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
CONTENTS

The Meeting at a Glance    vii
Program                   x
Abstracts                 1
Abstracts - LSA Women's Caucus  187
Advertisements             192
Forthcoming Meetings      198
**1973 LSA Annual Meeting Schedule**

*(Full names of authors and titles of papers appear in the program beginning on page 4.)*

**Important Notice Regarding Colloquium Sessions:** Seventeen papers have been selected on the basis of abstracts of exceptional interest and promise. These highlighted papers are scheduled at the end of the morning sessions and during mid-afternoon. Beginning Friday afternoon, there will be two to four such papers every half-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 Linguistic 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 3.

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

**Open Cash Bar:** 8:30 p.m. - 10:30 p.m., Bayside 3 & 4

**Friday, December 28, 1973**

<table>
<thead>
<tr>
<th>Time</th>
<th>SOUTH BALLROOM</th>
<th>CENTER BALLROOM</th>
<th>MISSION SOUTH</th>
<th>MISSION NORTH</th>
<th>BAYSIDE ROOM 1</th>
<th>BAYSIDE ROOM 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30</td>
<td>Dillon</td>
<td>Chairs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:00</td>
<td>Cohen &amp; Munro</td>
<td>Baumgardner</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:30</td>
<td>Lee</td>
<td>McClure &amp; McClure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:00</td>
<td>Fraser</td>
<td>Smith</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:30</td>
<td>Grieshab &amp; Bird</td>
<td>Johnson</td>
<td></td>
<td>American Indian Languages and Linguistic Theory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:00</td>
<td>Fornan</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:30</td>
<td>Tasnemah</td>
<td>Lewandowski</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:15 - 1:15</td>
<td></td>
<td></td>
<td><strong>Presidential Luncheon, Bayside Rooms 3 &amp; 4</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:00</td>
<td>Satter</td>
<td></td>
<td></td>
<td></td>
<td>Snow</td>
<td></td>
</tr>
<tr>
<td>2:30</td>
<td>Weisbrod</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3:00</td>
<td>Rosenthal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3:30</td>
<td>Kauhinen</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:00</td>
<td>Sacks &amp; Davis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:30</td>
<td>Huxley</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5:00</td>
<td>Heimann</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5:30</td>
<td>Sharrers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6:00</td>
<td>Meeting for Persons Interested in Applied Linguistics - Center Ballroom</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:00</td>
<td>LSA Women's Caucus, Sex Roles in Language - South Ballroom</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:00</td>
<td>Meeting of Department Chairmen - Mission Courts South</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:30</td>
<td>LSA Open Cash Bar - Bayside Rooms 3 &amp; 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

*(Note: Special interest luncheon tickets may be purchased until noon.)*

**LSA Book Exibits:** 8:00 a.m. - 2:00 p.m. and 4:30 p.m. - 6:00 p.m. - North Ballroom

**LSA Placement Center:** 12:30 a.m. - 2:30 p.m. and 5:00 p.m. - 8:00 p.m. - Hospitality Suite 2.
### SATURDAY, DECEMBER 29, 1973

<table>
<thead>
<tr>
<th>SOUTH BALLROOM</th>
<th>CENTER BALLROOM</th>
<th>MISSION SOUTH</th>
<th>MISSION NORTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30</td>
<td>* * * * * *</td>
<td>* * * *</td>
<td>* * * *</td>
</tr>
<tr>
<td>9:00 Wilbur &amp; Guineau</td>
<td>Underhill</td>
<td>* * *</td>
<td>* * *</td>
</tr>
<tr>
<td>9:30 Woodard</td>
<td>Hutchinson</td>
<td>* * *</td>
<td>* * *</td>
</tr>
<tr>
<td>10:00 Friesberg</td>
<td>Gaul</td>
<td>* * *</td>
<td>* * *</td>
</tr>
<tr>
<td>10:30 Tettsen</td>
<td>Salt</td>
<td>* * *</td>
<td>* * *</td>
</tr>
<tr>
<td>11:00 Antilson &amp; Maechler</td>
<td>Hymen</td>
<td>* * * * *</td>
<td>* * * * *</td>
</tr>
<tr>
<td>11:30 Fischer</td>
<td>Miller</td>
<td>* * * * *</td>
<td>* * * * *</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Time</th>
<th>Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:00</td>
<td>* * * * * * * * * *</td>
</tr>
<tr>
<td>12:30</td>
<td>* * * * * * * * * *</td>
</tr>
<tr>
<td>13:00</td>
<td>* * * * * * * * * *</td>
</tr>
</tbody>
</table>

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

2:00 - * * * * * * * * * * Feldl-Cohen, Reich & Cohn
2:30 Walniek, Almavota, Reich & Cohn
3:00 Hix & Kiech, Myers, Klosser, Gris
4:00 Cober, Stape, * * * * * * * * * * * * * * * * * *
4:30 Freiheit, * * * * * * * * * * * * * * * * * *
5:00 Haiden, Knu, Johnson, * * * * * * * * * * * * * * * * * *
5:30 Morin, * * * * * * * * * * * * * * * * * *

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

8:15 LSA Business Meeting - Center Ballroom
10:00 LSA Open Cine Bar - Bayside 1, 2, 3, 4

### SUNDAY, DECEMBER 30, 1973

<table>
<thead>
<tr>
<th>SOUTH BALLROOM</th>
<th>CENTER BALLROOM</th>
<th>MISSION SOUTH</th>
<th>MISSION NORTH</th>
<th>BAYSIDE ROOM 1</th>
<th>BAYSIDE ROOM 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30</td>
<td>* * * *</td>
<td>* * *</td>
<td>* * *</td>
<td>* * *</td>
<td>* * *</td>
</tr>
<tr>
<td>9:00 Salateri &amp; Wilbur</td>
<td>James</td>
<td>* * *</td>
<td>* * *</td>
<td>* * *</td>
<td>* * *</td>
</tr>
<tr>
<td>9:30 Lightfoot</td>
<td>* * * *</td>
<td>* * *</td>
<td>* * *</td>
<td>* * *</td>
<td>* * *</td>
</tr>
<tr>
<td>10:00 Johnson</td>
<td>* * * * * * * * * *</td>
<td>* * * * * * * * * *</td>
<td>* * * * * * * * * *</td>
<td>* * * * * * * * * *</td>
<td>* * * * * * * * * *</td>
</tr>
<tr>
<td>10:30 Ausser</td>
<td>* * * * * * * * * *</td>
<td>* * * * * * * * * *</td>
<td>* * * * * * * * * *</td>
<td>* * * * * * * * * *</td>
<td>* * * * * * * * * *</td>
</tr>
<tr>
<td>11:00 Jeps</td>
<td>* * * *</td>
<td>* * *</td>
<td>* * *</td>
<td>* * *</td>
<td>* * *</td>
</tr>
<tr>
<td>11:30 * * * * * * * * * *</td>
<td>* * * * * * * * * *</td>
<td>* * * * * * * * * *</td>
<td>* * * * * * * * * *</td>
<td>* * * * * * * * * *</td>
<td></td>
</tr>
</tbody>
</table>

#### 12:00 - 2:00 LUNCH BREAK

<table>
<thead>
<tr>
<th>Time</th>
<th>Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:00</td>
<td>* * * * * * * * * *</td>
</tr>
<tr>
<td>12:30</td>
<td>* * * * * * * * * *</td>
</tr>
<tr>
<td>13:00</td>
<td>* * * * * * * * * *</td>
</tr>
<tr>
<td>13:30</td>
<td>* * * * * * * * * *</td>
</tr>
<tr>
<td>14:00</td>
<td>* * * * * * * * * *</td>
</tr>
<tr>
<td>14:30</td>
<td>* * * * * * * * * *</td>
</tr>
<tr>
<td>15:00</td>
<td>* * * * * * * * * *</td>
</tr>
</tbody>
</table>

**REGISTRATION:** 8:00 a.m. - 1:00 p.m., Lobby of Sheraton Convention Center

**LSA BOOK EXHIBITS:** 9:00 a.m. - 1:00 p.m., North Ballroom

**LSA PLACEMENT CENTER:** 11:30 a.m. - 2:30 p.m., Hospitality Suite 2

**LOCAL ARRANGEMENTS COMMITTEE:** Leonard Newman, Chairman; Ronald V. Langacker, Margaret H. Langdon, Samford W. Schaefer, Owen B. Smethe, James W. Tidwell, Menasha W. V. T. Dunn

**PROGRAM COMMITTEE:** Paul W. Friedrich, Chairman, Osio Clark, Paul Kiparsky, Philip Lieberman, (representing Arthur S. Abramson), Leonard D. Newman, Gerald Werner, Arnold M. Zwick
### FRIDAY, DECEMBER 28, 1973

#### MORNING

**PERLOCUTIONS AND ILLUSIONS**  
Chairman: Tuo Yen Yaman  
South Palace

- 8:30 George L. Dillon (Indiana U., Ft. Wayne)  
  Tacit Agreements and Relative Well-Formedness
- 9:00 Larry Gorbat & Pamela Marro (University of California, San Diego)  
  I'se: Emotional Predicate-Raising
- 9:30 Patricia Lee (Ohio State) Perlocution and Illusion
- 10:00 Bruce Fraser (Boston U.) Responsibility and Illusionary Acts
- 10:30 Gerald Grimaud & Charles Bird (Indiana U., Bloomington) Verbal Manipulation: If
- 11:00 Ronald Brown (University of California, San Diego) How to get to Speaker-Base with Indirect Speech Acts: You Want to Turn Right at the Corner
- 11:30 Nobs-Aki Yenashiki (University of Michigan) On Performative Conditionals

**AMERICAN INDIAN LANGUAGES AND LINGUISTICS**  
Chairman: Mary Haas  
Dormer Conference South

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

**SYNTAX: TYPOLOGY AND UNIVERSALS**  
Chairman: Joseph Greenberg  
Haviland Room

- 8:30 Fred Eckman (Massachusetts Institute of Technology) Agentive and Agentless Passives
- 9:00 Erhard F.K. Voeltz (Indiana U., Bloomington) Passives
- 9:30 Alva Timberlake (University of California, Los Angeles) The Passive in North Russian
- 10:00  
- 10:30  
  Bruce T. Brown (University of Southern California) Toward a Typology of Adjective Clauses
- 11:00 Jerzy Sekier (Cologne) The Principle of Concomitance: Instrumental, Coative, and Collective

**SOCIOLINGUISTICS**  
Chairman: Charles Ferguson  
Gaylord Ballroom

- 8:30 Elaine Chakita (Providence C.) Hi! How are you?
- 9:00 Robert Bemangader (University of California) Threatening Speech in Shakespearean English
- 9:30 Michael F. McCloskey (University of California) Linguistic Evolution in Chinese 
  and Its Implications for the Theory of Change
- 10:00 Riley B. Smith Hyperfunctional and Basileicture Reconstruction
- 10:30 Lawrence Johnson (University of California) The Grammar of American English
- 11:00 Stanley Legum (SRI) Role of Language in the Analysis of Syntactic Variation
- 11:30 Beatrice R. Lavanda (University of Buenos Aires) Independent Reference in Spanish or Surface Variants?

**PSYCHOLOGICAL & SOCIOLOGICAL**  
Chairman: John Comper  
Deans' Conference South

- 8:30 Mary Hope Lee (University of Pennsylvania) Possible Evidence for the Existence of a Continuum in Nigerian Pidgin
- 9:00 George L. Hutter (California Institute of Technology) Sources of Creole Semantic Change
- 9:30 Patricia C. Nichols (Stanford U.) To Be and Fum in Glish: An Evolutionary View
- 10:00 Peter M. Salovey & Mary H. Salovey (University of Toronto) Language Delay and Minor Brain Dysfunction
- 10:15 BREAK
- 10:30  
  Cathy M. Goodwin (University of South Florida) Verbs and Derived Nominals—Evidence from Apsahla
- 11:00 Stephen D. Krashen (University of California) Two Studies in Adult Second Language Learning
- 11:30 Robert A. Terehoche (White St) A Variable Rule Analysis of the Indefinite Article in German

**TOPIC AND FOCUS**  
Chairman: R. Langacker  
Gaylord Room

- 8:30 John Y. Hinde (Tokyo U. & U. of Sacred Heart) Pronouns, Passives, and Themes in Latin
- 9:00 James H-Y. Tai (Southern Illinois U.) On the Conceptualization in ChineseVerb Complementation
- 9:30 Nancy Stansbury (University of California, San Diego) Focus and Copula in Irish
- 10:00  
  Krzysztof Paninski (University of Michigan) Some Observations on a Japanese Present Perfect Form
- 10:30  
  Martha B. Kendall (University of Ottawa) Problem in Explanatory Adequacy
- 11:00  
  Frances Karttunen The Syntax and Pragmatics of Finnish
- 11:30 Robert Lundy (University of California, Los Angeles) A Copying Analysis of Pseudo-Cleft

### FRIDAY, DECEMBER 28, 1973

#### AFTERNOON

**FUNCTIONS & SYNTAX**  
Chairman: Sandra Thompson  
Gaylord Ballroom

- 8:30 John R. Nelson (Northwestern U) A Verb Forming Process
- 9:00 Robert Bemangader (University of California) Threatening Speech in Shakespearean English
- 9:30 Michael F. McCloskey (University of California) Linguistic Evolution in Chinese
- 10:00 Riley B. Smith Hyperfunctional and Basileitecture Reconstruction
- 10:30 Lawrence Johnson (University of California) The Grammar of American English
- 11:00 Stanley Legum (SRI) Role of Language in the Analysis of Syntactic Variation
- 11:30 Beatrice R. Lavanda (University of Buenos Aires) Independent Reference in Spanish or Surface Variants?

**PHILOLOGY**  
Chairman: Virginia Froomkin  
Deans' Conference South

- 8:30 Robert Kroko (University of Hawaii) A Rule of Feature Sequencing in One Vowel Phonology
- 9:00  
  Irwin Howard (University of Hawaii) Why Principle A 'Deserves' a 'C
- 9:30 John T. Jensen (University of California) How Abstract is Abstract
- 10:00  
  Peter M. Salovey & Mary H. Salovey (University of Toronto) Language Delay and Minor Brain Dysfunction
- 10:15 BREAK
- 10:30  
  Cathy M. Goodwin (University of South Florida) Verbs and Derived Nominals—Evidence from Apsahla
- 11:00  
  Stephen D. Krashen (University of California) Two Studies in Adult Second Language Learning
- 11:30 Robert A. Terehoche (White St) A Variable Rule Analysis of the Indefinite Article in German

**INDO-EUROPEAN PHONOLOGY & MORPHOLOGY**  
Chairman: M. G. Beal  
Deans' Conference South

- 8:30  
  Cathy J. Muller (University of Texas) Some Aspects of the Evolution of Noun Declensions and Their Implications for Phonological Theory
- 9:00  
  James E. Klein (University of Georgia) Ordinal 15 and Sanskrit orthog
- 9:30  
  M. B. Ferrone (University of Berkeley) Sanskrit aphi: Brachidromy
- 10:00  
  Paul E. E. Evans (Massachusetts Institute of Technology) The Declension of Indo-European *-stems
- 10:15 BREAK
- 10:30  
  Harold K. Koch (Australian National University) The Hitite Flexive Verbs in
- 11:00  
  Paul J. Hope (Indiana) Indo-European Origins of the Greek/Sanskrit De- aspiration Conspiracy
- 11:30  
  Irina Ovchinnik (Yale U) Lexicostatistical Classification of the Indo-European Languages

**LINGUISTIC ATTITUDES & SOCIAL ROLES**  
Chairman: Sandra Thompson  
Gaylord Ballroom

- 8:30 John R. Nelson (Northwestern U) A Verb Forming Process
- 9:00 Robert Bemangader (University of California) Threatening Speech in Shakespearean English
- 9:30 Michael F. McCloskey (University of California) Linguistic Evolution in Chinese
- 10:00 Riley B. Smith Hyperfunctional and Basileitecture Reconstruction
- 10:30 Lawrence Johnson (University of California) The Grammar of American English
- 11:00 Stanley Legum (SRI) Role of Language in the Analysis of Syntactic Variation
- 11:30 Beatrice R. Lavanda (University of Buenos Aires) Independent Reference in Spanish or Surface Variants?

