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An Analysis by Levels

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Notations used:

- F = features of emic (deep) structure, the basic or essential characteristics of the unit.
M = manifested (realized) surface structure, the particular variant used, and the lower-level elements, or elements from another hierarchy, that are pertinent.
D = distribution or function of the unit in the node (level) above it.

Analysis of the utterance:

"John shot the bad tiger. When do you think he'll get home? Oh-oh, here comes Aunt Mary now."

Data

A girl comes rushing in and says to her father, "John shot the bad tiger. When do you think he'll get home? Oh-oh, here comes Aunt Mary now," as she glanced out the window. (Background: a tiger had been molesting the family livestock, and the girl's brother John had gone out to hunt the tiger. Also, a visit from their prim and proper Aunt Mary had been anticipated but not relished.)

Lexico-grammatical hierarchy

- A discourse is tentatively defined as a stretch of speech covering a single general subject.
A paragraph is tentatively defined as a stretch of speech covering a single frame of reference or set of dramatis personae.
A sentence is tentatively defined as a single assertion, question, or command.
Clause, phrase, and lexeme follow the usual definitions.

Discourse level: Two discourses

- D1. John shot the bad tiger. When do you think he'll get home?
F: a plot consisting of a successful hunting expedition by the hero John against the villain the tiger.
M: a single reporting discourse (in contrast with hortatory, didactic, etc., discourse types). Discourse formula:

+introduction +body +aftermath +conclusion. Of these slots, the introduction and conclusion are empty; the body and aftermath are each filled by a single paragraph. Emotional overtones conveyed by excited intonation and the adjective bad.

D: filling the 'oral report' slot in the behavioral context (+action +oral report +reactions).

D2. Oh-oh, here comes Aunt Mary now.

F: announcement of a visitor (Aunt Mary).

M: a single informative discourse (contr. narrative, hortatory didactic, etc.). Discourse formula: +exclamation +information. The exclamation slot is filled by the exclamation oh-oh, the information slot is filled by a paragraph. Emotional attitude (disappointment) indicated by oh-oh and by lowered pitch and uneasy intonation.

D: filling the 'announcement of imminent arrival' slot in the 'visiting' behavioral sequence (+travel +imminent arrival announcement "arrival +arrival +attention--getting +welcome).

(This discourse will not be analyzed further in this sample analysis)

Paragraph Level: Two paragraphs (in discourse 1) (coterminous with phonological paragraph in the phonological hierarchy)

#1. John shot the bad tiger.

F: an episode with John-as-hunter and the tiger-as--quarry as the dramatis personae, and a hunting scene as the episode action.

M: A single narrative paragraph (contr. questioning, lecturing, etc. types). Paragraph formula: +preliminary actions +counteractions +climax +results. Only the climax slot is filled, being filled by Sentence 1.

#2. When do you think he'll get home?

F: a travel episode with John-as-traveler and home--as-destination as the dramatis personae

M: a single query paragraph (contr. narrative, lecturing, etc.). Paragraph formula: +preliminary actions +episode climax +results. Only the climax slot is filled, being filled by Sentence 2.

D: filling the 'aftermath' slot in Discourse 1.

Sentence level: Two sentences

S1. John shot the bad tiger.

F. an assertion that John-as-subject shot-as-Predicate the-tiger-as-Object.

M: a single sentence of the assertive type (contr. denying, questioning, doubting, etc.). Sentence formula: +dep. clause +main clause +dep. clause. Only the main clause slot is filled, being filled by Clause 1.

D: filling the 'episode climax' slot in Paragraph 1.

S2. When do you think he'll get home?

- F: a question regarding the when-as-time, you-as-Subject, think-as-action, he'll-get-home-as-content.
M: a single sentence of the time-content-question type (contr. subject-content-question, manner-content-question, assertion, denial, etc.). Sentence Formula: \pm dep. clause \pm main clause \pm dep. clause. Only the main clause slot is filled, being filled by Clause 2 (complex).
D: filling the 'episode climax' slot in Paragraph 2.

