancy" of their adjacent consonants.

The factors that govern the duration of consonants are almost identical with those that determine their allophonic variations. In determining duration, there are no interactions between conditions of what precedes the consonant and of what follows it. Therefore, we can regard these two factors as independent. Vowel duration is dependent on many factors: lexical stress, importance of the word, the position of the vowel relative to a pause, the position inside the word, and the consonant following the vowel. But we can predict the durations of vowels in our data with reasonable accuracy from rules based on these factors.

Because phonological conditions are not the only factors that determine physical quantities of speech segments, some overlapping of data points exist. However, the main body of data can be explained by phonological rules. We can hardly regard this consistency as accidental. But rather, we see these non-phonemic details as carriers of crucial cues that enable the listener to understand the speaker's message. In this sense they are very much a part of the phonological structure of the language.
In Defense of Extrinsic Ordering in Phonology

ROBERT UNDERHILL, San Diego State University

Major Class Features

The distinctive features of the Sound Pattern of English (SPE) are defined on a universal phonetic basis; the definition of a given feature does not change from language to language. The system does not define a hierarchy among the features, nor does it allow for such a hierarchy to differ from language to language. We contend that this system is too inflexible to adequately define the structurally significant phonological classes of every language.

The thesis is developed with respect to the major class features: vocalic, consonantal, and sonorant, which define the major phonetic classes of non-syllabics, which we take to be: obstruents (T), nasals (N), liquids (L), (y)-type glides (Y), and (h)-type glides (H).

We start with sonorant, which in SPE includes N, L, Y, and H. While many languages have a structural class of consonants which may be called sonorants, this class rarely includes H. Evidence is presented from Tsimshian showing that the sonorants in that language consist only of N, L, and Y. Then, evidence is presented from Turkish showing that the sonorants in that language consist only of N and L, excluding Y. Thus, either sonorant must be defined language-specifically, or we must invent two new features.

Additional evidence is sought for the necessity of a feature opposing T and N (the traditional "true consonants") to L, Y, and H; and a feature separating H and Y, the glides, from T, N, and L. It is, of course, possible to define any phonological class, significant or non-significant, by a combination of features; but we take the view that the more significant a phonological class is in a given language, the fewer features should be required to define it. Thus, classes which play a major role in the phonological economy of a given language should be definable with a single feature.

Our conclusion is that either 1) phonological features should be defined on a language-specific basis, or 2) we must add many more features to the universal inventory, with each language making significant use of only certain of these features.

Examples from a number of languages are presented where pairs of phonological rules are ordered extrinsically. These cases argue against a recently proposed theory of rule ordering (Koutsoudas, Sanders, and Noll, "On the Application of Phonological Rules," to appear in Language) according to which obligatory rules apply whenever their structural description is met: they apply either simultaneously or in intrinsic sequential order.

Some facts cannot be accounted for in a theory that disallows explicit ordering statements. In Finnish, *ee is realized as the diphthong ie, and the fricative ү is deleted intervocally: /vee/ = vie, /tee/ = tie. In German, final obstruents are devoiced, and in some dialects ү is deleted after a nasal consonant: /lae+e/ = lae, /lae/ = lae. In Faroese, ү is spirantized to ү intervocally, and a vowel is deleted in the environment VD: C, Y: /hidiinir/ = hidiinir. While these examples can be derived in the KSN framework, the following attested dialectal forms are problematic: Finnish tee from /teFe/, German laek from /lae/, Faroese hidiinir from /hidiinir/. In the Finnish form the diphthongization rules can not apply after the ү deletion rule; in the German and Faroese examples the rules can not apply simultaneously. In these, and similar, cases the correct application of the rules follows from no known universal principles, but rather must be specified extrinsically.

Four original arguments from Hungarian phonology are discussed which likewise suggest that the KSN theory is too restrictive. Perhaps the most convincing one deals with the interaction of the following two rules. The initial consonant of the instrumental suffix -val/vel assimilates to a preceding consonant, while the final consonant of the demonstrative pronouns az and ez assimilates to a suffix initial consonant. The KSN framework predicts that the two rules apply simultaneously in the instrumental forms of the demonstratives and derives the incorrect metathesized representations /az+val/ = *auval, /ez+vel/ = *evvel. In fact, the rules apply in either sequential order: az+val ~ auval, ez+vel ~ evvel.

Evidence like the above notwithstanding, certain contentions of the KSN model are meritorious. These are discussed, and a theory of phonology is outlined in which principles like transparency and paradigm regularity motivate extrinsic ordering restrictions, which therefore are maximally curtailed, but not unconditionally prohibited.
The distinctive features of The Sound Pattern of English (SPE) are defined on a universal phonetic basis: the definition of a given feature does not change from language to language. The system does not define a hierarchy among the features, nor does it allow for such a hierarchy to differ from language to language. We contend that this system is too inflexible to adequately define the structurally significant phonological classes of every language.