**TOPIC AND FOCUS**  
Chairman: R. Langacker  
Gaylord Room

- 8:30 John Y. Hinde (Tokyo U. & U. of Sacred Heart) Pronouns, Passives, and Themes in Latin
- 9:00 James H-Y. Tai (Southern Illinois U.) On the Conceptualization in ChineseVerb Complementation
- 9:30 Nancy Stansbury (University of California, San Diego) Focus and Copula in Irish
- 10:00  
  Krzysztof Paninski (University of Michigan) Some Observations on a Japanese Present Perfect Form
- 10:30  
  Martha B. Kendall (University of Ottawa) Problem in Explanatory Adequacy
- 11:00  
  Frances Karttunen The Syntax and Pragmatics of Finnish
- 11:30 Robert Lundy (University of California, Los Angeles) A Copying Analysis of Pseudo-Cleft

**LINGUISTIC ATTITUDES & SOCIAL ROLES**  
Chairman: Sandra Thompson  
Gaylord Ballroom

- 8:30 John R. Nelson (Northwestern U) A Verb Forming Process
- 9:00 Robert Bemangader (University of California) Threatening Speech in Shakespearean English
- 9:30 Michael F. McCloskey (University of California) Linguistic Evolution in Chinese
- 10:00 Riley B. Smith Hyperfunctional and Basileitecture Reconstruction
- 10:30 Lawrence Johnson (University of California) The Grammar of American English
- 11:00 Stanley Legum (SRI) Role of Language in the Analysis of Syntactic Variation
- 11:30 Beatrice R. Lavanda (University of Buenos Aires) Independent Reference in Spanish or Surface Variants?
### SATURDAY, DECEMBER 29, 1973

#### MORNING

**LANGUAGE OF THE DEAF**
- **Chairman:** Ursula Bellugi-Klima
- **Room:** Symbol Ballroom
- **9:00** Ronnie Milburf & Stephen P. Quigley (U Illinois) Pronunciation in the Written Language of Deaf Children
- **9:30** James C. Woodward, Jr. (Gallaudet C) Implications of Sign Language Arbitrariness and Tonicity: Historical Changes in American Sign Language
- **10:00** Nancy Frishberg (National Technical Institute for the Deaf) Arbitrariness and Tonicity: Historical Changes in American Sign Language
- **10:30** Robin Battison (U California, San Diego) Phonological Deletion in American Sign Language
- **11:00** Robin Battison (U California, San Diego & Gallaudet C) & Harry Markowits (GeorgeTown U & Gallaudet C) Sign Aphasia and Neurolinguistic Theory
- **11:30** Susan Fischer (Salk Institute) Verb Inclusions in the American Sign Language and their Acquisitions by the Deaf Child

**VERB SEMANTICS**
- **Chairman:** Charles Fillmore
- **Room:** Mission Canoes North
- **8:30** Andy Rogers (U Texas, Austin) Meaning Relations Among Verbs of Physical Perception
- **9:00** Rachel Costa (U Michigan) Preverbal-Presents
- **9:30** Linda R. Waugh (Cornell U) A Semantic Analysis of the French Tense System
- **10:00** Adrienne Lehrer (U Rochester) Verb and Adverb Interaction: A Problem for Semantic Interpretation
- **10:15** BREAK
- **10:30** Carolyn Nygren (Central Institute for the Deaf) A Classification Scheme for Instrumental Verbs
- **11:00** Robert S. Kirsner & Sandra A. Thompson (U California, Los Angeles) Less is More: The Semantics of Sensory Verb Emphases in English

### SATURDAY, DECEMBER 29, 1973

#### AFTERNOON

**PHONOLOGY: NATURAL AND UNNATURAL RULES**
- **Chairman:** Herta Halle
- **Room:** Center Ballroom
- **8:30** Nozomi Oda (U California, Berkeley) The Schwa-deletion Rule in Hindi: Phonetic and Non-phonetic Determinants of Rule Application
- **9:00** Robert Underhill (San Diego State) Major Class Features
- **9:30** James M. Hucheson (U Wisconsin) Natural Assimilation Processes and Glottalic Segments
- **10:00** Timothy Gull (U Southern California) A Hierarchy for Clusters of Three Non-syllables
- **10:30** Jilli Salb (U California, Los Angeles) The Treatment of Germinates: Evidence from Hebrew
- **11:00** Larry M. Hymon (U California, Berkeley & U Southern California) How do Natural Rules Become Unnatural?
- **11:30** Patricia Donnegan Miller (Ohio State) Chain Shifts, Shifted Mergers, and Natural Ordering in Phonology

**ROMANCE SYNTAX**
- **Chairman:** Dwight Bolinger
- **Room:** Mission Canoes North
- **8:30** Donna Jo Napoli Furon (Massachusetts Institute of Technology) Agreement and Consistency
- **9:00** Elen F. Prince (Swarthmore C & U Pennsylvania) Negative Transportation in French
- **9:30** John Knowles (Simon Fraser U) The Grammar of "Degrammaticalized" Spanish "ISS"
- **10:00** George M. Horn (U Massachusetts) The Non-reflexive Reflexive in Italian
- **10:30** Kathleen Dehignsen (U California, Los Angeles) An Interpretative Analysis of the Pronominal Construction in French and Spanish

**LANGUAGE ACQUISITION**
- **Chairman:** (To be announced)
- **Room:** Mission Canoes North
- **2:00** Roberta Keller-Cohen (SWY, Buffalo) Deictic Reference in Children’s Speech
- **2:30** Helgi Ornstein (U New Mexico) Learning to Express "Place": Locations in Estonian Child Language
- **3:00** Carolyn Kessler (Banroodha C & Stanford U) Prosodic Processes in Children with Language Delay
- **3:30** BREAK
- **4:00** BREAK
- **4:30** BREAK
- **5:00** David Ingram (U British Columbia) Fronting in Child Language
- **5:30** Susan Curiss (U California, Los Angeles) The Case of Genus: An Update as of December 1973

**ADVERTISMENTS**
- **Chairman:** Jacqueline Schachter
- **Room:** Mission Canoes North
- **2:00** Hsin-I Hsieh & Agnes Cheng (U Hawaii) Syntactic Compression and Contrastive Syntax
- **2:30** Hsin-I Hsieh & Agnes Cheng (U Hawaii) Condition and Imply Adverbs
- **3:00** Michael L. Gies (Ohio State) Time and Place Adverbs in English
- **3:30** BREAK
- **4:00** BREAK
- **4:30** BREAK
- **5:00** Timothy Spen (Center for Applied Linguistics) Hia Verb Arguments vs. Adverbs and Adjectives: A Problem in Defining the Meaning of the Sentences as the Basis of its Parts
- **5:30** Thomas A. Perry (U Vienna) Symmetric and Asymmetric
SUNDAY, DECEMBER 30, 1973

MORNING

SYNTAX: SUBJUNCTIVES AND HIERARCHIES
Chairman: Robert R. Kuczewski
South Ballroom
8:50 Linda L. Lane (Yale U) Quantifiers, Conjunction and Negation
9:00 Varia Saltarelli (U Illinois) Periphrastic Caustics and Functional Squish
9:30 D.K. Lightfoot (McGill U) Indeterminacy in Syntax
10:00 Robert Rosenshine (North Carolina) Fuzzy Islands
10:30 John R. Ross (Massachusetts Institute of Technology) Navigators
11:00 Georgette Loew (Graduate Center, CUNY) Grammatical Relations as a Parameter of Relative Quantifier Scope

HISTORY OF LINGUISTICS AND METAPHRASE
Chairman: Edward Shankiewicz
Center Ballroom
8:30 Romi S. Baron (Brown U) Linguistic Function Reconsidered
9:00 Terence H. Wilbur (U California, Los Angeles) Hermann Collitz and the Devils of Leipzig or On Interpreting the History of Linguistics
9:30 Terrence M. Flynn (U Southern California) Form and Function in Grammar
10:00 Noriko Umeda & C.S. Coker (Bell Laboratories) Non-Distinctive Features in American English
10:30 Eva Marie M. Motschke (U California, Los Angeles) A Powerful yet Structurally Simple Generating Concept
11:00 BREAK
11:30 Arnold M. Bullock (Ohio SU) Brown Texts, the Bloomfieldian Counterrevolution and the Correspondence Fallacy

TENSE, ASPECT, AND MODALITY
Chairman: Mary Riches Key
Marriott Crowne Plaza
5:00 Deborah James (Florida SU) A Study in the Relationships of Oh, Ah, Well, and Kind to Numerous Grammatical Phenomena
9:50 Baradene A. Vandersall (Bluffing Green SU) Manual Constraints on Tense and Aspect
10:00 Arthur Spears (U California, San Diego) Quantification, Plurality, Aspect, Reference, and Conjunction
10:15 BREAK
10:50 Michael Noonan (U California, Los Angeles) The Time Reference of Infinitives
11:00 Susan Steele (U Texas-Mexico) Is It Possible?

LINGUISTICAL HISTORIES
Chairman: Murray E. Sramek
Marriott Crowne Plaza
8:30 Rocky V. Miranda (U Minnesota) The Assumptions Underlying Internal Reconstruction
9:00 Douglas Q. Adams (U Idaho) Dialect History and Generative Chomskian Evolution
9:30 Theo Verena (U California, Los Angeles) Language Type and Word Order
10:00 David E. Iwami (U Utah) Some Medial Consistent Processes: An Historical View
10:30 Martha Laferriere (Queens C) The Unstressed Vowel of Old High German
11:00 BREAK
11:30 Mario Saville-Troike (Georgetown U) Seriation: Accounting for Variable Correspondences in Linguistic Classification

ENGLISH PHONOLOGY
Chairman: Samuel Joy Keizer
Harwood Room 1
8:30 Susan H. Houston (U Texas) Perceptual and Orthographic-phonological Analysis of Spelling Strategies
9:00 Lyn Krykotak (U Rochester) Why Smells Nelly Knit (But Not Kleenex): A Case for Vocal Harmony in English
9:30 Larry Nossly (Athenaans meets Athelstan
1:00 Frederick J. Jackson (U Hawaii) An Experimental Study of English Word Stress
10:30 Gregory Lee (U Hawaii) Stress Contours of English Words and Sentences

PHONOLGY: THE SYLLABLE
Chairman: Elizab thumbnail
Harwood Room 2
9:00 Timothy Light (Cornell U) The Cantonese Final: An Exercise in Dialectic Phonology
9:30 Larry Gerhart (U California, San Diego) Intervocalic Revisited: A Problem in Syllabic Phonology
10:00 Jorge Hunderman (Harvard U) Syllable Counting Rules
10:30 Kang-On Kim (U Southern California) Larry H. Ryan (U California, Berkeley) & U Southern California On the Non-status of Noun Boundaries in Phonology

SUNDAY, DECEMBER 30, 1973

AFTERNOON

LANTAL DÉCOMPOSITION
Chairman: Robin Klatzko
Center Ballroom
2:30 Roy C. Dougherty (New York U) Semantic Non-singulaires: Plurals, Coordinations, Collectives
3:00 Robert Frey (Iowa City) Ambiguous Sentences and Semantic Structure
3:30 Giles Pauwels (U California, San Diego) Superscripts with Scope Ambiguity
4:00 David R. Demers (Ohio SU) Lexical Decomposition in Montague Grammar
4:30 Masahiro Shukatani (U Southern California) On the Semantics of Causative Sentences

EXPERIMENTAL PHONETICS
Chairman: Peter Ceredo
Central Ballroom
2:00 Hector Jaffin & Joy Chock (U California, Berkeley) Perceptual Confusions Between Palatal Affricates and Non-Palatal Stops and their Implications for Explaining Sound Change
2:30 William R. Swain (U California, Berkeley) A Cross-Language Study of Larynx Height in Speech and its Implications for Explaining Sound Change
3:00 Kong-En Kim (U Southern California) The Nature of Temporal Relationships Between Adjacent Segments in Spoken Korean
3:30 Meredith A.B. Hoffmann (U California, Berkeley) "Focal Vowels"?
4:00 BREAK
4:30 BREAK
4:45 Leigh Lisker (U Pennsylvania) On "Expanding" Vowel Duration Variation
1:00 John Tressel (Michigan SU) A Talking Computer Terminal: Computer Aided Instruction in Phonetics

MORPHOLOGY AND MORPHOPHONEMIC RULES
Chairman: Francis Karttunen
Minturn Crowne Plaza
2:00 Clarence Sloot & James E. Hoard (U Oregon) On the Underlying Structure in Idiomatic Phrases
3:30 James E. Hoard & Clarence Sloot (U Oregon) Subregularity in the Morphosyntax of English Phrasal Verbs
4:00 George N. Clements (Massachusetts Institute of Technology) Permutation in Morphology
4:30 BREAK
9:00 James M. Harris (Massachusetts Institute of Technology) How Morphophonemic Innovations in Chicano Spanish
5:00 Royal Skousen (U Texas, Austin) On Analogy and Its Generalization
5:30 Mary Clason Warman (Indiana U, Bloomington) The Redundance of Morpheme Structure Conditions
6:00 Jonathan Kave (U Toronto) On Deep Constraints in Phonology: Loan Words

SYNTHES: TENSE/ASPECT/MODALITY
Chairman: Wallace Chafe
Harwood Room 3
2:00 Ross Clark (U Auckland) Passive and Surface Subject in Mbori
3:30 Paul R. Forman (U Southern California) Indirect Objects, Passives and VP Restructuring in English
4:00 C.F. Vogel and F.M. Vogel (Indiana U, Bloomington) Conditions for Conjoining in Nopi
4:30 BREAK
5:00 Paul N. Friederici (U Chicago) As MO
5:30 Lawrence P. Spearin (Graduate Center, CUNY), Beatrice L. Hall (CUNY), Story Brook, R.M.S. Hall (Queen's C) DP Cloning in Classical Greek
6:30 Robert J. Jefferis (Ohio SU) Hittite Constructions

INDO-EUROPEAN SYNTAX
Chairman: Edgar G. Polonsky
North Ballroom
2:30 Amr Landau (U Chicago) A Skeptic on Underlying Structure in Diachronic Syntax
3:00 Krystyna Kowalska (U Texas, Austin) A Case of Disappearing Nonsingular Nouns
4:00 BREAK
5:30 Paul N. Friederici (U Chicago) PIE as MO
5:30 Lawrence P. Spearin (Graduate Center, CUNY), Beatrice L. Hall (CUNY), Story Brook, R.M.S. Hall (Queen's C) DP Cloning in Classical Greek
6:30 Robert J. Jefferis (Ohio SU) Hittite Constructions
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 Karpas and Cyprus. Early medieval clusters of the type [nt], [ng], and [ng] give in Athenian combinations of the type [nd], [g9], and [g9] (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), [g9], and [g9]; in the southeast we have [nd] (normally in Cypriot and morpheme internally in Karpashtotes)/[tt] (morpheme internally in loan words in Cypriot and across boundaries in Karpashtotes), [g9] and [g9]. 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 ARMAJIAN, University of Massachusetts [FRI APT:6]

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 Nixon offered clemency to Hunt to be illegal
c. We believe 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. The Nixon's offering clemency to Hunt is believed to be illegal
   (That Nixon offered clemency to Hunt)
   (For Nixon to offer clemency to Hunt)

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 INQUIRY, IV/3). I argue against this, showing that the ungrammaticality of the (b) and (c) sentences of (ii) does not have to do with problems of "internal" clauses. The evidence for this is that prepositional phrases may not be raised into object position, but may be raised into subject position:

(v) a. They believed from London to Paris to be a long way
b. From London to Paris seemed to be a long way
c. From London to Paris was believed to be a long way

The ungrammaticality of (v-a), which we would surely want to relate to the ungrammaticality of (ii-b) and (ii-c), has nothing to do with "internal clauses". We can explain these facts by assuming that there is a rule of Raising to Object, restricted to operating on NPs. Hence, (v-a) will not be generated. On the other hand, if there is a separate rule of Raising to Subject, we can allow it to raise FPs, as well as NPs, and thus generate cases such as (v-b) and (v-c). From this we argue that the rule of Raising to Object is stated in terms of the category NP, whereas the rule of Raising to Subject seems to be stated in terms of the functional notion subject, since it raises subjects of any constituent status.

MARGI S. BARON, Brown University [SHM MORN:2]

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 now 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.

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 MARKOVICZ, 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 pronoun 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, and 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.

LEENA BELFRE, McGill University

[FRM AFT:1]

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:

\[ p \Rightarrow q \equiv \text{df} \Diamond(p \land \neg q) \]

The consequent \( q \) is said to follow from the antecedent \( p \) by the rules of language, and as the definitions say 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) VP 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.

Jean Casagrande, University of Florida

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 froniting 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 trole /tr/ 'three' and croix /krox/ 'cross', as illustrative of a number of similar words. Trole and croix cannot be derived via the same glide-creating rule.

Trole, 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, fruite, 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 *t/ru/na* for *trois* /trwa/ 'he perforated.' Since *trois* must be derived via DIPHT it follows that the rich /l/ /wa/ alternation can be easily reflected by rule. A rule is needed to lower /l/ to /le/ where DIPHT makes it /wa/ and a subsequent rule changes /wa/ to /le/.

Such a rule is HVL. Without it *trois* would be related to only two words: trépied and tresse and not to the 57-odd cases mentioned. With HVL in the grammar all forms with /l/, /le/, and /we/ are formally related.

Croix, which alternates with cruc- (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, /kra/. *Croix* can undergo the rule whose constraint does not prevent it from gliding.

HVL and RVR are crucial in the proper derivation of *trois* and *croix*. HVL is instrumental in relating /l/ to /wa/ and in sheltering the segments to be glided in *trois* 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 /krøy/ would result.