Clause level: Three clauses

C1. John shot the bad tiger.

- F: a deep structure root consisting of John-as-actor, shot-as-action, the-tiger-as-goal.
M: a single independent clause of the type /Actor-Action-t, Goal/ (contr. the other forms in the Transitive Battery such as /Goal, be-t, Action-ed, by Actor/, etc.), manifested by 3 phrases.
D: filling the 'main clause' slot in Sentence 1.

C2. Do you think

- F: a deep structure root consisting of you-as-actor, think-as-action, when..he'll-get-home-as-content (embedded).
M: a single independent clause of the type /Q, do, Actor, Action, Content/ (contr. the other forms in the Container Battery such as /Actor, Action-t, that, Content/, etc.). Clause formula: \pm Time:embedded cl.₁ \pm main clause \pm Time:embedded cl.₁. The main clause slot is filled by two phrases, and the discontinuous embedded clause slot is filled by Clause 3.
D: filling the 'main clause' slot in Sentence 2.
(The phrases in this clause will not be analyzed further)

C3. when...he'll get home

- F: a deep structure root consisting of he-as-actor, get-home-as-action, when-as-time.
M: a single dependent clause of the type /Time...Actor-t, Action/ (contr. the other forms in the Intransitive Battery such as /Actor-t, Action, Time/, etc.), manifested by three phrases.
D: filling the discontinuous 'embedded clause' slots in the clause.
(This clause will not be analyzed further here.)

Phrase level: Three phrases

P1. John

- F: a description of John simply as 'John'.
M: a Noun Phrase composed of a single name as Noun Head.

D: filling the Actor slot in the clause, coterminous with the lexeme level.

P2. shot

- F: a description of the action as shooting in the past.
M: a Verb Phrase composed of an endocentric construction of verb root +tense affix.
D: filling the Action slot in the clause.

P3. the bad tiger

- F: a description of the tiger, identifying it anaphorically with the marauding tiger, and labelling it as bad.
M: a Noun Phrase composed of an endocentric construction of (+Article (±Adj. +NH)). [The bracketing indicating the immediate constituents.]
D: filling the Goal slot in the clause.

Lexeme level: Six lexemes

L1. John

- F: the person named John, the brother of the girl and son of the man (contr. Mary, Mr. Jones, etc.), in the semantic taxon boy -- person -- living thing, including the distinctive features male and young.
M: a simple unitary lexeme manifested as /jan/.
D: filling the NH slot in the phrase John.

L2. shoot

- F: an action of shooting (presumably with a gun) (contr. miss, nick, wound, etc.) in the domain of hunting activities.
M: a simple unitary lexeme manifested in portmanteau with the tense affix as /šat/.
D: filling the Verb Root slot in the phrase shot.

L3. -ed

- F: past time (contr. present, future).
M: a simple unitary lexeme manifested in portmanteau with the verb root as /šat/.
D: filling the tense affix slot in the phrase shot.

L4. the

- F: definite article (contr. a) in the domain of lexical determiners.
M: a simple unitary lexeme manifested as /ðə/ (in contr. its variant /ði/).
D: filling the Article slot in the phrase the bad tiger.

L5. bad

- F: description as being bad (contr. good) in the domain of qualities.
M: a single unitary lexeme manifested as /bæ d/.
D: filling the Adjective slot in the phrase the bad tiger.