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Evidence like the above notwithstanding, certain contentions of the KSN model are meritorous. These are discussed, and a theory of phonology is outlined in which principles like transparency and paradigm regularity motivate extrinsic ordering restrictions, which therefore are maximally curtailed, but not unconditionally prohibited.
strongly imply that selectional constraints hold between lexical categories and that grammatical formatives such as tense and aspect have no restrictions on their distribution. However, there is evidence that the selection of tense and aspect is constrained by the features of the NPs, dominated by either the S node or the VP node of the same sentence. Consider for example the following:

a. The guests have been arriving for two hours.

b. ? The guest has been arriving for two hours.

c. Mary is finding volunteers to help the poor.

d. *Mary is finding a volunteer to help the poor.

The oddity of (b) and (d) points out the fact that the selection of the aspectual formatives, have+en and be+ing, is restricted among other things, by the syntactic features of the subject and/or the object NP. These restrictions differ with the inherent aspect of the lexical verb; compare, for instance, ill-formed (b) and (d) with well-formed (f) and (g) below:

e. The guest has been singing for two hours.

f. The guest has been singing for two hours.

g. Mary is searching for a volunteer to help the poor.

The syntactic features of the subject NP seem to restrict the free choice of [2 past] under the tense node, in certain cases, as is evidenced by the oddity of (j) below:

h. All women like soap operas.

i. Mary likes soap operas.

j. *All women liked the soap opera yesterday.

k. Mary liked the soap opera yesterday.

It appears that generic NPs resist past tense with "punctual" (King 1970) aspect.

The facts presented above raise issues of great theoretical interest. Firstly, they seem to indicate that the system of handling selectional restrictions through complex symbols and through subcategorization of lexical categories "in terms of syntactic features that appear in specified positions in the sentence" is not adequate. Selectional restrictions apply to grammatical formatives, such as [2 past] and have+en and be+ing, and since these formatives do not form a part of the lexicon, the selectional restrictions on these elements will have to be handled in the Base rather than in the dictionary. However, the matter is complicated by the fact that selectional restrictions on grammatical formatives such as tense and aspect can not be specified without reference to certain features of the lexical verb (compare (c) and (d) with (f) and (g)), which destroys the autonomy of the Base. These factors raise serious doubts about the correctness of Chomsky (1965) format in handling selectional constraints.
C.F. VOEGELIN and F.M. VOEGELIN, Indiana University

Conditions for Conjoining in Hopi

A. Besides the identification of the single inflectional device for switch-reference (OBSERVATIVE), and of the several inflectional devices for same reference (PROXIMATES) and the diverse devices for loosely conjoined sentences, it is shown that other facets of syntax interrelate with the inflection to give the conditions for conjoining.

B.1. and C. Consider the different inflectional endings involved in same reference (PROX) conjoining: PROX in [-t] was labeled sequential by Whorf (VFPA 6.1946); [-ka:] was labeled concursive; [-e?] was labeled conditional; [-ni-qas?] was labeled correlative. Though it is true that in some sentences the meanings ascribed by these labels are actualized, they are not realized in other sentences. The PROX [-e?], for example, is said by Whorf to mark conditional (translated 'if, when'); but in scores of sentences the conjoining cannot be interpreted either in an 'if' or 'when' sense. The conditions for interpretation involve interrelations of the inflection and the kind of particles discussed by Ken Hale for Papago (1960) and by the Voegelins for Hopi (pas). Thus, one condition for obtaining an 'after' interpretation with PROX in [-e?] is the inclusion of [pas] in the conjoined sentence: 'After (pas) she has cut-meat (sikwite?), she will dry it (pit laknani) later (pas)'. The conditional, in fact, turns out to be always a conditional contrary to fact, for the only way to obtain (generate) conditional conjoining in Hopi is by the inclusion of the particle [pas]: 'If only I (pas ni ?as) has money (si-vagyte?), I would surely build a new house (pihakitami)'.

ERHARD F.K. VOELTZ, Indiana University

Passives

Transformational grammarians have traditionally derived truncated passives such as (1) from full passives such as (2) by some kind of rule of agent deletion.

(1) The tapes will be destroyed.
(2) The tapes will be destroyed by someone.

In this paper it will be argued that truncated passives are basic, that full passives such as (2) are derived from complex structures such as (3) in which the truncated passive is the top-most S, and that this source for passives is universal.

S
the tapes will be destroyed

it is someone

Finally it will be suggested that such a source for passives explains the apparent universal that:
Languages which have full passives also have truncated passives, but those with truncated passives do not necessarily have full passives.

CYNTHIA WACHOWICZ, University of Texas, Austin

A Case of Disappearing of Non-Finite Forms of the Verb

This paper attempts to provide a new explanation of the loss of the infinitive which occurred in Modern Greek, Romanian, Albanian, Bulgarian and Macedonian. Although these languages belong to different branches of Indo-European they underwent a number of morphological and syntactic changes as a result of areal influence. The change is discussed with reference to the Bulgarian material. I will try to show that the loss of the infinitive in Bulgarian is only a part of a more general process, that is, disappearing of the finite forms of the verb.