We-FORMATION, a rule which changes /l/ to /we/ after clusters and feeds Wa-FORMATION which in FP&M lowers diphthong /we/ to /wa/, is justified because there is no /Covl/ or /Ccow/ sequence in French while there are many /CCqy/ 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.

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 "Louis" to a greeting like "How are you?" is answered with "That's good," especially if "Louis" 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. One 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 seen, 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 overlap, 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 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 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 (5a) 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 conflated 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 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 widespread 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 alternates 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.
Lachmann's law and phonological economy

The 'law' whereby a Latin verb like legō has a long root-vowel in its past participle (lectus) has been successively reformulated from Aulus Cel-lius on. The most recent 'Harvard' solution (Kurylowicz, HSCP 72.295-9; Watkins, HSCP 74.55-65) is that morphological conditioning alone is responsi-
bile, namely the influence of the lengthened perfect active, legi. The gener-
ativist 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. 49.575f.)

This paper's first contention is that the phonological conditioning
should be restored to its rightful place. Otherwise falsities are generated
(*cap̂ tus, *luctus), ghost-forms walk (*regi, *legi) and competing shifts are
misunderstood and ignored (*sēsus < *sēsio- < *sedēto-; ēsus < *īsio- <
*ēdēto-).

The 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 assign-
ment of Latin vowels to one of two duration values, short or long, when
a minimum of nine distinct durations is environmentally offered, is another
example. It is also the explanation of the Lachmann shift. That is, when
voice-loss in the consonantal co-occurrents changes the environment, the
duration may be maintained only by transferring the local vowel into a
neighboring environment rank and so treating it as if it possessed etym-
ologically the necessary 'length'. Furthermore, transfer of this sort over a
short distance within the clime (which runs from 'naturally shortest' to
'naturally longest') reflects a natural shift; a transfer over a greater
portion (as in, e.g. *āmāndus > āmandus -- where a whole environment seems
to be grossly re-located) is to be identified as unnatural, idiosyncratic,
and therefore, more challengeable.

RACHEL COSTA, University of Michigan

preterite-presents

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

It is well-known that stative (or, in McCawley's terminology, "con-
tinued 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 stative perfects
is typically inchoative, and sometimes the entailed state retains the lex-
ical inchoative even in the stative non-generic meaning, e.g., I have for-
gotten = I forget, I have realized = I realize. Both types of state them-
selves 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 entail-
ment from the stative 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 phenomena of "pre-
terite-presents", verbs which are perfect in form but present in meaning.
The classic examples are Gk. οἶδα/Sk. veda/Goth. wæt, lit. "I have known"=
"I know"; Latin nēmini, lit. "I have remembered" = "I remember", odi, lit.
"I have hated" = "I hate"; Italian ho capito, lit. "I have understood" =
capiço "I understand". Most of these verbs are inchoative, like those of the
stative perfect, so the problem should reduce to the entailment of incho-
atives: if an inchoative dominates a stative predicate, it entails the
state by virtue of the meaning postulates of change associated with incho-
ation. 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 stative 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 pres-
tents: the English form has a deleted inchoative, and therefore is formally
similar to the veda/oīda 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 models 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>
</tr>
</thead>
<tbody>
<tr>
<td>^ cor</td>
<td>^ cor</td>
</tr>
<tr>
<td>β ant</td>
<td>β ant</td>
</tr>
<tr>
<td>[+seg]</td>
<td>[±seg]</td>
</tr>
<tr>
<td>^ high</td>
<td>^ high</td>
</tr>
<tr>
<td>δ back</td>
<td>δ back</td>
</tr>
<tr>
<td>^ str</td>
<td>^ str</td>
</tr>
</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.

SUSAN CURTISS, University of California, Los Angeles
The Case of Genie: An Update as of December, 1973

The case of Genie, an adolescent girl who underwent a degree of social isolation and experiential deprivation unparalleled in contemporary scientific history, is now known to linguists and psychologists throughout the country. The purpose of this paper is to present an update of the linguistic research on the case and to suggest areas where work with Genie has shed light on important linguistic questions.

In addition to a general update of Genie's progress in the areas of syntax and phonology, we will report in particular on our work regarding the acquisition of Wh-questions, our neurolinguistic research on perception and processing of both verbal and non-verbal stimuli (utilizing tachistoscopic as well as dichotic listening techniques), and our investigation into the larger questions of the relationship between semantics and syntax in language acquisition and of the relationship between cognition and language in general.

This case continues to provide data and have relevance for important linguistic questions -- the distinctions between comprehension and production of language, between linguistic competence and performance, between cognition and language, and for the unexplored area of primary language acquisition beyond the 'critical period'.

KATHERINE DAHLGREN, 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 Ruget gives the following examples in his chapter "Les Constructions Pronominales Neutres et Moyennes" (Théorie Syntctique et Syntaxe de Français, 1972):
1. Juliette se lave.
2. Les enfants, ça se lave en dix minutes.
3. Une foule, ça se dispersent silencieusement.
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," (Ruguet, p. 94). (3) is ambiguous between 'moyen' and 'neutre', the latter not having an unexpressed agent but not being reflexive either. 'Moyen'
In the paper, the proposed alternative models foundation a single "opera"
return.

The proposed alternative models foundation a single "opera"
return.

The proposed alternative models foundation a single "opera"
return.

The proposed alternative models foundation a single "opera"
return.

The proposed alternative models foundation a single "opera"
return.

The proposed alternative models foundation a single "opera"
return.

The proposed alternative models foundation a single "opera"
return.

The proposed alternative models foundation a single "opera"
return.

The proposed alternative models foundation a single "opera"
return.

The proposed alternative models foundation a single "opera"
return.
in the absence of contextual-situational cues.

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 C. DOUGHERTY, New York University

Semantic non-singularity: plurals, coordinations, and collectives

The lexical-feature analysis assumes: (I) No plurals are derived from coordinated singulars, i.e., (1a) does not derive from (1b). (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 co-coordinate NP subjects. 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 men and the man are different.
(1b) The men and the men 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: '...respective and respectively are identical in meaning and are in complementary distribution (respective 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' analysis of lexical gaps (CJL/RCL 1972) is based on weak data. Close examination of the respectively and lexical gap data selects the lexicon-feature analysis over squishing.

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 coordinations, but not a subject that is a coordination of singular NP's: John, Bill, Tom, Mary, Sue, and Jane alternate in line, but *John, Bill, Tom, Mary, Sue, and Jane alternate in line. Many examples show (a) that plurals and coordinations are semantically and syntactically different and should not be transformationally related, and (b) that predicates should be lexically marked for selection restrictions with respect to coordinations and plurals.

RAY DOUGHERTY and MICHAEL HELKE, New York University

Plural Reflexives and Reciprocal Pronouns

We advance several arguments based on semantics, syntax, morphology, and simplicity in the lexicon to show why the A-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 A)(Nelves))
(c) The men_k will see the men_k.

(2) (a) The men will lose their way.
(b) The men will lose (NP(DET A)·s)(N way)
(c) The men_k will lose the men's_k way.

The A-fill analysis contains a copying rule to fill the A 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 Δ-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:

(a) The men will see each other.
(b) Each of the men will see \( (\text{NP}, \text{DET}, \Delta \text{ other}) (\text{N one}) \).
(c) Each of the men will see the others.

(a) Men will see each other.
(b) Each man will see \( (\text{NP}, \text{DET}, \Delta \text{ other}) (\text{N one}) \).

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 everyone knows everyone, 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 Δ-fill analysis contradicts the assertion of Fiengo and Lasnik, 'The logical structure of reciprocal sentences,' (FoL, 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 Δ-fill analysis, by moving each or a pronoun directly from the antecedent into the Δ position in a NP, describes all of the above facts, lexically relates reflexives to restricted possessive constructions like John's 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 DOWNTON, University of Southern California**
**[FRI MORN:5]**
**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 extraposed 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.

**DAVID R. DOWTY, Ohio State University**
**[SUB AFT:1]**
**Lexical Decomposition in Montague Grammar**

One of the most significant recent challenges to transformational grammar is the theory of grammar proposed by Richard Montague. Montague Grammar (MG) shares with Generative Semantics (GS) the methodological premise that an interesting syntactic theory of a natural language can only be constructed in conjunction with a semantic theory of that language, since each will impose crucial constraints on the other. Since MG can be made to resemble GS superficially by relabelling components ("Global Rule" for "translation rule," etc.), the important questions facing researchers in this area are: (A) Can MG be extended to describe all cases that GS analyses were designed to handle? (B) Is the converse of A the case? (C) If the answer to A and B is yes, then
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 monomorphic 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, concomitant constructions, etc.

What is required in the MG analysis of (1), then, is a rule taking a sentence with a free variable (he 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 hammer with the transitive verb phrase make

the new derived transitive verb phrase make flat by hammering. Together, these rules account for the semantic entailments above.

It is an important feature of this analysis that it automatically accounts for the ambiguity of adverbials such as again in John hammered the metal flat again, or for ten minutes in The boxer knocked his opponent unconscious for ten minutes, since, as Jerry Morgan has pointed out, these ambiguities provide the strongest motivation for lexical decomposition in the first place.

Finally, the question of whether this analysis can be extended to lexical causatives (such as kill, build) will be considered.

ISTODRE DYEN, Yale University

A lexicostatistical classification of the Indo-European languages

This paper will present a brief review of the methods followed and the results obtained by classifying the Indo-European languages on the basis of lexicostatistical percentages used as indices of degrees of relationships. Eighty-four lists were used, representing all the generally recognized Indo-European branches now living and many, if not most, of their sub-branches. The presentation will be facilitated by the use of block-diagrams composed by Joseph Kruskal and Paul Black. Principal attention will be paid to the many agreements, but also to the disagreements between accepted non-quantitative classifications and the classification suggested by lexicostatistics. The chief differences observed concern the Indo-Iranian subgroup, the Balto-Slavic subgroup, the Italo-Celtic subgroup, and a Neso-European subgroup composed of Balto-Slavic, Germanic and Romance (the only available representative of Italic). Hypotheses will be offered to explain the sources of the disagreements.

FRED ECKMAN, Massachusetts Institute of Technology

Agentic and Agentless Passives

For the purpose of this paper, the term "agentive passive" will refer to sentences like (1), where the agent of the action is overtly expressed; and "agentless passive" will refer to sentences like (2), where there is no expressed agent.
(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 underlying 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.

H. B. EMENEO, University of California, Berkeley

Sanskrit api: Dravidan -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 hi and non-normative Hindi bh. 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 > MIA bu. Because of uncertainties in the formal development, it is not clear how much disintegration of the semantic structure has actually occurred in MIA.

Examination of parallel phenomena in the Dravidian languages results in a reconstruction of these five usages for Proto-Dravidian and also a recom-

BARUCK ELIMELECH, University of California, Los Angeles

On the Reality of Underlying Contour Tones

In her dissertation, Woo (1969) defends the position that all contour tones (rising, falling, convex) should be represented underlyingly as sequences of level tones (high, low, etc.). Thus, in a language with only two distinctive pitch levels, a falling tone would be represented as an underlying sequence of High followed by Low, while a rising tone would be represented as an underlying sequence of Low followed by High.
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 calquing of Dravidian *-um by Sanskrit ap. 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 test 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.

GILLES 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:
9. Le moindre bruit le dérange.
10. Il ne supporte pas le moindre bruit.
11. Il n'aime pas que la moindre erreur lui soit reprochée.

Again superlatives can be semantically equivalent to universal or existential quantifiers. But whereas English has a surface quantifier (any) with the same property, this is not the case for French.

We conclude that in order to capture the generalization about the properties of superlatives, of any in English, and the tout-aucun alternation in French, a more abstract underlying structure must be posited which does not contain the lexical items in question. Thus a unified treatment of quantifiers and superlatives that are not definite descriptions becomes possible.

SUSAN FISCHER, The Salk Institute

Verb Inflections in American Sign Language and Their Acquisition by the Deaf Child

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 of 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,
TERRENCE M. FLYNN, University of Southern California

Form and Function in Grammar or The Phylogeny of Discourse Meets the Ontology of Grammar

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, 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.

DONALD FORMAN, University of California, San Diego

How to Get to Speaker-Base with Indirect Speech Acts: You Want to Turn Right at the Corner

The differing functions of assertions and questions have been a continuing problem for those working on indirect speech acts. Thus, Gordon and Lakoff (1971) tell us:

(1) One can convey a request by asserting a speaker-based sincerity condition or questioning a hearer-based one.

But Heringer (1971) and Green (1972) argue against aspects of (1).

One source of confusion has been the lack of a definition for the concept of "speaker-" and "hearer-based". Gordon and Lakoff simply tell us which conditions are which. Heringer and Green seem to assume that an indirect speech act depends on an X-based condition if X is the surface subject of the sentence conveying the act (but they never say so, and it would be difficult to formalize). Labov (1970) has given the related definition:

(2) Given two parties in a conversation, A and B, we can distinguish as "A-events" the things that A knows about but B does not...

It turns out that the "pragmatic" approach like Labov's can be extended to account for a wide range of indirect speech acts, including many which require ad hoc apparatus under Heringer's more "syntactic" approach. Consider:

(3) Might I be able to help you? (ability reading of "able")

(4) May I help you? (permission reading of "may")

(3) and (4) can function as offers through hearer-based conditions. (3) is appropriate in situations where the offerer is better able than the offerer to judge whether the offerer has the ability to help. (4) depends on a hearer-based condition of giving permission.

Similarly:

(5) You want to turn right at the next corner.

(6) You want to leave before I bash your face in.

It might seem difficult to find common semantics in (5) and (6) to motivate their both being in declarative format. What they have in common is that each is appropriate in circumstances where the speaker can (for quite different reasons) assume knowledge about what the addressee wants. Even though they have second person subjects, a pragmatic analysis reveals them to be based on speaker-based conditions.

Thus, it will be shown that the data of Green and Heringer do not argue against: differentiating questions and assertions as in (1), but rather require more careful specification of the concept "X-based". A "pragmatic" definition will be given and applied to a wide range of indirect speech acts. From this
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.

1) a) I must warn you that I will be there
   b) I must promise you that I will be there

2) a) I must ask you to speak louder
   b) I must order you to speak louder

3) a) I must forbid you to leave
   b) I must authorize you to leave

I will argue in this paper that the explanation rests heavily with 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 semanticists' 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 adverbs 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 [SUN AFT;4]

PIE as SVO

This paper challenges the "PIE as (S)V0" 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. tensis and Bergs' 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 Ho. 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 Ho. 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 exceptionless OV, as has been demonstrated exhaustively by Masica (1972). Both Dravidian and Altaic exemplify the extreme of "rigid" SOV type; languages that have entered this syntactic
NANCY FRISBERG, National Technical Institute for the Deaf

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.

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 paraprase involving the copula (Maria è entrata scalza per scandalizzare le amiche della penna ‘Mary entered barefoot in order to scandalize her mother’s friends’). (Bowdy’s 1972 source for temporally restrictive adjectives is refuted.) 3) Nouns in comparative constructions which are not true comparatives, but predicates 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. (mp)
   (mp)
c. Le donne si sono comprate i cani. (fp)(copula) (fp)
d. Le donne li sono comprati. (mp) (cop) (mp)

   "The women bought the dogs."
   "The women bought them."
   "The women bought themselves the dogs."
   "The women bought them for themselves."

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 \( [V (NP) (P) NP X]_{VP} \) as \( [V' NP X]_{VP} \), where \( V' = V \) (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
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. 5) 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 node removed from its verb (La donna che parla svelta... 'The woman who speaks fast...' / La donna che ve
   lo che parla... 'The woman who 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. A 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.
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.

That is, I shall show, for cases like (1) and (2), that propositions predicating locations of concrete objects are linked, via relativization of time adverbials, to propositions describing actions and states of affairs, and thus, that it is incorrect to assume that locations are directly predicated of actions and states of affairs in semantic structure. I shall further show that the suggested analyses follow directly from hypotheses A and B and various independently motivated universal syntactic processes associated with relativization.

CATHY M. GOODWIN, University of South Florida
Verbs and Derived NOMinals - Evidence from Aphasia

Aphasic language has recently been recognized by an increasing number of linguists as a legitimate data source in the effort to correlate theoretical and neurological language models.

This paper will examine the relative difference in processing nouns, verbs and their derived nominals in a population of fifteen selected moderately impaired aphasics. Some linguists argue that the verb-derived nominal relationship involves a transformational process, with the verb serving as the base. Others argue that nouns and verbs co-exist as lexical items, but perhaps hierarchically arranged. Results of this study will be applied to these disparate claims.

Included in this research are timed noun and verb production tests, word-to-sentence tasks, picture naming (production) and picture pointing (comprehension), and pattern completion drills that test the reciprocal processes of N -> V or V -> N (i.e., correct + correction; correction -> correct). The test was also administered to a control group of normals, matched in sex and age to the aphasic group.