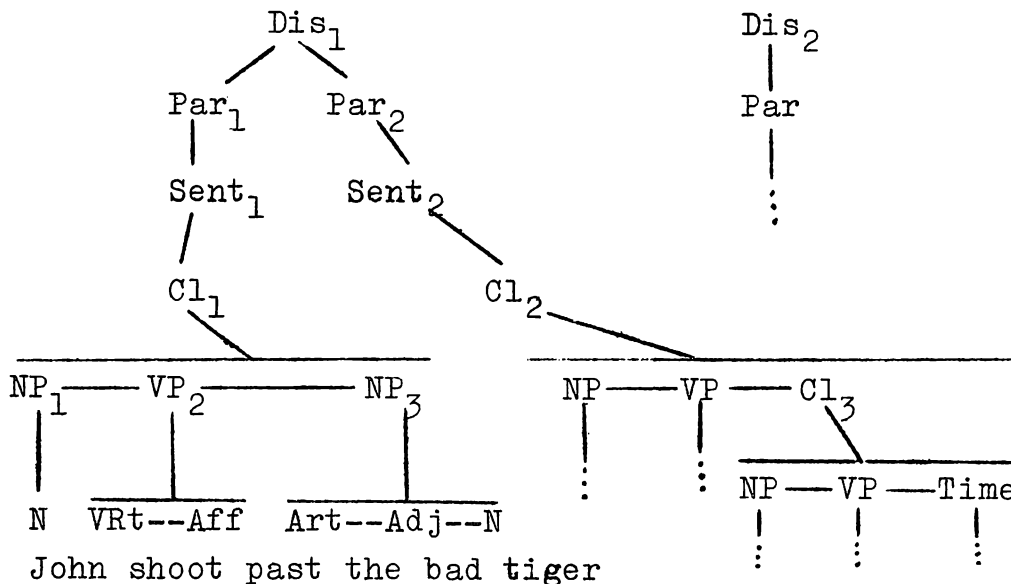
I6. tiger

F: an animal described as a tiger (contr. lion, rabbit, deer, etc) in the mammal taxon of animals (non-human, moving, living creatures), distinctively characterized as having 4 legs, carnivorous, whiskers, black stripes, and a loud snarl).

M: a single unitary lexeme manifested as /taygr/.

D: filling the NH slot in the phrase the bad tiger.

A simplified schematic outline of the major relationships in the above description follows. (Preferably function as well as form should be shown, but it is difficult to incorporate in a tree diagram.) Note the distinction in the branching between string fillers and coordinate fillers of a higher slot.



Phonological hierarchy

An utterance is tentatively defined as a stretch of speech with total silence by the speaker before and after.

A phonological paragraph is tentatively defined as a stretch of speech characterized by a single emotional pitch level and voice quality.

A phonological sentence is tentatively defined as a stretch of speech covered by a single intonation contour.

Foot, syllable, and phoneme follow the usual definitions.

Utterance level: 1 utterance

U1. John shot the bad tiger. When do you think he'll get home? Oh-oh, here comes Aunt Mary now.

F: a single utterance, i.e. characterized by total silence by the speaker before and after. Voiced normally (contr. stage whisper).

- M: a woman's voice (i.e. higher pitch), intermittent nasalization, more glottal tension at beginning than at the end, a slight breathiness of voice throughout. (Composed of three phonological paragraphs.)
- D: a vocal stretch in a sequence of actions.

Phonological paragraph level: Three paragraphs
(= emic phonological sections)

FP1. John shot the bad tiger.

- F: a single "excited" paragraph, i.e. characterized by a single emotional (excited) pitch level. (contr. relaxed, hesitant, tense, etc.)
- M: high intensity and high pitch throughout. Composed of one phonological sentence.
- D: filling the first paragraph position in the utterance.

PP2. When do you think he'll get home?

- F: a single half-excited paragraph, i.e. characterized by a single emotional (half-excited) pitch level (contr. excited, relaxed, hesitant, tense, etc.). (Note that if the girl had maintained her high level of excitement, this would have been combined with the preceding as a single phonological paragraph.)
- M: high intensity, pitch in half-high range. Composed of one phonological sentence.
- D: filling the second paragraph position in the utterance.

FP3. Oh-oh, here come Aunt Mary now.

- F: a single foreboding paragraph, i.e. characterized by a single emotional (foreboding) pitch level (contr. excited, hesitant, relaxed, etc.)
- M: low intensity, medium-low pitch, more deliberate timing. Composed of two phonological sentences.
- D: filling the third paragraph position in the utterance.

Phonological sentence level: Four sentences
(= breath segments = intonational groups = pause groups = phonological phrases)

PS1. John shot the bad tiger.