Modern Bulgarian, similarly to the other languages of the Balkan area, replaced all former infinitives by a construction consisting of a subjunctive marker and a finite form of a verb with a personal ending. For instance, where older texts could use the infinitive, Modern Bulgarian can use only the so-called -da construction with a finite verb:

(1) Troyan Ev. XIV century: Ne moze jago pogubiti; lit. not(he) can him to destroy; 'He cannot destroy him'
(2) Mir. 1963 Modern translation: Ne moze da go pogubi; lit. not (he) can subj. marker him (he) destroys; 'He cannot destroy him'
The linguists describing the loss of the infinitive in Bulgarian (Mirchev 1963), Vrač (1963) did not connect it with other facts about the verbal system. At the same time Bulgarian underwent two other changes: the loss of gerund formation and the loss of participles. Some of the gerunds remained in the language only as lexicalized items. In later versions of the same texts the gerunds were replaced by the da-constructions, for example:

(3) Nikiforov Prepis XVII century: Imal dar izce lenija; lit. (he) had gift of curing; 'He had the gift to cure'
(4) Din. 1962 Modern translation: Imal dar da iz ce renja; lit. (he) had gift subj. marker (he) cures; 'He had the gift to cure'

All the participles in adjectival use were replaced by relative clauses, except for those in transformational grammar which are derived via relative clause reduction. These are the past tense active participle and the past tense passive participle, e.g.,

(5)a. Vojnik kôjto e umrjal lit. soldier-the who is died 'The soldier who has died' after the relative clause reduction and preposing we have:
(5)b. Umrelijat vojnik lit. died-the soldier 'The soldier who had died'
(6)a. Pesnja kojato e zabravena song-the which is forgotten 'The song which is forgotten'
(6)b. Zabravenata pesnja forgotten-the song 'The forgotten song'

I conclude that if we look at these changes as a syntactic rather than a purely morphological problem we can treat them as a unified process, namely there was a tendency in the language to replace all the constructions with non-finite verbs by the constructions with the finite verbs. Thus, participles were replaced by relative and temporal clauses, infinitives by the da-constructions and gerunds by that-clauses or da-constructions. In transformational grammar this change may be described as the loss of the rule of Equi-NP deletion. This fact has implications for the synchronic description of other languages. Transformational grammar represents infinitives and gerunds as subordinate sentences containing an instance of an identical NP whose subject gets deleted as a result of the transformation of Equi-NP deletion. It is a significant fact that there is a language which introduced personal markers as the traces of the deleted subject NP in gerundial and infinitival complements.

ROBERT WALL, University of Texas, Austin

A Presuppositional Calculus

A formal calculus is presented which yields as theorems the observations of Karttunen (Ling. Inquiry, 4, 169 (1973)) on the presuppositions of compound sentences joined by "and," "or," and "if...then." Karttunen states that ordinarily the presuppositions of a compound sentence are the sum of the presuppositions of its components but that in certain cases presuppositions may be "filtered out." For example, when A is among the presuppositions of B, the presuppositions of sentences of the form "A and B" and "if A then B" do not include A. Similarly ~ A is presupposed by B.

The basic elements of the calculus are formulas of the form \( P_A \supset A \), \( P_B \supset B \), where A, B, ..., are elementary propositions and \( P_A, P_B, \ldots \) are conjunctions of propositions (in the intended interpretation, the presuppositions of A, B, ..., respectively). Such formulas are combined in the usual way by \&, \|, v, \supset, \ldots \), and parentheses, and the result is prefixed by a one-place
The Redundance of Morpheme Structure Conditions

MARY CLAYTON WANG, Indiana University

The Redundance of Morpheme Structure Conditions

It has recently been suggested (Masayoshi Shibatani, Language 49, no.1) that surface phonetic constraints (SPC's) are a necessary part of a psychologically real grammar, and that some aspects of competence formerly attributed to morpheme structure conditions (MSC's), such as intuitions about 'nativeness' of nonsense forms and adaptation of borrowings, are, rather, accounted for by surface phonetic constraints. I claim that in addition, such constraints are sufficient (i.e., are the only true generalizations in a generative grammar); that MSC's play no independent role and thus have no place in phonological theory. The implication of this claim for phonological theory, aside from the obvious change in the form of a grammar, is that, without the possibility of referring to the simplicity of morpheme structure conditions, it can no longer be claimed that analyses based on certain assumptions about the nature of underlying representations are supported by the theory.

Synchronic arguments for the claim that MSC's play no part in generative grammar are the following:

(1) Those MSC's which do not correspond to SPC's or to phonological rules have no empirical support, since they are neither true at the surface level, nor do they bring about alternations.