Preliminary results indicate interesting correlations between comprehension and production deficits, and between word frequencies and deficits. There is a definite facilitation of nouns in isolation (context-free) compared to verbs. We do not, on first analysis, find derived nominals as responses to verb stimuli, but interesting adjectival forms appeared in numbers significant enough to suggest some possible theory revisions. Adjectives seem to be patterned similarly to nouns, rather than to verbs, as a current theory would propose.

These data have direct relevance to the verb-derived nominal relationship as far as the transformation/lexical debate is concerned, and may possibly shed some light on the classical noun/verb primacy controversy.
Most phonological studies at least implicitly place syllable boundaries (S). Their usual assumption is that S has quasi-segmental status which requires it to be placed between segments. Evidence presented shows that S 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 is not always easy. English examples also showing phonological effects of dual syllable membership are given below with some evidence of those effects:

- syllable [sil...]: the first /t/ begins velarized indicating syllable final position but once "clear" showing initial position.
- historical [hist...]: the /t/ is short, lax, and stressed and must belong to a closed syllable; but the /t/ is unaspirated before a stressed vowel, and hence the preceding /s/ must be tautosyllabic with the /t/.
- Patrick [páktr...]: the /æ/ is short, lax, and stressed; the /t/ is retroflexed partially, an assimilation to following tautosyllabic /s/.

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 temporally "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. Prostate's Minimum Coherence Principle (Syllable: word, nexus, curse) syllabifies in terms of possible consonant clusters, but is interpretable to cover possible vowels also. This reinterpretation correctly syllabifies e.g., probably violating Bell's criticism. ("Against the distributional syllable," Colorado W.P., 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 impermissively vague. Is "permissible" defined on surface or underlying sequences? English seems to have a constraint that stressed syllables must be strong ones. Central [gæt] clearly shows that, if "strong" means having a long nucleus or a final non-syllabic, then such a 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 form, then the concept seems altogether consistent awareness that most linguists have failed to notice a problem here? Answers seem to lie in notions of "phoneme" (cf. Shane "The phoneme revisited," LG, 1971) and perhaps of transparency and opacity. Global and transderivational solutions and their shortcomings are briefly considered.

Epithets and exclamations (E), often behave as though their special illocutionary force were derived from underlying performatives. But positive explanatory performatives fail to exhibit total performative behavior. It has been suggested that predicate raising figures in the derivation e.g., the question performatives. E's also depend on predicate raising, which collapses performative and non-performative predicates, as do, we argue, questions. This mixed origin accounts for their acting both like and unlike performatives.

The basic insight behind our analysis is that E's, like (N) questions, bind the speaker to some constituent of the utterance: to the object of his (strong) opinion or to that which he wants identified. This observation leads us to posit the following structures underlying questions and E's:

(1)

\[
\begin{array}{c}
\text{S} \\
\text{REQUEST} \\
\text{YOU} \\
\text{NP} \\
\text{TELL} \\
\text{YOU} \\
\text{ME} \\
\text{NP}_1 \\
\text{SAY} \\
\text{I} \\
\text{YOU} \\
\text{NP} \\
\text{EXCLAIM} \\
\text{I} \\
\text{NP}_1 \\
\text{SAY} \\
\text{I} \\
\text{YOU} \\
\text{NP} \\
\text{EXCLAIM} \\
\text{I} \\
\text{NP}_1 \\
\end{array}
\]

In the question structure (1), NP, is the questioned (N)-marked) constituent. (2) illustrates an E 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 E'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 performatives by insulating the material within their scope from that force; epithets (including non-restrictive adjectives) remain speaker-bound at any depth. In Tom dreamed his lovely wife was a lamb, for instance, the speaker, but not necessarily Tom, thinks Tom's wife lovely; the blocking verb dream does not occur between the EE predicate EXCLAM and the marked-on constituent (head) NP.
in the underlying structure corresponding to (3) above.

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 complements 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.

---

ALLEN GRINSHAV and CHARLES BIRD, Indiana University

Verbal Manipulation: II

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.

---

TIMOTHY GITLIE, University of Southern California

A Hierarchy for Clusters of Three Non-syllabics

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 (Aravak), Temoayen Otoni, 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: [str], [spl], [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 or 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 + wesentlicher etc.; or in Dutch, zwarr + zwaardr (eventually [zwaardr]).

In the second half of the paper I extend the hierarchy in order to explain cases of lengthening and affricativization of obstruents in the environment of non-obstruent non-syllables. For the sake of generalizing the hierarchy, affricates and long consonants must be regarded (at some level) as sequences of two phones. The generalized version of the hierarchy reads: clusters containing three non-syllabic phones all agreeing in the specification for obstruent are more marked than clusters of three non-syllabic phones in which the constituent phones do not all agree in the specification for obstruent. Two additional predictions are obtained from the extended hierarchy: first, rules lengthening consonants 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 lengthening rules creating exclusively unmarked clusters, as happens in Old Norse (where [g] and [k] were geminated, following a short vowel, by a following [], as in liggja < ligga, hyggja < hygga), in Madurese (where stops and s's are geminated before a liquid, as in sutra < suttra, pasra < passtra) and in Naidu. Second, rules of affricativization in the environment of another consonant should never yield exclusively marked clusters of three phones. Again, this seems to be borne out. In addition, we expect to find some affricativization rules creating exclusively unmarked clusters of three phones, as happens in my dialect of American English, where [t] and [d] become [ts] and [dz] respectively just before an [r], [zr.tsr.tribu.t] "attribute", but not [zr.tsklnz] for "Atkins".

---

**Syllable Counting Rules**

Traditional grammarians often formulated rules which referred to the number of syllables in a word or morpheme. A familiar case is the distribution of more vs. or in English, where (roughly) the suffix -er occurs with monosyllabic adjectives, and more occurs with polysyllabic adjectives. In the tradition of generative phonology, little attention has been paid to phenomena...
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. This 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 interesting in that there is no obvious reason for it, in fact one might have expected just the opposite.

JORGE HARKAMER 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

(1) 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) hurt, think, and repent. 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 loked it passynge wel.

The verb loked occurs in Old and Middle English only in Flip constructions, while looked occurs only in non-Flip constructions. In order to be consistent with other facts of Middle English, we must assume that both the deleted NF
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 him he smert. 2

In late Middle English a perceptual strategy was introduced, which interpreted as subject that 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 topicalized 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 Malory, quoted in Otto Jespersen, 1894, Progress in Language, pp. 220-221.
2 Pride of Life, quoted in Willem van der Gaaf, 1994, The Transition from Impersonal to Personal in Middle-English.

JAMES HARRIS, Massachusetts Institute of Technology
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 change" -- as opposed to analogical restructuring -- are stable 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 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 -nmos in some paradigms but not in others; e.g., present subjunctive trabajemos 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 de[mos], escudemos. But the rule governing the n-m 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 in 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>
</tr>
</thead>
<tbody>
<tr>
<td>trabajamos</td>
<td>trabajenos</td>
</tr>
<tr>
<td>trabajamos</td>
<td>(not used)</td>
</tr>
<tr>
<td>trabajen</td>
<td>(no change)</td>
</tr>
</tbody>
</table>

The rule for verb-stress in standard dialects is:

\[ V \rightarrow [\text{[stress]} / X \langle TV \rangle ] \langle \langle c_0 [\text{-prex}] \rangle \text{C0'} \text{C0'} \text{Verb} \]

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 is 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.

ROLLAND R. RAUSser, University of Texas, Austin

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 presup-
positions 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 mech-
nism that “filters out” certain presuppositions of certain constituent sen-
tences (Korttunen, 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 pre-
suppositions 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 pre-
dictions 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 \neg A \rightarrow \neg C

(where \rightarrow means "presuppose")

Since the negation of the first disjunct does not entail \neg C (i.e., the presupposition of the second disjunct) C is presupposed by
(1). But so is \neg \neg C (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 nor \neg \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 Fraasen's supervaluations (or rather a semitruthfunctional
simulation proposed by Heitzberger 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 con-
stituents, 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.

ORVOKKI HEINAMART University of Texas, Austin

Before: The Second Round

Two kinds of before-clauses are usually recognized: factual and non-

factual. These are illustrated by the following examples:

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

(2a) 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 sugges-
ted (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 (1) 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 con-
ditional to hold (Heinäväki 1972). The speaker of (2) would be committed
to (3).
(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).

(4) We had to change the battery before the car would start.
(5) If we had not changed the battery the car would not have started.
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.

JOHN V. HINDS, Tokyo University, University of the Sacred Heart [FRI NORN:6]
Pronominalization, passives, and themes and themes

In Kuno (1972) an analysis of English pronominalization is advanced which
relies on the notion of "direct" versus "indirect" internal feelings in con-
stituent clauses. That is, if (1) is considered to be the underlying struc-
ture 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 theme) near the begin-
ing 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 thematic 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)
* means ungrammatical. This is clearly unacceptable. In addition, disagree-
ments 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
Kuno, Susumu (1972). "Pronominalization, reflexivization, and direct

JAMES HOARD and CLARENCE SLOAT, University of Oregon [SUN APT:3]
Subregularities in Morphology

Minor 'phonological' rules seem never to state purely phonetic processes
but rather, in every instance, specify shapes of morphemes. Such statements
of subregularity should not be regarded as phonological rules at all. Instead,
the phonological component should be divided into at least two sets of rules.
One of these (M-rules) specifies the shapes of morphemes; the other (P-rules)
states phonetic processes.

A problem arises, however, in deciding in a principled way exactly what
types of alternations should be the subject of M-rules. It is clear that
productive processes (e.g., the regular English plural and past tense endings)
should be the subject of M-rules. It is also reasonably clear that semi-
productive processes like English ablaut are the subject of general rules.
For example, new items like *sneak, dove, and drug attest to the viability of
the ablaut M-rules. We take this variability to be conclusive evidence that
subregularities cannot be summarily dismissed from the morphological component

58

59
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 N-rules as defricativisation (in the pairs father/paternal, mother/maternal, foot/footed, thin/thinner 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 unattestable English did and breadth as a redundant marker because unattest occurs independently as the sole morphological marker inㅗ.reduce, mice, etc. This hypothesis would disallow defricativisation 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 formations as the Sanskrit ना conjugation marker, which is never the sole marker of anything, could not be considered a classifier. ना 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 ना class and to assert instead that there are a large number of roots which accidentally take ना 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 defricativisation and stop voicing among the English N-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

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 focal 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 (Jokobsen, 1941; Greenberg, 1963). There is also circumstantial evidence concerning the existence of focal vowels in the literature on perception of speech sounds (Chiba and Kajiya, 1964; 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 than any vowel than will 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), BURLING (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, Dachang, 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: C1v1C2v2 → C1v2C2v2); in the second experiment, syllables were interchanged (C1v1C2v2 → C1v2C1v2). 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), MADDISON (1971) argue for a segmental 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' lungsā → lāngūi (word game 1) examples ngāl (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' bākāl → bākāl (word game 1) examples → kāl (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.

Grossmann's Law in Greek and Sanskrit can be seen as part of a combination of rules and underlying morpheme structure constraints whose effect is to eliminate large measure surface phonetic structures containing more than one aspirated stop per word. Targets of this kind are characterized by the reduction of a complex phonological system to a simpler, less marked system (Berman, 1972). In both Greek and Sanskrit, the de-aspiration 'conspiracy' brings about a situation in which only one segment position (or cluster) per word potentially displays the maximum number of contrasts available in the stop system (t, th, d, dh in Sanskrit; t, th, d in Greek); in other positions the stop system is reduced to the more basic contrast t, d. Grossmann's Law is thus seen as a rule which, while itself unnatural, results in unmarked surface structures. In this paper it is suggested that de-aspiration in Greek and Sanskrit continues a Proto-Indo-European system of constraints whose goal is a surface phonological pattern containing only the contrast voiced/voiceless in stop positions other than one. The PIE stop system assumed is (with the traditional equivalent in brackets): t [t], d [dh], d [g], the third member being an ejective (Hopper 1973). A constraint in the protolanguage prevented the occurrence of two ejectives in the same root; consequently only one segment position could attain the maximum number of contrasts. In other positions, the contrast was between voiced and voiceless ([g]). Since the ejectives did not figure in PIE suffixes, no sandhi rule could produce two ejectives in the same word, and it may therefore be assumed that this constraint also existed in surface structure. When, in Greek and Sanskrit, the ejectives became voiced stops, the aspirated stops became the most highly marked member of the obstruent system and the other two sets of stops stood in an unmarked opposition voiced/voiceless. The restriction of Grossmann's Law to Sanskrit and Greek is thus diachronically motivated: these are the only two languages which both retained a multiple manner contrast in stops, and changed ejectives into voiced stops.

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) la 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 the case the sentences contain only one lexical NP. The latter fact is illustrated by example (4) below:

(4) Giovanni (*si*) rompe 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:

(8) $\text{e}^\text{NP}(\text{la finestra})_\text{NP}$ $\text{VP}(\text{rompere})_\text{VP} \text{NP}(\text{John})_\text{NP}$ $\text{VP}_\text{S}$

(9) $\text{e}^\text{NP}(\text{John})_\text{NP}$ $\text{VP}(\text{vendere})_\text{VP} \text{NP}(\text{le mele})_\text{NP}$ $\text{VP}_\text{S}$

where $\Delta$ 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 co-referent 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 $\Delta$ 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.

SUSAN H. HOUSTON, University of Texas, Houston

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 NPE). 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 spell-ed-token production to SES; short-term memory (measured by digit-span); confidence judgments on each token; intraperson 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 'errors' 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'

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 Kisseberth (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 Kisseberth, though phrased in different terms and justified in different ways, are compatible and complementary; and (2) to provide empirical evidence against Principle A.

References:


SYNTACTIC COMPRESSION AND CONTRASTIVE SYNTAX

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 (e1 through e7):

(c1) ta shi congmingde zhe shishi ling ren jingqi.

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

(c2) ma shi ling-ren-jingqi-de ta shi congmingde.

(e2) It is surprising that she is wise.

(c3) ling-ren-jingqi-di, ta shi congmingde.

(e3) Surprisingly, she is wise.

(c4) ta shi congmingde zhe shishi bu ling ren jingqi.

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

(c5) bu ling-ren-jingqi-de, ta shi congmingde.

(e5) (not make people surprise-ly, she is wise)
(e6) Not surprisingly, she is wise.
(c6) *bu-jingren-di, ta shi congmingde.
(un-surprisingly, she is wise)
(e7) Unsurprisingly, she is wise.
(c7) ta shi wo-meici-kanjian-ju-xiang-tiaoqi-lai-nayangdi miren.
(she is I-everytime-see-then-want-to-jump-ly charming)
(e7) She is so charming that every time I see her I want to jump.
1c4 can be regarded as the basic form of $c_2$ and $c_3$, although $c_2$ is ungrammatical. $c_4$ appears to be the basic form of $c_5$ and $c_6$, yet neither of the latter sentences is permissible. In contrast, the English counterparts of these sentences are all acceptable.

The following points of difference between Chinese and English are observed:

1) Extrapolation 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 $c_4$), it is prohibited from being compressed into an adverb preceded by a negative particle or containing a negative affix (cf. $c_5$ & $c_6$). In English, the former restriction generally does not hold and the latter is showing signs of relaxation (cf. $c_6$).

3) In Chinese, a higher sentence can be reduced to a sentential adverb (cf. $c_3$). In English, it is compressed into a lexicalized adverb (cf. $c_3$). 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 (c7) cannot be compressed. This, however, is done in (c7) by compressing the clause into a sentential adverb.

JAMES W. HUTCHESON, University of Wisconsin
Natural Assimilation Processes and Glottalic Segments

The purpose of this paper is to characterize and clarify one kind of complete assimilation process in phonology. Although most examples discussed in the paper deal with complete consonantal assimilations, the conclusions argued for seem to hold equally for all complete assimilations. Most complete assimilations which involve changing more than one feature require different statements for each feature change, at least insofar as such statements purport to explain the phonetic motivation for the feature assimilation(s). Thus, for example, an assimilation in the derivation of the sequence $s + b + bb$.

requires at the level of explanation a statement of position assimilation and a statement of voicing assimilation, since each is clearly an example of a change which has its own phonetic 'teleology'.

There is a class of complete assimilations which defies analysis in the manner described above, i.e., as single feature changing processes; these are complete assimilations involving the glottalic segments $h$ and glottal stop. Several examples of assimilations are considered, where glottal segments are assimilated totally to a neighboring segment, frequently involving number of feature changes, both of manner and position. Often (indeed, usually) such assimilations must be considered to be single 'fell swoop' operations. 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 [FRI MORN:4]
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 these 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 verbs) 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 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
University of Southern California

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 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 a 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, Nupe).

