Batteries at other ranks

David D. Thomas
SIL-UND

Batteries at Other Ranks

David Thomas

1. Phrase
2. Morpheme
3. Sentence
4. Paragraph
5. Battery trees

The structure and use of transformational batteries and paradigms at the clause rank (clause level) has been discussed for ten years (see bibliography in Thomas 1973). It has been becoming steadily more apparent that the theory is relevant also to other ranks besides the clause. This paper is a preliminary presentation of transformational batteries and paradigms at other ranks.

A battery is a set of strings having the same deep structure roles and elements, and whose surface strings are mutually transformable into each other with sentencehood preserved. A paradigm is the total set of surface forms that can be made from one deep structure, including elliptical forms and question forms.

1. Phrase

A deep structure (DS) phrase may be considered the rank below the deep structure clause (or predication); it is the sphere par excellence of identification and description, especially the identification of participants in a discourse. Paradigms of surface (SS) forms commonly include surface phrases and clauses. E.g.:

DS: Owner: the Frenchman; Item: the house

SS:
1. the Frenchman's house — /Own-s, Item/
2. the house belonging to the Frenchman — /Item belonging to, Own/
3. the house of the Frenchman — /Item, of, Own/
4. the Frenchman owns the house — /Own, owns, Item/
5. the house belongs to the Frenchman — /Item, belongs to, Own/
6. the Frenchman who owns the house — /Own, who owns, Item/
7. the house the Frenchman owns — /Item, Own, owns/
8. Who owns the house? — /Interr-Own, owns, Item, ?/
9. etc.

The Possession paradigm is similar but more restricted, not having polarizing surface verbs:

DS: Possessor: the dog; Item: a bone

SS:
1. the dog's bone — /Poss-s, Item/
2. the dog has a bone — /Poss, has, Item/
3. a bone the dog has — /Item, Poss, has/

4. Whose bone is it?   /Interr-Poss, Item, <u>is it</u>,?/
5. etc.

It is possible that a simple battery tree could be constructed using phrase paradigms like this, on the analogy of clause battery trees (Thomas 1973:7).

Even a simple phrase composed of just a simple noun can be transformed into a tautological clause (rare but not nonexistent):

DS: Item: <u>John</u>
SS. 1. John   /Item/
     2. John is John   /Item, <u>is</u>, Item/
     3. Who is John?   /Interr-Item, <u>is</u>, Item, ?/

A typical Quality paradigm is:

DS: Item: <u>man</u>; Quality: <u>big</u>; Determiner: <u>the</u>
SS: 1. the big man   /Det, Qual, Item/
     2. the man is big   /Det, Item, <u>is</u>, Qual/
     3. Who is big?   /Interr-Item, <u>is</u>, Qual,?/
     4. etc.

The various surface forms of a deep structure are generally determined by their syntactic and semantic environment, and a more careful description of the paradigms should state the environments in which the various forms occur.

2. Morpheme

A deep structure morpheme (lexeme) may be considered the rank below the deep structure phrase. It is the sphere of naming, the sphere of the dictionary. Paradigms of surface forms commonly include morphemes and affixed or phrasal forms:

DS: Item: <u>king</u>
SS: 1. king   /Item/   N Agt
     2. kingly   /Item, <u>-ly</u>/   Adj
     3. kingdom   /Item, <u>-dom</u>/   N Loc
     4. kingship   /Item, <u>-ship</u>/   N Abstr
     5. be a king   /<u>be a</u>, Item/   Vb

DS: Attribute: <u>plurality</u>[1]
SS: 1. -s   Quantifier affix
     2. more than one   Quantifier phrase
     3. plural   Noun

DS: Event: <u>singing</u>
SS: 1. sing   Verb
     2. singing   Participle
     3. song   Noun
     4. singable   Adj. Potential

```
DS:  Relation: instrument
SS:  1. with              Prep.
     2. used              Verb
     3. use               Noun
```

No morphological formula can be made for this and many other morpheme-rank batteries; its transformations are idiosyncratic.

3. Sentence

Sentence paradigms have been worked on more recently (Hollenbach 1973). The sentence is the minimal sphere of illocution.

```
DS:  Cause: he called me; Result: I went
SS:  1. I went because he called me.    /Res, because, Cause/
     2. He called me so I went.         /Cause, so, Res./
     3. Because he called me I went.    /because, Cause, Res./
     4. Did I go because he called me?  /Interr-Res., because, Cause, ?/
     5. I went as a result of his       /Res., as a result of, Nom-Cause/
        calling me.
     6. Upon his calling me I went.      /upon, Nom-Cause, Res./
     7. His calling me made me go.       /Nom-Cause, made, Nom-Res./
     8. etc.
```

```
DS:  Event: John went to the doctor; Purpose: he would be healed
SS:  1. John went to the doctor to be healed.
     2. John went to the doctor because he wanted to be healed.
     3. It was to be healed that John went to the doctor.
     4. Healing was John's purpose in going to the doctor.
     5. John's purpose in going to the doctor was to be healed.
     6. etc.
```

```
     1. /Event, Inf-Purp./
     2. /Event, because he wanted, Inf-Purp./
     3. /It was, Inf-Purp., that, Event/
     4. /Nom-Purp., was S's purpose in, Ger-Event/
     5. /S's purpose in, Ger-Event, was, Inf-Purp./
```
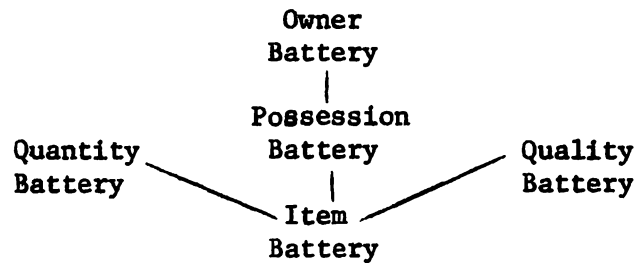
4. Paragraph

I haven't yet studied nor seen any studies of batteries of paragragraphs. But with the work of Longacre, Pike, Grimes, Wise, and others on paragraph structures, it seems reasonable to assume that sets of paragraph types will appear whose members regularly stand in a mutually-transformable relation with each other. Thus I expect that within the next few years studies of paragraph batteries will begin to appear.

5. Battery trees

The tree-like relations between clause batteries has been well demonstrated (see Nevers 1967, Thomas 1973). It is becoming evident

also that there is at least a rudimentary tree structure obtaining between English sentence batteries. Of the sentence paradigms in Hollenbach 1973, all the forms in Reason-Result, Condition-Consequence, Concession-Contraexpectation, Grounds-Implication, and Contradeductive can be considered a single battery. In a second battery lower on the tree would be Sequence, Immediate Sequence, Simultaneity, Inclusion, Overlap, Until, and Since. Deep structures applicable to the first battery can be restated with the forms of the second battery, but not vice versa; thus these two batteries give us a rudimentary tree.

At the phrase rank it appears likely that a tree can be drawn including, among other batteries, the following:

```
                        Owner
                       Battery
                          |
                       Possession
   Quantity              Battery             Quality
   Battery         \        |        /       Battery
                     \    Item     /
                       Battery
```

Footnotes

1. I am indebted to Nicolas Daams for suggesting this example to me.

References

Hollenbach, Barbara, 1973. Relational Paradigms, SIL North Dakota Workpapers 17:11-16.

Nevers, Carole, 1976. Some Cocopa Clause Batteries, SIL, North Dakota Workpapers 8:45-72

Thomas, David, 1973. Transformational Clause Batteries, in Mon-Khmer Studies IV pp. 1-12.