(2) Once the above-mentioned MSC's are rejected, the set of underlying true generalizations in a grammar is a proper subset of the set of surface true generalizations. If both are to be part of a grammar, it must be demonstrated that some information necessary to the grammar is provided by MSC's that cannot be provided by SPC's. Looking particularly at what Shibatani calls A/M/SPC's (those SPC's that correspond to phonological rules but not to MSC's) we find that the only difference between the two overlapping sets of constraints is that the latter, but not the former, includes constraints involving morphophonemic alternations conditioned by word boundary, and allomorphic variation. These properties, however, are identifiable evidence, for the need for MSC's; and until such evidence is found, the claim that MSC's are a part of a generative grammar is unsupported.

(3) The set of true generalizations that would provide evidence for underlying true generalizations but not for corresponding surface level true generalizations, namely MSC's that correspond to phonological rules but not to SPC's, is shown not to exist.

A diachronic argument against the presence of MSC's is that SPC's can change independently of MSC's, but MSC's cannot change without a concomitant change in SPC's.

The consequence of removing morpheme structure conditions from generative theory is that arguments for phonological analyses based on the presence of morpheme structure conditions are no longer possible. For example, arguments that certain analyses are supported by the fact that they result in greater symmetry in the underlying inventory, or fewer "phonological gaps" in the set of possible underlying segments or sequences, can no longer be justified by citing increased simplicity in MSC's. It thus becomes obvious that appeals to such notions as "symmetry" are based on unfounded assumptions about the nature of underlying representations, and it becomes possible to treat such assumptions rather as hypotheses to be investigated.

Examples are taken from Latin and Spanish. Examples of arguments based on assumptions about the nature of underlying representations are from Harris's Spanish Phonology and Chomsky and Halle's The Sound Pattern of English.
In a study of language acquisition in 18 black four year olds and 22 white four year olds, in which the children were tested by both black and white testers for the skills of vocabulary, complex sentence repetition, inflection, phonology and story-telling ability, we found that black children scored significantly lower than white children on almost all tasks (even when tested by black testers). The reasons for such apparently lower performances seem to be dependent on the tests themselves and the children's ability to code switch into white standard English.

The statistical evidence for this finding comes from an examination of the two cases wherein black children scored significantly better when tested by white testers. For both the phonology and the inflection tasks the black children's scores improved considerably when tested by whites. The design of the study is split half, so the children were receiving one half of the test from a black tester and one half of the test from a white tester. (Furthermore, the rule of acceptable performance on the tasks is determined within the test, and not by the tester.) What is suggested by our data is that the black children do better on phonology and inflection tasks with the white tester because they code switch into white standard English, and thus provide the "correct" answer. They are thus providing a performance which is a response to the white tester, and their response fits the requirement of the test.

From our data we argue that children as young as four years old are able to do code-switching in the areas of phonology and inflection (the measure for inflection is verb tense endings and pluralization). Syntax, vocabulary and story-telling do not show this performance difference, and for these skills we theorize that the effects of the bias toward white standard English answers is not yet mitigated through the code switching of black children in the presence of a white tester. It may be that because code switching in phonology and inflection is more easily fermented by the presence of a model (the white tester) it appears earlier than code switching in syntax or vocabulary.

A more complex question which we have not yet examined in terms of our data is that of the relationship of the developmental states of such language elements as the presence or deletion of the copula in both black and white children's speech, and the effect of such language elements on the acquisition of code switching. While we have not completed our analysis, we believe that we will find syntactical free variation in black children split into two modalities in the pressures to acquire code switching.

All of the previous analyses of the 'tenses' of French have suffered from at least one of the following inadequacies: the semantics of the forms have never been thoroughly analyzed but the tenses have been treated as basically the linguistic equivalent of referential 'time'; an invariant of meaning has not been extracted for each tense in all of its uses; or these invariants of meaning have not been unified within a systematic framework.

In order to rectify each of these inadequacies, I propose in this paper an analysis which not only demonstrates how tense can be approached from a semantic point of view but also how a Jakobsonian, distinctive feature framework can lead to a more systematic and satisfactory analysis. In particular, the concepts of invariance and of marking will be employed. Most importantly, I base myself on as wide a range of examples as possible, thus differentiating the invariant from its contextual variation. Many of these examples will be discussed throughout the paper; (they will be provided on a handout). Due to limitations of time, this paper is concerned only with the present, imperfect, future and conditional 'tenses' of French.

With the aid of the examples mentioned above, I show that the 'present tense' form has no inherent meaning of present time or simultaneous action: in other words, in Jakobsonian terms it is unmarked with respect to the present moment, the moment of speaking. In fact, the present tense is the unmarked tense in the whole of the French tense system. The 'imperfect' tense form, on the other hand, is shown to be marked not for past time nor for 'anteriority', as proposed by Jakobson himself for Russian, but rather for non-observability at the moment of speaking. The 'future' tense form is not used exclusively for future time, but rather creates a potentiality, a projection of the verbal process outside of the speech situation: it is potentially observable, but only from a vantage point different from that of the speech situation. The present tense is unmarked for both of these features; the 'conditional' is marked for both: it combines the non-observability of the imperfect and the projection, the potentiality of the future. Thus, we have used two features to define four tenses:

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<th>non-observability</th>
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<td>conditional</td>
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My research thus far has shown that the 'subjunctive' form, the imperfect subjunctive, and the 'simple past' can be taken care of by one additional feature.
Much of the discussion in phonological circles today centers on the abstractness problem (Kiparsky, Harms, Hyman). While relatively abstract descriptions frequently recapitulate significant portions of the history of a language, they as frequently obscure transparent processes currently operative within that language. I will argue in this paper that this is the case in Greenlandic Eskimo.