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 (incursivocalic) consonants are reconstructed to include /*-C-/* and two consonant clusters, /*-NG-//* and /*-HC-/. 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. /h/ combines only with a following stop or nasal, thus producing a prenasalized stop or long nasal. In /h-k/- clusters, /h/ is viewed as a generalized consonantal segment which has features of aspiration and fortisness associated with it (either or both transferred to a following consonant), and is also hypothesized as being a crucial conditioning factor in the devoicing of Proto-Nunnic vowels. It combines with the stops (/µ p t k s k ɾ h/), nasals (/n m n ɾ j/), /h/ and /h/, but not with /h/ and /h/ -- the latter two must be viewed as totally outside of the three-way distinction. Morpheme-final /h/ and /h/ 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-k/- and /h-k/- merge into Mono and Northern Paiute geminate consonant. Comanche merges /h-k/- with /h-c/-, with the resultant Comanche segments being realized as plain (not spirantized) consonants, with the following exceptions: (a) the bilabial stop, where the Proto-Nunnic distinction is maintained as a plain versus spirantized stop, and (b) the alveolar stop, because of a split of /h-t/- into (plain) /t/ and (spirantized) /ɾ/, /h-c/- is generally reflected in Comanche as a preaspirated consonant. In Shoshone and Panamint, /h-c/- splits into a preaspirated series and a geminated series (Comanche may have an analogous split, but the details are not at all clear to me). Southern Paiute retains the original Proto-Nunnic three-way distinction, with /h-c/- 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' abstruse as the stem-final segment (see Chomsky and Halle's discussion in SPE, pp. 345-347).

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 CV syllable dependent upon the adherence of their order in 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 CV syllables before final apical or labial ones. A final discussion treats counter-evidence and some conclusions about FRONTING.

KYOKO INOUE, University of Michigan  [FRY 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 -Tanka-san wa hon o kita come from 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 since t and t, John has waited.' As an example of the universal sentence, McCawley gives Goji kara nai-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 ta 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 senso de ashi no hone o otta 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 senso de
migi-no ude o nakushita koto ga aru "Speaking of Dan, he has had the experience of losing his right arm in the war" because an arm once lost is not recoverable, 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 changes to 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'.

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 unvoiced the voiceless intervocalic 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. Ucciol (a long monograph in 1957) 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 Rohls 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.

GEORGETTE IOUP, Graduate Center of CUNY
Grammatical Relations as a Parameter of Relative Quantifier Scope

Where two quantifiers are concerned, most linguists follow the view 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.
Halle and Keyser (1971) make the claim in their Main Stress Rule (MSR) that bisyllabic English words with unnested 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., 

\textit{arise, 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., \textit{pelcore, garfile, amorete, hesryy}, 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 75% 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 the 'irregular' 13 stress contour. Moreover, in the second experiment there was a significant tendency for subjects to stress the French words as predicted by Halle and Keyser, while all the German words were assigned non-predicted stress. All the items were stated to be "possible English words" by the subjects.

Results strongly suggest that Halle and Keyser's MSR incorrectly predicts the stress contour that native English speakers assign to bisyllabic novel items. It also seems probable that they have missed a significant generalization about English word stress that may have been captured by Ross in his "Reanalysis of English Word Stress" (1972) and "Leftward Ho!" (1973), i.e., that English speakers tend to want to retract stress leftward, at least in nouns and adjectives.
of interjections with other grammatical phenomena can reveal hitherto unnoticed, and sometimes mysterious, characteristics of those phenomena.

HECTOR JAVKIN and JOY CHUCK, University of California, Berkeley [SUN AFT:2] 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 /l/, /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 /ts/ when these are spoken in the environment of the different vowels. A recording was made of nonsense syllables consisting of /ts/, /sf/, and /k/ preceding the vowels /i/, /e/, /ae/, /a/, /o/ and /u/, 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 "n".

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 /k/ precedes /e/, and less often still when it precedes /u/, but that the order is /u/, /i/, /o/ in the case of /ts/.

ROBERT J. JEFFERS, Ohio State University [SUN AFT:4] 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, manman). Enclitic particles are generally attached to such clause-introducers; (2) conjunctions which may occur in clause initial position, but need
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 Kisselberth 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 that are 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>Jensen Hungarian</th>
<th>Estger Hungarian</th>
<th>Harris Spanish</th>
<th>English</th>
<th>Hyman Nupe</th>
<th>Harms Nupe</th>
<th>Kisselberth 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>
</tr>
<tr>
<td>Subset Cond</td>
<td>NO</td>
<td>YES</td>
<td>NO</td>
<td>YES</td>
<td>NO</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>
</tr>
<tr>
<td>Segment Paradigm Cond</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>Feature Paradigm Cond</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>
</tr>
<tr>
<td>Non-arbitrariness</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
<td>YES</td>
<td>NO</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
The Effects of Speech-Tone and Speech-Rhythm on Tsonga Music, and The System of Counter-Mechanisms Designed to Lighten this Control

There are about 1,200,000 Tsonga (a Bantu Language) speakers in Mozambique and a further 700,000 in the Northern Transvaal. The former are known to have been situated in their present location at least two or three centuries prior to the arrival of the Portuguese in the 16th century; the latter are a migrant group who moved westward following the 19th-century Zulu wars. Although the Tsonga possess strong cultural affinities with the Nguni group (Swazi, Zulu, and Xhosa), the language lacks the clicks which the Nguni -- presumably arriving first -- learned from the Bushmen and Hottentots.

During the two years 1968-70 I carried out anthropological research among the Tsonga, under grants from the Wenner-Gren Foundation and the University of the Witwatersrand, I learned the language, and collected and studied over 500 traditional songs, paying particular attention to the relation between speech patterns and the characteristic musical profiles of different bodies of songs.

Tsonga possesses high, low, and falling speech-tones which largely determine the melodic rise and fall in song. This is most evident in the initial musical phrase, the words of subsequent phrases being 'suggested' by the sound of the first line of music (taking into account the on-going sense). But the most interesting aspect of speech-tone and speech-rhythm control in Tsonga music is the system of counter-mechanisms which work to free musical direction and musical pulse of linguistic restrictions.

For instance, a recognized series of non-lexical syllables is used to facilitate melodic choice where speech-tone and one-to-one relationship between word-syllable and musical unit is deemed too limiting. The non-lexical syllables are, of course, free of speech-tone and may be assigned desired pitches quite freely (i.e., they possess no meaning which could be impaired by so doing.)

There is also a system of harmonic equivalence among musical tones, whereby regular words may be assigned pitches which disregard normal speech-tone or may assign desired pitches quite freely (i.e., they possess no meaning which could be impaired by so doing.)

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 ma.
Finland-han is a small country.

"Finland is a small country, after all." (I'm reminding you.)

In 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 semifictive verbs such as discover, notice. The sentence "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 otsaa etä Suomihan on pieni ma.
+ 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)

Annaan 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:

Han aina tietää onkohan Suomi pieni maa.

I want to know is Finland is a small country.

*Peikko 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 [FRI AFT:1]

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 [SUM AFT:3]

On Deep Constraints in Phonology: Loan Words

In several recent papers (e.g., Shibatani (1973) Lg. 49, 67-86 and Hamano (1973) Lg. 49, 439-446) the role of morpheme structure conditions has been called into question. Specifically Hamano 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 stress patterns alternate even numbered lax vowels, starting from the beginning of the word or a tense vowel. Thus, akwe’ wosan is realized phonetically as [kwé]. The crucial examples here involve cases where Odawa borrows English words with initial voiceless obstruents and clusters. English
voiceless obstructions 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 *[nppen]* '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 *[mppen]*. This latter form is perfectly ok and violates no phonemic 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 obstructions. The word *bus* is borrowed into Odawa as *[pass]*. The possessive form is *[ppas]* 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.

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.

1. "My people come out the door."
2. "Bring it here."

The speaker is not at the origin of the action but at the goal. For *go* and *take* the speaker is frequently nearer the source of the action.

3. "They gotta go home."
4. "We took it homes."

This analysis is not necessarily the case for adult speakers.

The distribution is to be expected since it is believed that 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.

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*.

5. "I'm not coming to school again."
6. "This one go out."

We will be made of certain concepts from Piagetian psychology in describing how the deictic system functions for the child. A justification for their use will be provided.

The importance of this study is two-fold. First, it explores the appropriateness of Fillmore's description of deictic verbs (1973, Ad Hoc paper) 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.

Martha 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-g-kίm* (house-dem-from come-pl-compl.)

   They came out of the house.

2. *wa-qano'-m ?-yov-kίm* (house-mud-with l-build-compl.)

   I built a house with adobe.

In the verbal system, however, the function of these morphemes is not nearly as 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 homophonic 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 signaling 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-č gala u-t-ýi čikač-r-k'm (Tokatoka-subj Thala see-temp-prox, smile-incompl.)
When Tokatoka saw Thala, he (Tokatoka) smiled/was smiling.

(4) tokatoka-č gala u-t-m, čikač-r-k'm (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-č man-k'f mpark qal'ep-m (Savakyuva-subj kill-comp knee bad-fact)
Savakyuva fell because his knee is bad.

(6) savakyuva-č man-k'f mpark qal'ep-k (Savakyuva-subj kill-comp knee bad-nomfact)
Savakyuva fell because he has a bad knee.

The difference between (3) 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 related to reference switching rules, the factivity rule or the nominal case marking system.

MICHAEL KENSTONICZ, 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. Kisbeberth 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 α (or + or 0) for a feature F, while another rule B specifies a segment for the value -α for 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 five /č/ (cf. kopitič-o n. sg., kopitič g.pl. horčči). Another rule B shortens a long vowel after a syllable containing a long vowel (cf. mestč-o n. sg., mestč-a n.pl. 'city'; but dlatč-o n. sg., dlatč-a n.pl. 'chisel'). These two rules overlap in the derivation of the underlying form /şplenč/, g.pl. 'letter'. Rule A requires the š 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 /šplenč/, 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 derivaton.

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, Shushi, 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. Emphasis
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 average 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 derive from a pattern common to first-language acquisition.


KONG-ON KIM, University of Southern California

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-, -asa-, 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 Lehisite, Koshevnikov 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. HUMAN, 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, Cooper (1972) and Vonnewton (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 word structure conditions (WSC'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 Nuu, 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 /singerə/ in English, in order to obtain the deletion of /g/ (cf. on the other hand /lənɡərə/, 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.

PAUL KIPARSKY, Massachusetts Institute of Technology

The Declension of Indo-European -1-Stems

Szemerényi (1970) has proposed that the closed declension of IE -1- and -2- stems was originally distinguished from the open declension by the operation of a vowel insertion process which applied before a prevocalic sonorant that remained syllabic because of Sievers' law. Kiparsky (1972) has shown that Szemerényi's hypothesis explains the accentual behavior of these stems, and accounts for such hitherto ill-understood patterns as *dorcu ~ *drew-ōs. In this paper it will be shown that the same rules also account for the difference between the devi and vrci declension types, on the assumption that their declensional suffixes are -yآخر and -iآخر, respectively. This enables us to relate the morphological difference of the two suffixes to the fact that -yآخر is never inherently accented, whereas -iآخر is always inherently accented. Furthermore, the anomalous position of vrci, which has a composite paradigm made up of both devi and vrci forms, is shown to follow from its special segmental shape. An especially interesting consequence of this analysis is that the laryngeals, contrary to what is usually assumed, need not be subject to special syllabification rules, but fit into the pattern of the other sonorants. We show that this holds up in other cases as well, where special behavior of laryngeals has traditionally been posited.

ROBERT KIRSNER and SANDRA A. THOMPSON, University of California, Los Angeles

Less is More: The Semantics of Sensory Verb Complements in English

The analysis of sentences of the form saw her drown/drowning appears to be initially unproblematic. The incoherence of *saw her drown, but I didn't see her suggests (i) that the subject of the plain or -ing form in a sensory verb sentence is the logical direct object of the sensory verb. Similarly, the oddity of *saw her drown, but she didn't suggest (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 (Felder 1966) or PERFECTIVE/IMPERFECTIVE (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 Felder's terms not We are seeing + Jim grows up but rather We are seeing - Jim is growing up, vitiates 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, fails 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 participants 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 UNBOUND in time. One way a situation can be temporally bounded is if it is controlled - turned 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.


JAREED S. KLEIN, University of Georgia
Vedic tāṃ u and Sanskrit asāu

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

It has been generally maintained since Brugmann that Proto-Indo-Iranian asāu (Avestan āau, Sanskrit asāu) contains the nominative singular *sā, *sā of the demonstrative pronoun together with an u-element, probably related to the particle *u. The *sā/-ā- pronounced was in Indo-European a neutral demonstrative, non-committal 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 asāu. It is also present in the Rig-vedic collocation tāṃ u 'that one' which, when employed anaphorically following a relative pronoun, represents the original locus of u in the Rig-veda. E.g.;

(1) yām yujjñāti tāṃ v ā sthāpayanti (VI.45.16a)
(5) a. x Se los alquilan
   b. Se los alquila

Under this proposed analysis (5)a is simply accounted for since it is postulated that its source is intransitive.

HAROLD J. KOCH, The Australian National University

The Hittite Facticitive 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' → melki- 'many', harganu- 'whiten' → harki- 'white') or from u-stems (e.g., rennu- 'diminish' → tepu- 'little', paragru- 'raise' → parku- 'high').

Comparison with an alternate factitive formation in -ahh- yields the following distribution, which admits of very few exceptions. i-stems form derivatives only in -ahh- (newa- 'new' → nevahh- 'renew'), u-stems only in -nu- (tepu- → tepnu-). Of the i-stems, those with inflectional about produce factitives in -nu- (harki-/-avy- → harganu-) while non-ablauting stems have factitives in -ahh- (nakki- 'heavy' → nakkirahh- '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 *-g-). In the derivatives from u-stems the formation is analysed as the inflection 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 wahu- 'turn' (tr.) → weh- 'turn' (intr.) and hingaru- 'put under oath' → link- 'swear'. But the fact that -nu- is here analysed as a suffixal unit rather than infixed nasal plus -u-, together with the extreme productivity of the deverbalic type, indicates that this construction 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 infixation of -n- into adjectival stems in -n- represents an archaic derivational process that deserves to be explored further in its Indo-European context.
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 cortical 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 acquiring 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 Barcia 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).
The raising of ə to a before a or o of the following syllable affected
strong verb forms hilip, nimi (hilipas, nimin, etc.), with [l] from underlying
[1] before true [ul]; but in hilipum, nimum, nimit, nouns hirum, stèrum, u
does not condition the raising of ə to a, and hence could not have been a
back rounded vowel, but rather already [l].

A Dialect Division. Only Alemanic manuscripts give evidence of long
vowels in final unstressed syllables (e.g., feminine nouns gebön, herzön;
verbs放出, zalčœ; Bavarian and Franconian manuscripts record exactly
the same -um ~ -om alternation displayed by masculine and neuter D pl., e.g.,
hirum, where -um = [g]. In Bavarian and Franconian, unstressed long vowels
were shortened, and reduced to [a] earlier than in Alemannic. (Even in
Alemannic there is evidence for reduced vowels in these positions, cf. St.
Call Verakke).

Therefore a reinterpretation of ORG unstressed final vowels based on
principles of both formal grammar and orthographic systematicity indicates
that the reduction to [a] occurred much earlier in certain areas, and in
certain linguistic contexts, than usually assumed.

LINDA L. LANE, Yale University

Quantifiers, Conjunction and Negation

Contexts in which a quantified NP is conjoined to a non-quantified NP
have a leveling effect on the familiar quantifier-negative idiolect variation
in the assignment of scope. Informants who find that (1) has only a Neg Q
reading, or is ambiguous between a Neg V and Neg Q reading, find that (2) has
a primary Neg V reading and possibly one (or more) of 3 'secondary' (reduced
grammaticality and probability) Neg Q readings. The possibility of a secondary
Neg Q reading increases, but is not restricted to, sentences in which the con-
joined quantified NP is in post-negative position.

(1) All the arrows didn't hit the target.
Neg Q: Not all the arrows hit the target.
Neg V: All the arrows missed the target.

(2) All my gerbels and Fred's rat didn't qualify for the Rodent Race.
A. Neg V: All my gerbels failed to qualify for the Rodent Race and
Fred's rat failed to qualify for the Rodent Race.
B. Neg Q-Neg V Not all my gerbels qualified for the Rodent Race
Split:
Fred's rat didn't qualify for the Rodent Race
C. Bracketing: Not all of the group 'my gerbels and Fred's rat'
qualified for the Rodent Race.
D. Neg-Anc: 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 (6) 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

Independent Morphemes or Surface Variants?

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 if-clauses in Buenos Aires.

Spanish. (Example: Si tuvieron (Imperfect Subjunctive) ~ tuviese (Imperfect Subjunctive) ~ tendría (Conditional) ~ tengo (Present Indicative) ~ tenía (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:

\[ \text{Impf. Subj.} \rightarrow (\text{Condic}) \rightarrow [-\text{Past}] \rightarrow (\text{NP}) \rightarrow [-\text{college} \text{ education}] \]

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 scalegram or a separate 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:

\[ \text{Imperf. Subj.} \rightarrow \{\text{ra} \rightarrow \text{se} \rightarrow \text{Pres. Indic.} \rightarrow \text{vs. Imperf. Indic.}\]
The current literature on continua deals with languages like Hawaiian English, Jamaican Creole, and American Black English. However, NP is not as yet a creole, 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.