- F: a single intonational contour unit of the type 2-2-2-'24 (contr. the other intonation types). [in this notation 1 is high, 4 is low]
- M: details of timing, phrase stress, intonation. Composed of 4 feet.
- D: covering the whole paragraph.

PS2. When do you think he'll get home?

- F: a single content question intonational contour ('2-3-3-'24) (contr. other intonation types).

- M: details of timing, phrase stress, intonation. Composed of three feet.
D: covering the whole paragraph.
(analysis of this sentence will not be carried further)

PS3. Oh-oh,

- F: a single disappointment intonational contour ('3-4)
(contr. other intonation types)
M: details of timing, phrase stress, intonation. Composed of 1 foot.
D: filling the first sentence position in the paragraph.
(analysis of this will not be carried further)

PS4. here comes Aunt Mary now.

- F: a single disappointment intonational contour ('3-4).
M: stress-timing with stresses on here, Ma-, now, with consequent speed-up of pronunciation between here and Ma-, and slowdown between Ma- and now. Double stress on Ma-, lengthening on Ma- and now. Composed of three feet.
D: filling the second sentence position in the paragraph.
(analysis of this will not be carried further)

Foot level: Four feet +

(= rhythmic segments = stress groups = abdominal pulse groups = phonemic words)

F1. John

- F: a single stress group, with a single significant peak but no significant troughs.
M: strong stress with a sharp cut-off. Composed of a single syllable.
D: filling the first foot position in the sentence.

F2. shot

- F: a single stress group, with a single significant peak but no significant troughs.
M: strong stress with a sharp cut-off. Focus (pitch, stress, length, intensity) due to semantic emphasis. Composed of a single syllable.
D: filling the second foot position in the sentence.

F3. the bad

- F: a single stress group, of the trough-peak type.
M: medium stress, pitch on the trough slightly lower than the pitch on the peak. Composed of 2 syllables.
D: filling the third foot position in the sentence.

F4. tiger

- F: a single stress group, of the peak-trough type.
M: fairly strong stress, pitch on the trough lower than the pitch on the peak, this pitch difference being accentuated by the intonational drop. Composed of two syllables.

D. filling the fourth foot position in the sentence.
(analysis of this foot will not be carried further)

Syllable level: Three syllables +

Syl1. John

- F: a syllable of the CVC type. (contr. CV, VC, CCVC, etc.)
- M: syllable peak on the /a/, abrupt onset, tapered coda, lengthened because stressed. Composed of three phonemes.
- D: covering the whole foot.

Sy2. shot

- F: a syllable of the CVC type.
- M: syllable peak on the /a/, gentle onset, short vowel, lengthened closure on coda. Composed of three phonemes.
- D: covering the whole foot.
(analysis of this syllable will not be carried further)

Sy3. the

- F: a syllable of the CV type
- M: syllable peak on the /e/, lenis onset, lenis coda, shortened because unstressed. Composed of two phonemes.
- D: filling the trough syllable position in the foot.
(analysis of this syllable will not be carried further)

Phoneme level: Twenty-five phonemes

Ph1. /j/

- F: a single phoneme with the distinctive features of voicing, alveopalatal position, and stop articulation.
- M: affricate release of the stop, onset of voicing x microseconds before release of the stop.
- D: filling the first consonant position in the syllable.
A member of the consonant class C_i .