Several different analyses of the phonological treatment of nouns such as ameq - ammit in Greenlandic have been published recently (Pyle, Underhill, Cearley). Traditional accounts in general explain such forms by a metathesis rule and subsequent assimilation rules: /amqít/ → /amqít/ → [ammit]. Pyle (1970) formalizes this approach. Underhill, however, argues that certain stems are marked for gmination and that particular affixes produce it. Both approaches require assimilation rules which have serious difficulties.

In this paper I will argue for neither of the analyses previously cited. Rather, I will provide an alternative approach which is different in several respects: (1) /q/ will be shown to function as the absolutive singular morpheme for a large class of nouns; (2) a rule of metathesis which permits a stem-final /q/ with the preceding vowel will be shown to be unnecessary; (3) a phonologically determined rule of gmination will account for non-alternations of the following type -- teqal - talit, nukag - nukat, ayueq - ayuqit.

These will be derived as follows: the underlying representation for each is /tall/, /nuka/ and /syuqit/, respectively. The singular requires only the suffix /q/. To derive the plural a rule of gmination doubles the last consonant of the stem just in case the suffix is consonant initial. The plural will delete intervocalic /i/, as well as other single continuants in a phonologically determined environment to yield ayuqit.

This proposal has several advantages: (1) the gmination rule in a very direct way correctly characterizes the phonetic alternations in these nouns; (2) the assimilation rule which was difficult if not impossible to state, no longer is necessary; (3) other rules such as s-deletion and r-deletion which cannot be naturally formulated within the other analyses can be stated straightforwardly. Finally, this analysis treats /q/ as the absolutive singular morpheme, rather than as a part of the stem. With this more concrete approach, the suspect rule of q-deletion which is ordered after metathesis in Pyle's analysis and which deletes /q/ anytime it is followed by any segment, is also no longer necessary.

In historical change, it is very common that one noun declension (henceforth decl.) will take on some case endings from another noun decl. In some instances, however, it looks as if one decl. has taken over what might reasonably be analyzed as part of the stem of another decl. along with the ending. The purpose of this paper is to propose a principle which will explain these apparently different kinds of "ending" transfers and which will also assist linguists in deciding what a "significant generalization" is when doing synchronic phonological analysis involving noun declensions.

The following are two examples which illustrate the problem. Example 1: From the Italic period onward, Latin i-stems and consonant (C) stems gradually "exchanged" endings with one another until they finally almost completely merged into one declension (the 3rd). In every case, when the C-stems took on an ending from the i-stems it always included the stem vowel. For example, both the i-stem and the C-stem ablative ending was originally *-bus (later buss), but the C-stem "borrowed" this from the i-stems as *bus. If we do not set up an *i as an underlying stem vowel for the "i-stems" in Latin and in later periods, we will have the "coincidence" of several endings beginning with i, and we will lose the generalization that the i-stems had many endings in common with the C-stems and other declensions. If we do set up underlying *i, we will be forced to analyze the C-stems as having a stem vowel i in some cases, but a stem-final consonant in others. Example 2: The gen. pl. of Old High German (OHG) o-stems is gebono, with o as taken from the "n-stems". Historically, on was part of the stem, and o reflects the original gen. pl. ending; it could still very plausibly be analyzed as such in OHG, as can be seen from the full "n-stem" paradigm: singular-zunga, zungum; plural-zungun, zunguno, zungum.

On the basis of these and many other examples, I have formulated the following principle: speakers have a strong tendency to analyze the surface forms of nouns in a paradigm simply as noun+ending (where the ending can be i), thereby avoiding setting up underlying constructs which don't appear in many of the surface forms. This tendency usually takes precedence over capturing generalizations, as in ex. 1. It is most likely to operate when, as in exs. 1 and 2, several instances of the stem formative have been altered by sound change, and even more compellingly, when endings or endings plus stem formatives have been lost in some forms (like OHG zunga, zungun). Thus, according to this principle, the nouns in exs. 1 and 2 are no longer i-stems and o-stems respectively, so only endings, not parts of the stems, have been transferred. The principle is much less likely to operate in cases like the
following: a subset of 3rd decl. nouns in Latin has a nom.sg. *homo:* by my principle, this would tend to be analyzed as *homo.* But in all the other cases the surface stem is *homin* followed by the typical endings of the 3rd declension. Thus, the tendency to analyze the nom.sg. as *homo* is overcome by the large amount of counterevidence; we would not expect *o* to be transferred to another decl. As an example of this type, in ancient Greek, where the *o* of the *o*-stems is very much in evidence throughout most of the decl., the dat.pl. ending -*es,* not *os,* was transferred to the *a*-stems.