/bet dis guyi him de tich bet him bi sobstitut laik him no de go aku laik evride...shi kan go to sku laik tri tsiz...wak...das tu moch wok fo ha...laik a tel am se hau yu de go sku de wok?/

"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.


PATRICIA LEE, Ohio State University

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 illocutionary 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 illocutionary 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 illocutionary act but not to an utterance having essentially the same perlocutionary force but which is not an illocutionary illocutionary. An example of this kind of test is '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.

SYDNEY LEGUM, SWRL Educational Research and Development

DALE ELLIOTT, California State College, Dominguez Hills

Considerations in the Analysis of Syntactic Variation

In analyzing syntactic variation it is necessary to (1) conduct an appropriate theoretical analysis, (2) choose sound methodological techniques for gathering data, (3) choose a statistic consistent with the theoretical methodological model, and (4) insure that the sample is large enough to provide adequate power to the statistical test. In the past four years a number of studies have appeared which satisfy some of these conditions, but none has satisfied all of them.

As a case in point, consider three recent articles dealing with the following sentences:

A. Sophia Loren was seen by the people while enjoying herself.
B. The people saw Sophia Loren while enjoying herself.
C. Judy was seen by the people while enjoying themselves.
D. The people saw Karen while enjoying herself.

Elliott, Legum and Thompson (1969) posited an implicational scale of acceptability judgments for these sentences of the form:

<table>
<thead>
<tr>
<th>Sentences</th>
<th>ABCD</th>
<th>ABCD</th>
<th>ABCD</th>
<th>ABCD</th>
<th>ABCD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response Patterns</td>
<td>++</td>
<td>++</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

ELT argued that the variation among the informants could be accounted for in part by a syntactic analysis in which (1) some speakers have a subject-identity constraint on the deletion rule which applies to the subordinate clauses in each sentence and (2) some speakers who have the subject-identity constraint also require that the surface subject of the main clause be the underlying subject. Legum (1973) added that an examination of the response patterns implies that some speakers extrinsically order Passive before the deletion rule and that other speakers either have these two rules extrinsically unordered or have grammars that generate the while-clauses of A-D in sentences higher than the surface main clauses. Both of these studies used inadequate methodology and did not apply statistical analyses to the results.

Greenbaum (1973) replicated the ELT study with a number of methodological changes, including a test of all possible orders of presentation of the stimulus sentences and the imposition of a 5 second time limit on the responses to each sentence. He applied an analysis of variance procedure and a Newman-Keuls multiple comparison test to determine that the first sentence presented was rejected more frequently than sentences in other positions, and that sentence B was more acceptable than sentence C. He was unable to detect any difference in acceptability between A and B or between C and D.
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 Scheffé-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.

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 orientation 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.

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.

TIMOTHY 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, an 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 non-high, non-front, non-labial, 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 *um to fu). 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 /u/ (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

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/easier 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 easier structural configuration. Furthermore, we make many wrong predictions if we derive them from both an easier 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 analysing this kind of thing Chomskyan TO forces us to make an arbitrary choice and it is not only unhelpful but also counter-productive.

There are two possible wiggles: 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 wiggle 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. Inq. 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 Perlmuter in his work on begin. Perlmuter'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

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 explana-
tions 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 sagittal,
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 ex-
hibit, 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 voice-
less consonants because such consonants are fortis and fortiness causes
erlier 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 articulary
force; the explanation that posits vowel lengthening before voiced stops is
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 con-
sonants is perhaps to be found.

ROBERT LUNDY, University of California, Los Angeles [FRI MORN:6]

A Copying Analysis of Pseudo-Cleft

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, cur-
rent models predict a semantic difference between (1) and (2) which does not
exist.

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

Ross' model also predicts a non-existent ambiguity in both (1) and (2) with
respect to them. 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,

3. I saw a dog. [I [saw] a dog ]
   NP : V NP NP

4. What did I see? [I [saw] [Wh Pro]]
   NP : V NP NP

5. What I saw was a dog. [I [saw] [Wh a dog]]
   NP : V NP NP

In the course of the paper a rule is developed which relates such deep struc-
tures 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 con-
struction, but to the analysis of questions as well. It also argues against
the tendency toward ever-increasing complexity of deep structure.

ERICA F. McCLURE, University of Illinois [FRI MORN:2]
MALCOLM M. McCLURE, Washington University

Chaos in the Speech Community

Although it is no longer claimed that a language can be described by
observing the speech patterns of just one individual, little is said about
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., ethnomedical 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 MCLER, 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 pri-
to the change a non-alternating stage existed. Is this a reasonable assump-
tion? 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-retro-
flex 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 lan-
guage when none of its current phonological alternations had yet come into
existence implies that the language at that stage had no phonological alter-
ations at all. There is, however, no such implication in internal reconstruc-
tion. The language at that stage could have had any number of other alter-
ations 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 test is simple if one
of the alternatives is not a possible sound change. (Take for example, X=x,
Y=ć, 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=intravocalic) or we do not
have sufficient knowledge about possible phonetic changes. The standard ap-
proach 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 neutral-
ization, if one of the environments, say E1, is actually a merger of two dif-
ferent environments, E1a, in which only X occurred, and E1b, in which only
Y occurred, we have here a case in which X and Y occurred in complemen-
tary distribution at an earlier stage. An apparent case of neutralization
can go back to a case of complementary distribution also when Y in environ-
ment 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.

BERGOYARD MHR, California State College at Dominguez Hills [SAT Apt: 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 fea-
ture with identical specification on every segment of a string as a supra-
segmental 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 mono-syllabic, 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 de-
scribed in Pisk, 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 syllification 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) un falsifiable 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 CP 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 MINNO, 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 vs. progressive is indicated in Mojave by one of a group of position or location verbs -- umu: 'be in', idi: 'lie', iwa: 'sit', iwal:
'stand', etc. -- each with the auxiliary prefix \( v \). The auxiliary selected for a given sentence may thus add information, but is often redundant:

(a) \( ʔ-imː-k \quad v-ʔ-miː-k \)

1-dance-samessubject aux-1-be-pres/past 'I was dancing'

(b) \( m̕o-he-ak \quad v-ʔ-mo-he-ak \)

watch-samessubject aux-sit-pres/past 'He's watching it (sitting)'

The lexical verbs here are only loosely embedded: their suffixed \( -\lpar \) '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 that of

(2) \( imaː-p-m \quad ʔ-iyuː-c \)

dance-p-different subj 1-see-ins? 'I saw him dance'

where \( -p \) appears to be an object complementizer (the suffix also occurs on the object form of the pronoun \( ʔi\lpar \) (\( -c \) is a subject marker), which is \( ʔi\lpar ̕g \)).

Examples of this construction with perfective auxiliaries are

(3a) \( imaː-p-k \quad iduː-c \quad tapyuː-p-k \quad aʔwː-ʔ \)

dance-p-samessubj be-c kill-p-samessubj do-c.

'He danced' 'He killed it'

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

(4a) \( imaː-p-c \quad 'He danced' \quad (b) tapyuː-p-c \quad '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 transitive the transitive pattern B.

---

\[ \text{NEW MEERS, Queens College, CUNY} \]

\[ \text{5SAT AFT:2} \]

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 \( w \) (\( w \)), questions and commands/requests, is most easily formulated within an analysis which treats these forms syntactically as higher verbs.

---

\[ \text{Bibliography} \]


---

\[ \text{LARRY HARMS, University of Michigan} \]

\[ \text{1 3 1 0} \]

\[ \text{African Meets Athelstan} \]

Ross, in his paper "A Reanalysis of English Word Stress" (1972) claims that Hottentot is derived through the application of final stress (Hottentot)
followed by stress retraction to the initial syllable \( \texttt{\`ottent\`o} \). His analysis tries to explain why the word does not receive expected penultimate stress \( \texttt{\`ottent\`o} \), and further implicitly predicts that there are no words of the stress pattern \( \texttt{\`ottent\`o} \) (words with 1-0-0 stress). However, many words with 1-0-0 stress do exist, such as \( \texttt{c\`eder\`o} \), \( \texttt{pimpern\`el\`a} \), \( \texttt{\`ar\`u\`n\`a} \), \( \texttt{\`athel\`a} \), and \( \texttt{\`prote\`o} \). 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 \( \texttt{\`av\`en\`e} \) and \( \texttt{\`en\`e} \) (with an underlying lax final 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 \( \texttt{\`ack\`en\`a} \), \( \texttt{\`aid\`e} \), and \( \texttt{\`el\`e} \). The 1-0-3 pattern is strengthened when the first two syllables and the last syllable each resemble a morpheme, as in \( \texttt{\al\`e\`e} \) and \( \texttt{\`ash\`a} \). Sometimes a single word shows both patterns, as in \( \texttt{\`a\`i\`e\`e}/\texttt{\`a\`i\`e\`e} \) and \( \texttt{\`i\`e\`e}/\texttt{\`i\`e\`e} \) (the alternates 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 \( \texttt{\`a\`i\`e\`e}/\texttt{\`a\`i\`e\`e} \), \( \texttt{\`a\`i\`e\`e}/\texttt{\`a\`i\`e\`e} \), and \( \texttt{\`a\`i\`e\`e}/\texttt{\`a\`i\`e\`e} \) (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 \( \texttt{\`a\`i\`e\`e}/\texttt{\`a\`i\`e\`e} \), \( \texttt{\`a\`i\`e\`e}/\texttt{\`a\`i\`e\`e} \), and \( \texttt{\`a\`i\`e\`e}/\texttt{\`a\`i\`e\`e} \). Similar effects of obstruency and morpheme resemblance can be seen in other environments. Speakers accept \( \texttt{\`o\`a\`m\`e\`e} \) as a pronunciation, and the same sequence before primary stress also seems quite acceptable (with the same stress), as in \( \texttt{\`o\`a\`m\`e\`e} \) (expected \( \texttt{\`o\`a\`m\`e\`e} \)). Also, a four-syllable word may be given initial stress if it is seen as being composed of two-syllable look-alikes, as in \( \texttt{\`i\`e\`e}/\texttt{\`i\`e\`e} \), \( \texttt{\`i\`e\`e}/\texttt{\`i\`e\`e} \), and \( \texttt{\`i\`e\`e}/\texttt{\`i\`e\`e} \). These effects are not currently predicted.

Given these discoveries regarding obstruency and morpheme resemblance, many current analyses (including Ross' analysis) 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.
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—craftsmanship, but not craftsman—woman or king—queen—kingdom but not govern. 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 governess is not the same as a gover, a majorette is not the same as a majoret. Postess 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., madam 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 infinitive complements.

Geoffrey Nunberg, Lehman College

English Pro-complementizers: Meaning and Praxis

Several attempts have been made to account for the alternation of it and so as English pro-complementizers. In particular, Kiparsky and Kliger (1970) assert that so can pronominalize only non-factive clauses, and Cushing (1971) 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. McCawley 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 because 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 adjectival and in a sentence with a particle, He chopped the log apart.

He chopped the log up.
in a sentence with either an adjectival 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 adjectival.
Verbs plus their appropriate particles and/or adjectives are accomplishment 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 adjectival 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.

PRESENTED TO, University of Kansas

Sections of Presupposition in the Grammar

The goal of the present paper is to reveal different uses of presupposition in syntax or different ways that presupposition is realized in a grammar. It is shown in the paper that presuppositions so far discovered fall 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 presupposition. Both uses of definite descriptions in Donnellan --referential and descriptive-- will be discussed in connection with referentially used presuppositions.

Transformational and residual presuppositions are not explicitly mentioned 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
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 implied inference and conversational implicature in connection with residual presuppositions, whose presence is not directly marked in a sentence.

MANIARI 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 [/pičik] "squeeze" and [/pička] "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 /jangal1 + i/ "forest + suffix", is [jangli:] "wild", experimental evidence shows that /Eγmn+t + "spoon + plural", is [Eγmni], i.e., with the geminate simplified, or [Eγmn23], but not #[Eγmn0]. 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 /b + poq + a/ is [bepaqza] "illiterate", and not #[beqa]. 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 /-iya/. Thus, for many speakers /kega + 3/ "saffron + plural", is [keギa] but /kega + 1ya/ "saffron + adjectival suffix", is [keギιya], not #[keギιya].

HELGI ÖSTERREICH, University of New Mexico

[SAT AFT:3]

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 today 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, ovi 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 Lauffer, 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 -- Bowernan 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 or 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 AFT: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 cyclic -- 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 Cilitization in Spanish and Subjectivization in Japanese.

First I show that Cilitization in Spanish must be prevented from applying before the following four cyclical rules: Object Raising, Passive, Equi, and Reflexivization. Cilitization 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 Cilitization 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 Cilitization is post-cyclical. The fact that Cilitization 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 Cilitization 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 Cilitization 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, GAN'TI Conversion, and Reflexivization. The interaction of Subjectivization with these six rules provides arguments (analogous to those given for Cilitization 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 Cilitization 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 FERRY, University of Vienna [SAT AFT:4]
Symmetric and Asymmetric with

Lakoff and Peters note the semantic connection between and-conjoined NPs and locations 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 'Frank, 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 P. PRINCE, University of Pennsylvania

**Negative Transportation in French**

This paper deals with the differences between sentences like

1.a. Je ne crois pas que Marie ait trouvé le livre
1.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.

1.a. 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 (1965) for the existence of this rule in English is not applicable to French (untill, c'est), 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:

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

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

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

d. Je ne crois pas que c'est la peine d'y aller.
(c) can 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?)

5b. 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)
6b. Je crois que cul. (I believe so)

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

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 prosodic, 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 storable 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 metrical 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 G-kp[ and inte-pl[. 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 syllabication 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 boundary, (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 ([h(w)g'] by axiom, by agreement, positio[n], which came to be understood as referring to the position of the vowel before two or more consonants.

The position rule increases the number of long syllables provided natur[ly, by the structure of the language, whether VQ or SW. Since Greek has a greater variety of syllable-initial clusters than Latin (where only mutu-um-lu[ida and qu /ku/ occur, neither of which invariably makes position), Greek is furthered more than Latin by the rule. But since all Latin met[ers (except the probab[ly autochthonous satirism) are borrowed from Greek, as is the position 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 position 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 cons[sonants have a duration, nor do they necessarily belong to the syllable long position). Hence the syllable long position must be pronounced with a long allophone of its short vowel. Since long and short vowels differ primarily also in quality (close 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's 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 on 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's upward bandedness 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-Extraposning 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:


In the past several years linguists have become increasingly interested in non-discrete, or fuzzy linguistic phenomena. The law of the excluded middle, once thought to hold pervasively in a transformational grammar appears not to hold in many instances. For example certain rules may not simply be applicable or nonapplicable, but applicable to a degree. Certain constraints on the grammar may not be operable or inoperable, but operable to a degree. Sentences are not grammatical or ungrammatical, but grammatical to a degree (or ungrammatical to a degree). Certain grammatical configurations are not necessarily islands or non-islands, but islands to a degree. This paper deals with the latter statement.

To capture the notion of "island to a degree" or "fuzzy island" I have drawn on L. Zadeh's theory of fuzzy sets. In some cases a fuzzy set of nodes of the phrase structure tree. The strength of a node within an island is proportionate to the degree of membership of the node in this fuzzy set. By this means we are able to describe strong islands as being associated with fuzzy sets containing elements with high degrees of membership. We can also capture the fact that some nodes have stronger membership in an island than other nodes.

Two aspects of fuzzy islands are investigated: (1) the varying degree of strength of nodes within a single island (e.g., subject nodes have stronger membership than object nodes) and (2) the varying degree of strength among islands (e.g., relative clause islands are stronger than factive-clause islands).

I shall consider the following hypothesis: All Ss are (fuzzy) islands. The strengths of islands are affected by a variety of island-strengthening and island-weakening factors, both syntactic and semantic, in such a way that a wide range of island strengths are observed, from very weak (and non-island-like) to very strong (such as relative clause islands). Several such island-strengthening factors will be discussed. For example I will show that a clause which is backgrounded is a stronger island than a clause in a similar environment which is not. In fact an island is strengthened proportionately to the degree of backgrounding. Acceptance of such a hypothesis will allow us to account for why (1a) is better than (1b) although neither is fully grammatical. The fact that (2a) is better than (2b) which in turn is better than (2c) is also accounted for in this manner.

(1) a. Who did you believe the claim that Spiro hated? b. Who did you deprive the claim that Spiro hated?

The notion of "background" is discussed by Paul Schachter in "Focus and Relativisation," Language 49.1 (March, 1973).
(2) a. He's the kind of president that there are many people who disbelieve.
b. He's the kind of president that I know many people who disbelieve.
c. He's the kind of president that I talked to many people who disbelieve.