Ph2. /a/

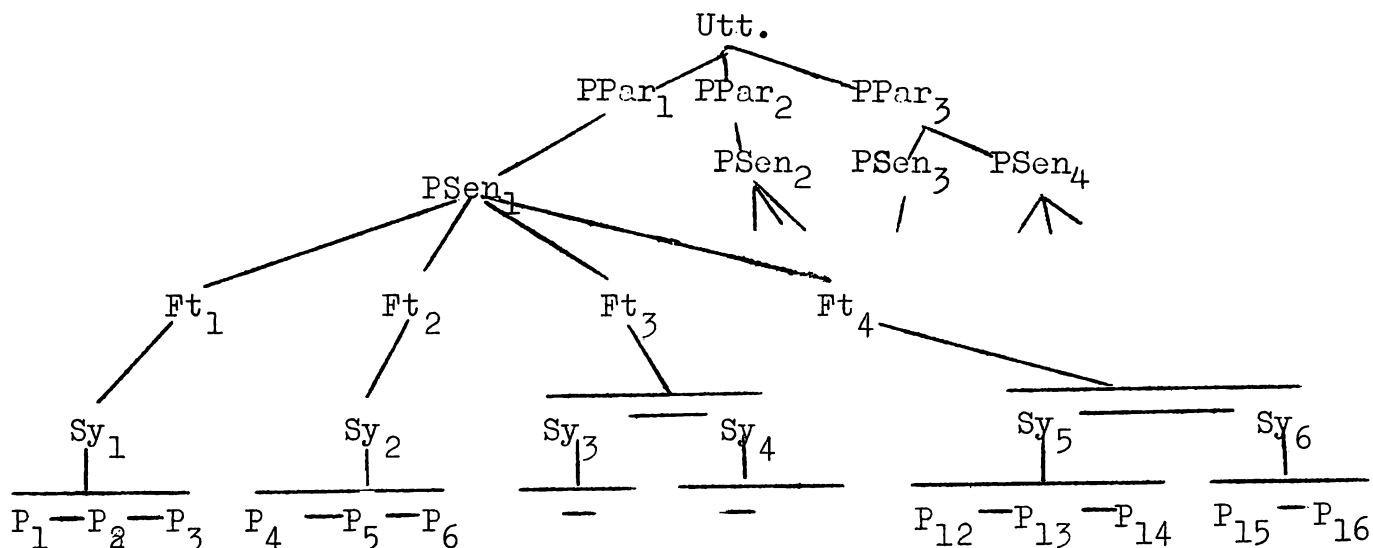
- F: a single phoneme with the distinctive features low, central, unrounded, vocalic, voiced.
- M: extra length (due to emphasis and also to the voiced final consonant.)
- D: filling the vowel position in the syllable. A member of the class of long vowels.

Ph3. /n/

- F: a single phoneme with the distinctive features alveolar and nasal. Voiced.

- M: voicing sustained x microseconds beyond the closure of the stop (lengthened because of emphasis).
 D: filling the final consonant position in the syllable.
 A member of the consonant class C_f .

A schematic outline of the major relationships in the above description:



I wish to acknowledge the comments and suggestions made by Loraine Bridgeman and Marjorie Davis.

The contrastive items given in parentheses throughout the analysis would normally be described and contrasted in full in a grammar, so they would not usually need to be enumerated in an analysis of this sort. Similarly the phonological and semantic distinctive features would be described in a phonological statement and a lexicon.

This analysis is intended to suggest the types of levels, elements, and constructions that grammars may be expected to include in their section on language as viewed from the standpoint of elements-as-particles. The formulas cited on the higher levels only represent guesses for the sake of the example; they have not been rigorously worked through.

Concepts drawn on or alluded to may be found in fuller detail in the following works, among others:

Kenneth L. Pike, Language, in Relation to the Structure of Human Behavior 1967 (hierarchies and F-M-D)

Zellig Harris, 'Cooccurrence and Transformations' Language 1957 (transformations)

Sidney Lamb, Outline of Stratificational Grammar 1967 (levels different in quality)

Robert E Longacre, 'Hierarchy and Methodology' mimeo 1966 (hierarchy)

Harold C. Conklin, 'Lexicographical Treatment of Folk Taxonomies' IJAL Supp. 1962 (lexemes, semantic taxons)

David Thomas, 'Transformational Paradigms from Clause Roots' Anth. Ling. 1964. (batteries)

John C. Crawford, Mixe Phonotagmemics 1964 (phonology)

Velma Pickett, Grammatical Hierarchy of Isthmus Zapotec 1962 (higher levels)

Noam Chomsky, Aspects of the Theory of Syntax 1965 (deep structure)