A persistent problem in doing synchronic phonological analysis has been that of deciding which phenomena are true linguistic generalizations and which are not. The principle proposed here helps provide a basis for segmenting and analyzing noun declensions and determining valid generalizations concerning them. It suggests that capturing some possible generalizations is sacrificed to other considerations, at least in some areas of phonology.

RONNIE WILBUR and STEPHEN P. QUIGLEY, University of Illinois

Pronominalization in the Written Language of Deaf Children

This paper reports the results of an investigation into the problems which deaf children encounter with the rules of pronominalization. This study is part of a larger effort investigating major syntactic structures (relativization, question formation, negation, conjunction, aux and complements) which deaf children have difficulty with in order to factor out the causes for their stilted English. Pronominalization is an optional rule in English, but in many environments, failure to use it results in an immature writing style. Furthermore, using pronouns too liberally may result in referent confusion and misunderstanding of the intent of the sentence. This study focuses on deaf children's knowledge of the proper environment for application of pronominalization and of the proper choice of case, number, gender, and person.

A sample of 480 prelingually, profoundly deaf students aged 10 years 0 months to 18 years 11 months was taken from 16 schools across the country, selected so as to permit generalizability to the total deaf population in this age range, but constrained as follows: (1) sensorineural hearing impairment of not less than 90dB (I.S.O.) at 500, 1000, and 2000 Hz, (2) loss before age of 2 years, (3) IQ of at least 80 on performance scale of the WISC or WAIS, or other similar test, and (4) no other apparent handicap. Sixty hearing children aged 8 to 10 years served as a reference. Twenty-two tests of syntactic structures, developed especially for this research, were administered to the deaf and hearing groups and a 50 word written language sample, in the form of a story, was collected from each child.

Of the 22 tests, 6 deal directly with pronouns. Four were designed to test personal pronouns, possessive adjectives, and possessive pronouns. The fifth is concerned with reflexivization and the sixth with relative pronouns. All are multiple choice. From this data, we will be able to report trends on the choice of pronominalized or non-pronominalized forms when offered both possibilities. Further, we will be able to report the effect on this choice, if any, of forwards vs. backwards environment. Difficulties in subject vs. object position, singular vs. plural, and first, second, or third person will also be reported.

The written language sample was analyzed by a team of linguists for pronominalization and related problems. From this data, we can look for verification of the data from the tests. Furthermore, we will have available information on more sophisticated pronoun usage, such as non-NP pronouns (eg. *that*, *it*). We will also have information on gender problems (The girl's name is Wendy. She fed his dog.) which occur regularly in the written language, and on pronouns which have no apparent antecedent in the story. Most important, we will have information on the frequency of pronominalization when the antecedent is under the same S node on the surface (I threw the ball and Mary caught it.) which is relatively obligatory in English, and on the frequency of pronominalization when the antecedent is in some S preceding the one in question, which is a matter of more mature style. It is hoped that these two frequencies will provide a measure of written language maturity which can be correlated with the findings from the tests.

The results of this research will be used to develop (1) curriculum materials for deaf children with controlled syntax, as well as vocabulary and content, (2) diagnostic tests to pinpoint particular problems that individual deaf children are having with certain structures, and (3) remedial materials to help eliminate those problems. The acquisition of language is one of the major stumbling blocks in educating deaf children and to date, the role of transformational grammar in researching and correcting these problems has been largely ignored.

TERENCE H. WILBUR, University of California, Los Angeles

Hermann Collitz and the Devils of Leipzig or On interpreting the history of linguistics.

Hermann Collitz, in the summer of 1885, just before his departure for the United States, composed a reply to Karl Brugmann's defense of the neogrammari
Variation theory challenges old assumptions about static synchronic description of language. However, because it is so new, comparatively little research has been done in the dynamic framework of the variationists. This study on visual language phenomena, quite different from what linguists usually observe, should provide a crucial testing ground for the descriptive and explanatory power of the theory.

There is a diglossic continuum in the U.S. deaf community between American Sign Language (ASL) and Standard English. As expected, there is a great amount of systematic variation along this continuum. One example is the ASL Negative Incorporation rule. Certain ASL verbs incorporate a negative into the verb form. This is expressed on the surface by a bound outward twisting movement of the hand from the place where the sign is made. Five verbs that undergo this transformation were used in this study. One hundred and forty-one informants were asked to view a videotape of this variation (among others) and to indicate on a questionnaire whether or not they ever used the signed forms. The results of the study indicate that not everyone who signs or who claims to use ASL uses Negative Incorporation with all these verbs. However, the study also indicates that variation in Negative Incorporation is implicational. The ordering for the implication is: 'have' implies 'like' implies 'want' implies 'know' implies 'good'. Even though there are mathematically 32 (2^5) possible lects, 97% of the 141 informants patterned only in the six implicational lects. Membership in these lects also correlated with certain social variables -- whether the person is hearing or deaf, has deaf or hearing parents, learned signs before or after the age of six, and attended college or not.