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>Semantic Function</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>
<td></td>
</tr>
<tr>
<td>Inchoative</td>
<td>see</td>
<td>hear</td>
<td>taste</td>
<td>smell</td>
<td>feel</td>
<td></td>
</tr>
<tr>
<td>Active</td>
<td>watch</td>
<td>listen</td>
<td>taste</td>
<td>smell</td>
<td>feel</td>
<td></td>
</tr>
<tr>
<td>Flip</td>
<td>look</td>
<td>sound</td>
<td>taste</td>
<td>smell</td>
<td>feel</td>
<td></td>
</tr>
</tbody>
</table>

The Statives and Inchoatives are distinguishable, on the one hand from the Actives by Agentivity and Stativity 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) What I did was {listen} to the crickets.
(2) I am {listening} to the crickets.
(3) I {heard the} crickets {sounding}

(4) The {crickets} sounded loud to {me} {in the rock}
(5) I heard the crickets [AMBIG.] {for three hours} [UNAMBIG.]
(6) I heard the crickets [AMBIG.] crossing the street, [CRUIT] [UNAMBIG.]

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 criteria properties of these verbs, e.g.

Hear Incho (A, B) as COME ABOUT (Hear it (A,B))
List (A, B) as DO (A, (Hear it (A,B))
Sound (A, B, C) as CAUSE (Hear (A, B), BELIEVE(A, (BE(B,C))))
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 \{?did he? and neither did I. not even the Peking duck.\}

(3) He read few books \{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 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.
Language Delay and Minimal Brain Dysfunction

Eisenson and Ingram (1972) have characterized "aphasic children" as having "slow evolution of rules that govern language". In this paper it is suggested that in the phonological processes of such children, more is evidenced than mere delay. While many of the same processes (in the Saussurean sense of process) are present in the development that appears in normal development, it has been found that there are at least two major differences between the linguistic behavior of normal and "aphasic" children: (1) the phonological rules of childhood aphasics are ordered differently from those of normal children, and (2) there is a greater tendency towards instability of production in the grammar of the child aphasics 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 aphasics seen at the Institute for Childhood Aphasias is compared with that from a large number of normal children.


The Apachan 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 none 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 [t]:[k] correspondence as a major criterion for distinguishing Eastern and Western Apachan, 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...
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 SEITER, University of Cologne [PRI MOW:M]

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. \( N_1 N' \) with \( N_2 \)

b. \( N_1' V' \) (=use) \( N_2' \) 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 N' 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 Genoss' eversuchen (Coll.). In the unmarked representation, the V' can be extracted from \( N_2 \) which

is a verbal noun. An example for the Instrumental:

(1) (i) Mit einem Lächeln erreicht du mehr. 'With a smile you get more.'

(ii) Wenn (weil, indem) du Lächelt, erreicht du mehr. 'If because etc. you smile, you get more.'

5) The syntactic regularities are constant within each type, thus uniting both the marked and the unmarked subtypes. In particular, \( N_1 \) and \( N_1' \) are always coreferent in the Instr., never so in Comit., and optionally so in Coll.

4. The Teleonomy. The automatisms mentioned suggest that Instr., Comit., and Coll. in spite of their differences, have a common denominator, i.e., their status as concomitant predications: Predications - and not Cases - because they are basically predicative (contain a verb). Concomitant - and not subordinated - because the concomitant V' cannot be chosen freely. On the semantic level, it seems plausible that abstract and collective nouns should be linked with the main action under the Principle of Concomitance - and not as 
"actants", as clauses. On the pragmatic level, the Principle of Concomitance serves the purpose of avoiding commitment. Compare:

(i) (i) Mit freundlichen Grüßen, Ihr... 'With kind regards, yours' marked for Concomitance (mit), non-commital

(ii) Ich Grüße Sie freundlich, Ihr... 'I am greeting you kindly': unmarked for Concomitance, committed

5. Deep Structure vs. Principle. The regularities pointed out would not lend themselves to being reduced to an underlying structure in any of the current notions of that term. The notion of an Underlying Principle which implies reference to the purposive aspect of rule-governed behavior is, for that very reason, more appropriate for a unified treatment of divergent language structures.

HARUYOSHI SKEATANI, University of Southern California [SUN APT:M]

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 or not 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 `/sugar-ase/ 'rise-cause'` has its lexical counterpart, `/ase/ 'raise/lift'; consequently, the former expresses only directive causation, and the latter manipulative causation. The form `/sugar-ass/ 'sit-cause'`, however, lacks its lexical counterpart, and expresses manipulative as well as directive 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 implication, and whether or not the speaker is interested in the implicature rather than the causative situation.

**TIMOTHY SHOPEN, Center for Applied Linguistics**

Main Verb Arguments vs. Adverbs and Adjuncts - A Problem in Defining the Meaning of the Sentence as the Sum of its Parts

A speaker cannot know the meaning of sentences because they are infinite; rather he must know some finite set of primes and combinatorial 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 PP and PP following put. Consider optional 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 quality as arguments for move. The same sentence does not entail "Ed moved the refrigerator for someone" so BENEFICIAL 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.
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, a new surface structure shows up in its place. This hypothesis is supported by the history of woran and get passives in English.

Old English wercan (of southern and midwestern dialects) and wesan (of west saxon dialect) were later on grouped together (both replaced by be in Modern English) but weran (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 weran 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 Austen 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 weran 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 Le. no. 5)
5. Naro, Anthony (1971) “Syntactic Change as a Surface Phenomenon” (ISA, Winter)

In this paper I will discuss the nature of morphological rules and show that all the so-called "laws" of analogical change are determined by the nature of the morphology. In particular, I will argue that the theory of generative phonology does not account for morphological alternations properly and consequently that theory cannot account for analogy.

I will first show that morphological rules have the following properties:
(1) SEMANTIC DISTINCTIVENESS: morphological rules are used, either directly or indirectly, to account for semantic distinctions.
(2) PHENETIC ARBITRARINESS: all alternations accounted for by morphological rules are phonetically arbitrary and phonemic.
(3) DIRECTIONALITY: morphological rules are generally directional, in that a given form may be derived from a more basic one.
(4) REVERSIBILITY: morphological rules are reversible, in that a speaker can determine a basic form from a derived form.
(5) POSSIBLE NON-UNIQUENESS: morphological rules may be in competition with one another; individual exceptions to morphological rules may also occur.

Examples from the unlaunting system in German and the English verbal system will be given.

Over half a century ago, F. de Saussure proposed that analogy be accounted for by morphological rules. Until recently this theory has unfortunately been largely ignored, except in the work of J. Kuryłowicz. The traditional theory of generative phonology does not recognize the need for morphological statements independent of the phonology and consequently has attempted to account for analogical change by means of changes in the system of phonological rules (e.g., rule loss, rule re-ordering, rule simplification, rule addition, rule insertion, etc., as exemplified in the work of M. Halle, P. Kiparsky, B. King, and J. Harris).

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 the past-tense forms and the gradation of plural stems in Finnish, and the classical example of homo > 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 underlies. 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, was, 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 springs 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 phonological and ultimate primary stresses in English and for some cases of deaspir ation 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.

LILEY B. SMITH, Venice, California

Hypercorrection 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 hypercorrection 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 hypercorrection 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 basillect speaker of the emulated dialect. The interpretation as hyperform of the devicing of homorganic post-nasal stops, for example, as in Lynde and tendency, not only sorts out this phenomenon from that of competing forms, but provides additional evidence of the existence in basillect phonology of the devicing of stops, but of the amalgamation of stops to the preceding homorganic sonorants and their subsequent loss. Conversely, the absence of hyperformation (through 170 interviews) involving /b/ and /d/ provides weight to the generalization that these phonemes indeed do have an underlying reality in this basillect.

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 basillect 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 basillect forms and to monitor in the direction of the prestige language -- and thus to produce high incidence of hyperforms.

STEVEN B. SMITH, University of California, Riverside

English as an SVO Language

In "English as a SVO 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 extrapoased 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 extrapoased 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 extrapoased it. But post-cyclic extraposition would also block raising extrapoased 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 VSO 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 it.

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-contractions if English is a VSO language.

CHARLES T. SNOW, California State University, Chico

Equi-NP Deletion and Reflexivization in Quechua: Evidence for the Syntactic Structure of Complements

The Quechua transformational rules of equi-NP deletion and reflexivization are well-motivated on several grounds. In turn, the rules provide crucial information about the syntactic structure of Quechua complements.
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 wanpra-n-qa 'his child' and of the subordinate predicate maqa-q-qa 'hit' follows from well established phrase structure rules. But the accusative inflection of the subordinate subject NP ruma-qa 'man' in (1) is anomalous.

(1)  ruma-qa wanpra-n-qa maqa-q-qa rikā-rqa-?
    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)  naqa-qa rikā-kū-sqa-ː-mi isnīhu-ccu
    1-topic see-reflexive-completive-first singular
    validation mirror-in
    'I saw myself in the mirror.'

(3)  swīnu-yu-ː-cū, naqa-qa rikā-kū-skī-sqa-ː
    dream-infinitival-empty morph-my-in 1-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 -kū.

But in (1) only the lowest NP in the underlying structure is deleted by identity erasure; the remaining subordinate subject NP ruma-qa, 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 deal 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 sentences 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

SAT AFT:2

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 isossyllabic/isomorphic types like Chinese/Japanese to isotonic types like English. This typology makes reference to the instrumental and perceptual studies of Lehiste and others, the metrical typologies of Jakobson and Lotz, the distinct sorts of phonological processes (vowel harmony, reduction, elision, 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 (Hewson, 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.

SUSAN STEELE, University of New Mexico

Is It Possible?

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, Tagalog, 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 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.

NANCY STEENSON, University of California, San Diego

Focus and Copula in Irish

Although essentially a fixed word order language (VSO), Irish displays some word order peculiarities in copular sentences. These arise, I will claim, from the fact that the predicate of the copula is normal focus position.

Examples of copular sentences as traditionally classified appear in (1).

    Cop room dark it that
    b. Identification: Is ó an sógra dochta ó isin. That's the dark room.
       C it the room dark it that What a dark room!
    c. Emphasis (Cleft)
       Is sógra a chonáic mé. It's a room that I saw.
       C room Rel saw I

Of these, (b) and (c), but not (a), are considered by speakers to be somewhat emphatic. The above taxonomy is misleading in that it obscures the relationships among copular sentences as well as the nature of the emphasis felt to be present. It is clear from the cleft sentence (1c) that the so-called emphasis refers to the focus of the sentence. Relationships among these sentences will be clarified by examining some more complex focus constructions, such as (2).

(2) a. Is mé an bhean a bhí tinn. I am the woman who was ill.
    C I the woman Rel was ill.
    b. Is í an bhean a bhí tinn. She is the woman who was
    C she the woman Rel was ill she

It can be shown that the final pronoun á of (2b) is the focus element, corresponding to post-copular mo of (2a), the post-copular pronoun being a syntactic reflex of the definite NP; the same holds for (1b). Sentence-final focus also occurs in pseudo-clefts such as (3), a paraphrase of (1c).
(3) Is é an rud a chónas mé (né) seomra. What I saw was a room.

Cí the thing Réi 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 Cí the it It's a dark room.

b. Seomra is ea a chónas 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 androgynous).

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, Chuglit, 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 Ritchie 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, marital status, 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 tī-kǎi-le mén  He kicked the door open.
    (he) (kick) (open) (asp.) (door)
(1') subject-verb-complement-asp.-object

(2) tā pāo de kūxī  He runs fast.
    (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 adverbal-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 kūxī '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 peculiarity 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 kūxī 'fast' in (2) is the center of predication, it is as adverbial with the function of 'modification' in (4).

(4) tā hén kūxī de pāo-le  He ran away very quickly.
    (he) (very) (fast) (de) (run) (asp.)
(4') subject-adverbial

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 I did yesterday?" 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.
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, sonorant], which define the major phonetic classes of non-syllabics, which we take to be: obstruents (T), assails (N), liquids (L), [w y]-type glides (Y), and [h θ]-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 N 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.

ROBERT M. VACO, Harvard University

[FIK AFT:3]

In Defense of Extrinsic Ordering in Phonology

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 can not be accounted for in a theory that disallows explicit ordering statements. In Finnish, ee is realized as the diphthong ie, and the fricative Y is deleted intervocally: /vee= vie, /teYe/ = tie. In German, final obstruents are devoiced, and in some dialects g is deleted after a nasal consonant: /lang+c/ = lang, /lang/ = lang. In Faroese, d is spirantized to ð intervocally, and a vowel is deleted in the environment V0 C0 V: /heiðinri/ = heidi. While these examples can be derived in the KSN framework, the following attested dialectal forms are problematic: Finnish tsee from /teYe/, German lang from /lang/, Faroese heidi from /heiðinri/. In the Finnish form the diphthongization rules can not apply after the Y 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 /avzal/ = *avaz, /ezvel/ = *zewel. In fact, the rules apply in either sequential order: azazl ~ azvel, ezazl ~ ezvel.

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.

MARKDOER N. VASUDEVA, Bowling Green State University

[SUN MORN:3]

Nominal Constraints on Tense and Aspect

In Chomsky (1965), rules of the following type:

[+V] ----> CS/Adj (Det) and Adj ----> CS/...
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, sonorant], which define the major phonetic classes of non-syllabics, which we take to be: obstruents (T), nasals (N), liquids (L), [w y]-type glides (Y), and [h z]-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 Tel- mishan 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.

---

ROBERT M. VAGO, Harvard University

In Defense of Extrinsic Ordering in Phonology

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 can not be accounted for in a theory that disallows explicit ordering statements. In Finnish, tJ is realized as the diphthong ie, and the fricative y is deleted intervocally: /ve/ = vie, /teke/ = tle. In German, final obstruents are devoiced, and in some dialects 8 is deleted after a nasal consonant: /laeg+e/ = laeg, /laeg/ = lae. In Faroese, d is spirantized to N intervocally, and a vowel is deleted in the environment /C0 CV/: /heidinir/ = heidinir. While these examples can be derived in the KSN framework, the following attested dialectal forms are problematic: Finnish tee from /teke/, German lang from /lae/, Faroese heidinir from /heidinir/. In the Finnish form the diphthongization rules can not apply after the + 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/vek 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 form of the demonstratives and derives the incorrect metaphorized representations /az+val/ = *avval, /ez+vek/ = *evval. In fact, the rules apply in either sequential order: az+val ~ avval, ez+vek ~ evval.

Evidence like the above notwithstanding, certain contentions of the KSN model are meritigious. 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.
Where \( \alpha \) is an \( N \) and \( \beta \) is an \( N \) 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\(^{\text{en}}\) and be\(^{\text{ing}}\), 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:

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 [\( \text{t} \) \( \text{past} \)] 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 [\( \text{t} \) \( \text{past} \)] and have\(^{\text{en}}\) and be\(^{\text{ing}}\), 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 cannot 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.

Recent research, especially of J. H. Greenberg, W. P. Lehmann, R. Barssch, and Th. Vennemann, has brought to light and explained a considerable number of co-occurrence universals for word order structures. The basic word order relation is that between the finite verb V and its complement X in main declarative clauses; this order determines the natural direction of serialization for every language. X is an operator on V (the most elementary case is the relation between a direct object O and a transitive verb V), where semantically an operator is a specifier of its operand and syntactically the operand determines the syntactic category of the operator-operand construction. Thus, an XY language tends to have all operators before their operands: objects before transitive verbs, adverbials before verbs, modal and auxiliaries before main verbs, noun phrases before adpositions (postpositions), and standards before comparative adjectives, etc. VX languages tend to serialize all operator-operand constructions in the opposite order: transitive verbs before objects, verbs before adverbials, modal and auxiliaries before main verbs, noun phrases before noun modifiers, adpositions before standards, etc. These word order relations are established on the analogy of the basic verb position order; when the verb position changes, the other order relationships follow in time. In particular, when the subject-object (S-O) morphology of an SXV language is weakened by reductive phonological change, and V begins being used to mark off the topics (T), as the first step in the development from SXV to SVX (and possibly further to VXS), an intermediate type TXV is found which is basically VX but preserves many concomitants of the preceding VX type. In addition, this type develops features of its own which are not typical of VX languages, e.g., the passive X (especially the passive with the agent expressed), or which are neither typical of consistent VX languages nor of consistent VX languages, e.g., a definite article, a bracing negation (as French ne-V-pas), SXV word order as a mark of clause subordination, etc. Suffixal morphology (which is SXV in structure) is reduced during this period so that the chain SXV → TXV → SVX is accompanied by a change from agglutination to lexical to isolating; this in turn favors the stabilization of word order (in the SVX scheme). Sapir's 'drift' is thereby explained. When reductive phonological change builds a new morphology including an S-O morphology, the language returns to the SXV type because V is no longer needed to mark S and 0 under topicalization. In this paper the intermediate TXV type receives special exemplification.
C.F. Vogelin and P.M. Vogelin, Indiana University

Conditions for Conjoining in Hopi

A. Besides the identification of the single inflectional device for switch-reference (OBLIVIATIVE), 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-t] was labeled sequential by Whorf (VFPA 6.1946); [ -ka] was labeled concursus; [ -e?] was labeled conditional; [ < ni-sas] 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 (10a) and by the Vogelins for Hopi (10as). Thus, one condition for obtaining an 'after' interpretation with PROX in [ -e?] is the inclusion of [nas] in the conjoined sentence: 'After (nas) she has cut meat (sikirilyam), she will dry it (pat lakman) later (nason)'. 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 [nas]: 'If only I (nas ni nas) has money (siva-sytse), I would surely build a new house (pshkitam)'.

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

it is someone

the tapes will be destroyed

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.

KATZIRA NACHOMIEZ, 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 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 -do construction in a finite verb:

(1) Trojan Ev. XIV century: Ne mozei jeg to pogubiti; lit. not(he) can him to destroy:
   'He cannot destroy him'

(2) Mir. 1563 Modern translation:
   Ne moze do 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), Vraču (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) Nikišov Prepis
VII century: I mal dar izcelenija; lit. (he) had gift of curing;
'He had the gift to cure'
(4) Din. 1952 Modern translation: I mal dar da izcervjavas; 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.,
(2)a. Vojnikat kojeto e umrjal
lit. soldier-the who is died 'The soldier who has died'
after the relative clause reduction and preposing we have:
(3)b. Urelijet vojnik
lit. died-the soldier 'The soldier who had died'
(6a). Prenjata kojato e zabravena
song-the which is forgotten 'The song which is forgotten'
after relative clause reduction and preposing we have (6)b
(6b). Zabravenata pesna
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.

DOUGLAS C. WALKER, University of Ottawa

On the Vulgar Latin Vowel System

The vowel system of Vulgar Latin presents several synchronic problems. Traditionally, Vulgar Latin has been considered to have phonemic stress, predictable vowel length, and a seven vowel system with two new vowel phonemes e and o (contrasting with Classical Latin, which had predictable stress, phonemic length, and five vowels). A more detailed analysis of Vulgar Latin shows very heavy restrictions on the possible occurrence of stress, and complicated phonotactic constraints on the new vowels e and o. There are, moreover, morphophonemic alternations involving vowel height and length resulting from the historical processes that produced Vulgar Latin. Two solutions to the Vulgar Latin alternations may be compared. The first, abstract and conservative, recapitulates the history and solves some of the phonetic problems, but creates new ones as well. It also makes use of absolute neutralization and non-productive rules. The second solution, in contrast, shows lexical restructuring (with accompanying phonotactic restrictions), uses fewer and more productive rules (particularly with respect to stress assignment and vowel height adjustment), and is more concrete. This latter approach has important implications for phonological analyses of the modern Romance languages, particularly concerning the status of the features [tense] or [long].

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 \( A, B, \ldots \) are elementary propositions and \( P_A, P_B, \ldots \) are conjunctions of propositions (in the intended interpretation, the presuppositions of \( A, B, \ldots \), respectively). Such formulas are combined in the usual way by \( \land, \lor, \supset \), and parentheses, and the result is prefixed by a one-place
operator, \(\ast, \circ, 0,\ldots\) (interpreted as "assertion," "question," "order,"...). The rules of inference are fairly standard except for one which allows \(\ast\text{Operator} (a \rightarrow b)\) to give \(\ast\text{Operator} (b) \& \text{Com} (a)\) (under certain conditions not spelled out here). The intended interpretation is that one asserts, questions, orders, ..., \(b\) and is committed to the presuppositions \(a\).

As an example, by letting a declarative sentence of surface form \(A\) and \(B\) be represented in the calculus by the axiom \(\ast(P_A \rightarrow A) \& (P_B \rightarrow B)\), one derives the theorems \(\ast(P_A \& P_B)\) and \(\text{Com} (P_A \& P_B)\). Similarly, from \(\ast(P_A \rightarrow A) \& (P_B \rightarrow B)\) (corresponding to "if \(A\) then \(B\)"") we derive \(\ast(P_A \rightarrow B)\) and \(\text{Com} (P_A \& P_B)\). When \(A\) is in \(P_A\), however, we derive \(\ast(P_A \& B)\) and \(\ast(P_A \rightarrow B)\) as before but now along with \(\text{Com} (P_A \& P_B - A)\). Results of this sort seem to hold for cases of arbitrary complexity. The only departure from Karttunen's system seems to be that "and" and "or" behave symmetrically in the calculus. It appears, however, that this asymmetry could easily be sacrificed in Karttunen's system without crucial loss.

Although the calculus seems to yield all the right results, there are many difficulties in interpreting it in an intuitively satisfying way. The workings of the calculus depend crucially on the logical properties of the horseshoe connecting \(P_A\) to \(I\), but it is a mystery why it should point in this direction rather than the reverse. We ordinarily regard a proposition as entailing (or necessitating) its presuppositions but not the converse. The fact that Karttunen's observations are mirrored in this very peculiar formal system impels us to search for some hidden unifying principle.

MARY CLAYTON, WANC, 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/H/SPC's (those SPC's that correspond to phonological rules but not to MSC's), we see 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 allomorph 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.
LYNDA R. WAUGH, Cornell University

A Semantic Analysis of the French Tense System

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:

<table>
<thead>
<tr>
<th></th>
<th>non-observability</th>
<th>projection</th>
</tr>
</thead>
<tbody>
<tr>
<td>present</td>
<td></td>
<td></td>
</tr>
<tr>
<td>imperfect</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>future</td>
<td></td>
<td>+</td>
</tr>
<tr>
<td>conditional</td>
<td></td>
<td>+</td>
</tr>
</tbody>
</table>

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 often 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 amaq - amuit in Greenlandic have been published recently (Pyle, Underhill, Cearley). Traditional accounts in general explain such forms by a metathesis rule and subsequent assimilation rules: /amiqt/ → /amqit/ → /amuit/. Pyle (1970) formalizes this approach. Underhill, however, argues that certain stems are marked for gemination and that particular affixes produce it. Both approaches require assimilation rules which have serious difficulties.

In this paper I shall argue for neither of the analyses previously cited. Rather, I shall 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 permutes a stem final /q/ with the preceding vowel will be shown to be unnecessary; (3) a phonologically determined rule of gemination will account for noun alternations of the following type: teq - tallit, nukaq - nukkat, ayuq - ayuqt. These will be derived as follows: the underlying representation for each is /taq/, /nuka/ and /ayaq/, respectively. The singular requires only the suffix /q/. To derive the plural a rule of gemination doubles the last consonant of the stem just in case the affix is consonant initial. The uvular consonants /q/ and /x/ must be excluded from triggering gemination. An additional rule will delete intervocalic /a/, as well as other singe continuants in a phonologically determined environment to yield ayuq.

This proposal has several advantages: (1) the gemination 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 ss-deletion and r-deletion which cannot be naturally formulated within the usual analyses can be stated straight-forwardly. 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 -nos (later -bus), 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 Italic 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 one 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-zungo, rungen, plural-zungen, sungun, sungum.

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 exx. 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 zungo, sungum). Thus, according to this principle, the nouns in exx. 1 and 2 are no longer i-stems and n-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 homeo. 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 homeo 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 a-stems is very much in evidence throughout most of the decl., the dat.pl. ending -es, not oen, 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  [SAT MORN:1]

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 (T.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 pronominal or non-pronominal 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 (so, that, et). 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  [SUN MORN:2]

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 neogrammarian
position, Zum heutigen Stand der Sprachforschung (1885). It appeared in 1886 and was entitled Die neueste Sprachforschung und die Erklärung des indogermanischen Ablauts. Hermann Osthoff retorted the same year with a savage polemic, Die neueste Sprachforschung und die Erklärung des indogermanischen Ablauts. Antwort auf die gleichnamige Schrift von Dr. Hermann Collitz. In 1887 Collitz published an answer, Wahrung meines rechtes. His paper aims at being a description and interpretation of this dispute between two important Indo-Europeanists.

About 1877 a series of important breakthroughs in regard to vocalism were initiated in Indo-European researches. These discoveries made necessary a complete realignment of accepted opinion. The absorption of these advances into the shared set of practices and doctrine of the scientific community offers us a case history of how a major turnover in linguistic research is accomplished.

The dispute coincided in time with the highly publicized Leipzig bonfire, the sound law controversy. Although the heated debate was occasioned by that uproar, adherence to or rejection of the Leipzig credo had not too much to do with the central problem. Some historians explain the acerbic tone of the affair in terms of Osthoff’s character (Ascoli: L’Osthoff ha un naturale ruvido e pugnace) or his partisanship (He was a charter member of the Leipzig camp). This is too personalistic.

The two conflicting accounts of what went on between 1877 and 1885 serve as a vivid illustration of the process of methodological change within a scientific community. We can dispense with a romantic version of history whereby individuals defeat error with revolutionary truth. The learned strife between Collitz and Osthoff is an example of the frequently observed fact that, when a science is ready for a new development, that development manifests itself abruptly and independently in several places. Opinionated chagrin is one symptom of an unsettling shift of basic assumptions affecting not so much the individual as the entire scientific community.

---

JAMES C. WOODWARD, JR., Gallaudet College

Implicational Variation in American Sign Language

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 form. 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 choreological (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 (a appendage, b-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 choreological features.

---

EVA-MARIA M. WOTSCHKE, University of California, Los Angeles

A Powerful Yet Structurally Simple Generating Concept

In the following we will discuss the possibility of imposing control 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-0) on which a regular
controlset (RC) is imposed becomes powerful enough to generate non-CF languages like "we", 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 "we" 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 "we" (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 of strings of rewriting rules of some grammar G and Lc(G) is a language generated by G whose corresponding set of rewriting rules is an element of C, or Lc(G) is the language generated by G with controlset C(G). Given a CF-G with not necessarily left-most derivations and a RC, non-CF languages like "we" can be generated in a way, structurally and conceptually very similar to CF-derivations. The "we"-case (among others) suggests that the derivations 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 "we" 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 "we"-constructions but seem to be very worthwhile to investigate a possible application to other structures of natural language.

The purpose of the present paper is to investigate some special types of conditional expressions which involve the context of speech acts. Thus, compare the following two groups of sentences as shown in (1) and (2):

(1) a. If it rains tomorrow, the game will be postponed.
b. If you study hard, you will pass the exam.
c. If Bill beats his wife, he will get divorced.

(2) a. If I may ask, how old is your wife?
b. Do it again, if you can.
c. There are some candies on the table, if you would like some.

Although the conditionals in (1) and (2) can both be basically characterized such that the fulfillment of the antecedent may provide some confirmation for the assertion that the existence of states of affairs like those described by the antecedent is a good ground for expecting the states of affairs like those described by the consequent, there are a number of significant differences in function between the above two types of conditionals.

First, in case of the conditionals of type (2), there is no direct causal connection between the if-clause and its main clause, as there is between the antecedent and consequent in those of type (1). Secondly, while the conditional expressions in (1) may manifest a variety of tenses and moods only the antecedent and consequent, those in (2) restrict the variety of tenses and moods only to conditional clauses. Thirdly, while the conditional expressions in (1) specify the sufficient condition under which the states of affairs expressed by the main clause hold, there is no such direct contingent relation between the conditional and its main clause in (2).

In the course of the discussion, by observing a variety of conditional expressions, it is suggested that the conditionals of type (2) should have the function of qualifying those as respects of illocutionary acts which the speaker might reasonably have doubt about (i.e., the qualification by those conditionals of type (2) should be based on a natural subclass of felicity conditions for the speech acts (in the sense of Austin (1962)). And the interaction between this type of conditional and the above subclass of felicity conditions is investigated.

J.L. Austin (1962), How to Do Things with Words. Oxford University Press.
Lytette Hirschman, University of Pennsylvania

Female-Male Differences in Conversational Interaction

It has been observed by a number of people that men and women talk differently—in vocabulary, choice of syntactic patterns, intonation, and pronunciation. However, until recently, little attempt has been made to analyze quantitatively what differentiates a male style of speech from a female style. The aim of this paper is to set forth some ways of analyzing these differences and measuring them. The following areas were investigated for 2 person conversations (both mixed-sex and single-sex conversations):

1) volume of conversation per person (in terms of number of words, and amount of time used in speech); average length of utterance; number of long vs. short utterances.
2) use of pronouns: those involving the listener (we, us, you) vs. those involving a third person: she, he, they, a person, someone, people.
3) interruptions (classified into successful and unsuccessful interruptions).
4) frequency of use of various "fillers" and "qualifiers": fillers: uhm, well, I mean, you know..., qualifiers: maybe, sort of, like, I think, perhaps, presumably,...
5) frequency and kind of response made to speaker, including oh, well, and various positive responses: um hum, yeah, right, etc.
6) flow of conversation: initiation of topics, supportive or critical responses, question-answer patterns.

These areas were analyzed for 60 minutes of transcribed conversation, involving all permutations of two males and two females, talking in pairs (10 minutes per conversation), discussing a set of questions on life-styles furnished by the experimenters. Some of the findings for this very limited corpus are:

A) Pronoun usage: The women used a higher percentage (computed on total word output) of pronouns referring to the listener than impersonal or third person pronouns. For the men, the pattern was reversed. This may reflect a more personal approach on the part of the women, an attempt to involve the other person in the conversation. It may reflect a reluctance to generalize from their own experience, in the way that the men do. (See table below.)

B) Fillers, Qualifiers: The women showed consistently higher frequency of use of both fillers and qualifiers, indicating a greater uncertainty in their speech, and as noted in A), an unwillingness to make unqualified generalizations.
C) Affirmative responses: The frequency of affirmative response to the other person's speaking was also markedly higher for the women. Particularly striking is the use of "um-hum," used almost exclusively by 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>Speaker</th>
<th>P1</th>
<th>P2</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>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>
</tr>
<tr>
<td>Fillers</td>
<td>8.0</td>
<td>10.4</td>
<td>3.9</td>
<td>7.9</td>
</tr>
<tr>
<td>Affirm. resp.</td>
<td>14.1</td>
<td>16.5</td>
<td>7.0</td>
<td>9.7</td>
</tr>
</tbody>
</table>

Figure refers to percentage of X per word in a conversation, averaged over the three conversations for each person.

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.

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 nominal and nominal referents. Grammatical categories, or selectional restrictions (depending on whether you have beenared to the Boas-Whorf-Sapir-Swadesh or the Chomskian tradition) are those semantic groupings which are correlative with syntax.

BASIC distinctions in belief systems have to do with living and non-living beings and things and their interdependency. In languages, there is a very close relationship between genders and animate/inanimate distinctions. Societies -- and languages -- classify the parts of the world differently. Most of the time they overlap, but it is the grey areas of non-agreement in the thinking of human beings which cause us to ponder. For example, a moldy, brown, fungus would be a living organism to a scientist, but not to a rubber-hunter in the Amazon jungle. However, the large tree standing near the third bend of the river is a supernatural "living" being to the rubber-hunter (because of its dwellers within), but is not a living being to the sophisticated scientist.

Male human beings have souls, but, depending upon the group making the judgment, wolves, giraffes, Indians, trees, pets, fetuses, insects, and women don't have souls. These categories are supremely important in controlling the behavior of human beings. In extremely subtle, at times almost imperceptible ways, these classificatory systems correlate with language structure and control syntax of language as they control other behavior of people.

Pronominal and nominal referents are another means of examining the relationship of sex and gender to linguistic patterns. The anomalous use of pronominal referents should be observed. These are instances of reference to human beings. Another area of significance is the matter of personal referent to an inanimate object or to an abstract idea.

In the studies done on personification by using a human gender referent, there is ample evidence that this type of language falls into the areas of emotive language in both pleasurable and unpleasurable ways. It has been noted that males predominate in using this pattern of speech. Although males do not generally use expressive patterns of emotions in intonation, or intensifiers and superlatives, (at least as much as females use them), it may well be that males find their emotional outlet in feminine personification, in addition to the well-recognized release of swearing. What we will eventually see, I think, is that both males and females have emotional language in equal quantities, and that the devices they use are culturally defined.

CHERIS KRAMER, University of Illinois, Urbana
Actual and Perceived Sex-Linked Differences in Adverb and Adjective Usage

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 he or she 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.

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 

inexperienced, slopeters, and 

passive; but women who don't "put out" are damned as 

fraud, 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.

JULIA P. STANLEY, University of Georgia

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 metaphor 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.
EXHIBITORS

AMERICAN UNIVERSITY PRESS SERVICES
D. REIDEL PUBLISHING CO.
ENGLEER INTERSTATE, INC.
HUMANITIES PRESS
INDIANA UNIVERSITY PRESS
LANGUAGE AND LANGUAGE BEHAVIOR ABSTRACTS
MOUTON PUBLISHERS
NEWBERRY HOUSE
UNIVERSITY OF HAWAII PRESS

JOINT BOOK EXHIBIT

AMERICAN ELSEVIER PUBLISHING CO.
CENTER FOR APPLIED LINGUISTICS
CHICAGO LINGUISTIC CIRCLE
GEORGETOWN UNIVERSITY PRESS
HOLT, RINEHART & WINSTON, INC.
LANGUAGE AND LANGUAGE BEHAVIOR ABSTRACTS
LINGUISTIC RESEARCH, INC.
OXFORD UNIVERSITY PRESS INC.
PLENUM PUBLISHING CORP.
UNIVERSITY OF PENNSYLVANIA PRESS