It was possible to distinguish these five verbs in terms of cherological (phonological) features of place and movement (appendage, body, and out-sig). Furthermore, it was possible to weigh these features assigning α, β, γ, etc. to those features that influence operation of the rule more or less frequently (appendage, β -body, γ out-sig).

From this study, we see that implicational scaling is adequate to describe the complex variation that exists along the Sign-to-English diglossic continuum. Traditional linguistic theory is not. Implicational scaling also gives clues to hierarchical arrangement and naturalness of ASL cherological features.

JAMES C. WOODWARD, JR., Gallaudet College

Implicational Variation in American Sign Language

SAT MORNING

EVA-MARIA M. WOTSCHKE, University of California, Los Angeles

A Powerful Yet Structurally Simple Generating Concept

SUNDAY MORNING

In the following we will discuss the possibility of imposing control sets on grammars, resulting in an increase of the generative capacity of such new grammars. Extending Ginsburg and Spanier's approach to control-devices (cf. Ginsburg and Spanier, Control sets on Grammars, 1967), we will show that the generative capacity of a context-free grammar (CF-G) on which a regular...
A controlset (RC) is imposed becomes powerful enough to generate non-CF languages like "ww", i.e., languages of all and only strings where the first part has to match the second part. These context-free grammars with regular controlsets (CF-GRc) have properties very interesting for linguistic purposes.

When transformational grammar (T-G) was introduced as a model for linguistics, it had been established that CF-G's are too weak in generative capacity to account for natural languages, since languages like "ww" are beyond their weak generative power and require context-sensitive grammars (CS-G). It has been claimed, however, that natural languages contain subsets with infinitely many members of the form "ww" (cf. English "respectively"-constructions). But it is also well-known that T-G is much more powerful than actually necessary in respect to weak generative capacity (recursively enumerable; this implies that linguistically important problems are undecidable, cf. membership problem). CF-GRc's on the other hand are much more powerful than CF-G's, yet still contained in the class of CS-G's (membership problem still decidable).

Let us now define the notion of a controlset. A controlset is a set C of strings of rewriting rules of some grammar G and LC(G) is a language generated by derivations in G whose corresponding string of rewriting rules is an element of C, or LC(G) is the language generated by G with controlset (LC(G)). A CF-G with not necessarily left-most derivations and a RC, non-CF languages like "ww" can be generated in a way, structurally and conceptually very similar to CF-derivations. The "ww"-case (among others) suggests that the derivation by a CF-GRc coincides with the intuitive notion about these structures, since the matching parts are generated almost simultaneously and in the right places already, without using any permutation transformations or the like. It can easily be shown that any T-G, generating "ww" with a finite amount of rules, must run into the same difficulties as a CS-G does, namely some kind of message sending, although this unpleasant necessity is often disguised in a T-G, since it is only applied to relatively short sentences. Therefore T-G seems to be as unnatural and complicated as a CS-G in this respect.

But except this advantage of CF-GRc based on intuitive aspects, some considerable formal advantages should be noted, too. Since the controlset used here is regular, the set can be nicely characterized as a regular expression, resulting in a conceptually simple representation. Being closed under Boolean operations, RC's allow to combine (union) independent characterizations of subsets of a language and more importantly to use the powerful operation of filtering (intersection).

So CF-GRc's are not only interesting for the special case of "ww"-constructions but seem to be very worthwhile to investigate a possible application to other structures of natural language.
Litmus Tests, the Bloomfieldian Counterrevolution, and the Correspondence Fallacy

The literature of generative grammar contains many implicit references to, and explicit discussions of, tests for various properties of elements in particular languages -- for ambiguity, for determining boundaries between constituents and between words, for relational properties between elements (e.g., coordination vs. subordination), for identifying the category of a constituent, and for properties of constituents (e.g., negativity). The utility of linguistic litmus tests has recently been questioned by Dougherty, who claims that since they refer to properties of strings in surface structure, they belong to the methodology of a 'pregenerative view' of linguistic research, so that the use of these tests by generative semanticists signifies a 'Bloomfieldian counterrevolution.'

I argue that Dougherty maintains a false dichotomy and fails to appreciate the difference between (i) methods and arguments, and (ii) the content of descriptions and theories. I give three lines of support for litmus tests and also indicate how such tests have been used by grammarians of many varieties, including the early transformationalists and some interpretive semanticists.

Then I consider the criticism (not made by Dougherty) that different tests for the same property do not give quite the same results. But to abandon all tests on this basis would be to fall into one form of the correspondence fallacy discussed by Bazell. The difficulties that arise in applying particular tests (concerning domain of applicability, sharpness of results, exceptions, and interpretation of negative results) are surveyed briefly, with examples. I conclude by considering the extent to which particular tests are motivated by semantic considerations, as opposed to being syntactically arbitrary, and (a related issue) the extent to which particular tests are potentially universal (applicable, mutatis mutandis, to other languages than the one for which they were devised).
MARY RITCHIE KEY, University of California, Irvine

The Language of Male and Female

Male and female differences are universal in the behavior of human beings and the linguistic differences occur everywhere language is operative in human communication. They have not been studied in proportion to their occurrence because of their complexities and because they are at times inextricable from other dimensions of behavior, such as status, age, and role.

The linguistic behavior of male and female can be discussed profitably in two divisions: structural features and usage. In addition, male and female communicative aspects can be viewed from other perspectives, such as language and culture and nonverbal aspects of paralinguistics and kinesics. Intonational features and voice quality, for example, are important differentiators.

This paper will focus on some of the semantic structural features of male/female differences, specifically, grammatical categories; gender and sex; and pronominal and nominal referents. Grammatical categories, or selectional restrictions (depending on whether you have been raised in the Boas-Whorf-Sapir-Swadesh or the Chomskian tradition) are those semantic groupings which are correlative with syntax.

C) Affirmative responses: The frequency of affirmative response to the other person’s speaking was also markedly higher for the women, the females, and in particular when talking to each other (21 out of 33 occurrences in the one female-female conversation).

<table>
<thead>
<tr>
<th>x</th>
<th>speaker</th>
<th>F1</th>
<th>F2</th>
<th>M1</th>
<th>M2</th>
</tr>
</thead>
<tbody>
<tr>
<td>we, us, you</td>
<td>5.5</td>
<td>7.1</td>
<td>2.0</td>
<td>1.6</td>
<td>2.0</td>
</tr>
<tr>
<td>3rd p., impersonal</td>
<td>2.3</td>
<td>2.8</td>
<td>4.7</td>
<td>3.5</td>
<td>3.0</td>
</tr>
<tr>
<td>fillers</td>
<td>8.0</td>
<td>10.4</td>
<td>7.9</td>
<td>3.9</td>
<td>7.9</td>
</tr>
<tr>
<td>qualifiers</td>
<td>14.1</td>
<td>16.5</td>
<td>7.0</td>
<td>9.7</td>
<td>7.0</td>
</tr>
<tr>
<td>affirm. resp.</td>
<td>1.4</td>
<td>4.5</td>
<td>2.2</td>
<td>1.0</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Even though this sample is extremely limited, there appear to be definite differences in how the men and the women talk. The women’s speech is characterized by more frequent mention of their conversation partner, more responses to their partner’s speech, and more qualified forms of speech. The men’s speech tends to be more impersonal and also contains fewer hesitations and qualifiers.

A number of linguists have suggested a number of possible ways in which usage of adjectives and adverbs is linked to the sex of the speaker or writer. Some general assumptions are that women use a greater variety of adjectives and adverbs more frequently than do men. This study investigates both the actual
use and the perceived use of written adjectives and adverbs in descriptive paragraphs written by male and female freshman college students. Participants were asked to write two paragraphs describing given, common stimuli. Frequency and variety of adjective and adverb use were noted and compared in this part of the study.

"Cloze procedure" was used for the second part of the study: Adjectives and adverbs were struck out and replaced by standard-sized blanks in two sets of samples of the encoded passages received from the participants. For some samples each participant was just asked to fill in adjectives and adverbs and for some samples she or he was asked to role play and fill in words he or she thought a member of the opposite sex would choose.

Analysis of this data gives information not only on how adjectives and adverbs are used in written work by men and women in this particular segment of the population but also information on how those men and women think writers of the opposite sex use adjectives and adverbs.

JULIA P. STANLEY, University of Georgia  
LSA Women's Caucus

The Metaphors Some People Live By

In our encounters with the world, and in our efforts to classify and assign meanings to those encounters, we use metaphor as an implicit (but sometimes explicit) structure for these classifications of objects. The metaphors themselves are, of course, based on our hypotheses about the way things are in the world, and these hypotheses are predications that express our evaluations and perceptions of the relations between and among the objects in our world.

The names that men have given to women who make themselves physically available to them reveal the underlying metaphors by which men describe their physical relationships with women, and through which women learn to perceive and define their inherited nature. With this first semantic set I have paired a smaller, related group of terms that refer to promiscuous men. The implications of a semantic analysis of these two sets of terms reach into two areas: the problem of establishing and documenting the relation between culture and language usage and methods of discovering and describing semantic fields.

In this paper I focus on the metaphors that underlie the terms for sexually "promiscuous" women, and the way these metaphors define and perpetuate the ambivalent sex-role stereotyping that a male-dominated culture sets forth for women. Both sets of terms reveal quite clearly the passive, distasteful position women have traditionally held within our culture. On the one hand, women who "put out" for men are described as hag, sloplark, and piss pallets; but women who don't "put out" are damned as frigid, cold, or maladjusted.

All of these terms assume, of course, that woman's only means of identification lies in her relationship to a man (or men). In fact, analysis of over 200 such terms for women reveals the fact that the only way a woman can define her sexuality with the names provided by our culture is shameful, disgusting, and/or oppressively non-existent, should she choose to reject the terms associated with her sexuality.
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