General Instructions  Please type your answers.

Part I

This part of the problem set simply deals with tests for constituency. To some extent this question should be review, although you will need to actually make arguments about the correct structures.

1 Constituency

Consider the sentence in (1):

(1) He may have been writing a letter.

In (2)–(7) below are a number of analyses that have been proposed for (1) over the history of syntax. You should not worry about the fact that some trees are not binary, nor should you worry about the exact labels of the nodes (i.e. NP vs. DP; S vs. TP/IP or the lack of X’ structures.)

Possible trees

(2) Chomsky (1957) Syntactic Structures
(3) Chomsky (1955) *Logical Structure of Linguistic Theory*

```
S
 / \
|   |   
| NP | PredP |
|    |       |
he   |       |
    |       |
Aux  |       |
    |       |
Modal| Aspect|
    |       |
may  | writing|
    |       |
Perf | Prog   |
    |       |
have | been  |
    |       |
D    | N     |
ahave| been  |
    |       |
NP    |       |
```

(4) Chomsky (1972) *Studies on Semantics in Generative Grammar*

```
S
 / \
|   |   
| NP | Aux |
|    |     |
|     |     |
he   |     |
    |     |
Modal| Aspect|
    |     |
may  | V    |
    |     |
Perf | Prog |
    |     |
have | been|
    |     |
D    | N    |
ahave| been|
    |     |
NP    | writing|
    |     |
```

(5) Jackendoff (1972) *Semantic Interpretation and Generative Grammar*

```
S
 / \
|   |   
| NP | Aux |
|    |     |
|     |     |
he   |     |
    |     |
Modal| may |
    |     |
Perf | writing|
    |     |
have | Prog |
    |     |
D    | N    |
ahave| been|
    |     |
NP    | writing|
    |     |
```
(6) Emonds (1976) *English Syntax*

```
S
   NP  Aux  VP
      |     |
he   may
```

```
V  VP
  have
```

```
V  VP
  been
```

```
V  NP
  writing
```

```
D  N
  a letter
```

(7) Ross (1969) “Auxiliaries as main verbs”

```
S
   NP  VP
      |     |
he
```

```
V  VP
  may
```

```
V  VP
  have
```

```
V  VP
  been
```

```
V  NP
  writing
```

```
D  N
  a letter
```

**Data**

Now here are some sentences.

(8) Speaker A: What might he have been doing?
   a. Speaker B: Writing a letter.
   b. *Been writing a letter.
   c. *Have been writing a letter.

(9) a. He may have been writing a letter or watching TV.
   b. He may have been writing a letter or been watching TV.
   c. He may have been writing a letter or have been watching TV.
(10) a. He may, for example, have been writing a letter.
    b. He may have, for example, been writing a letter.
    c. He may have been, for example, writing a letter.

(11) a. Mary thinks he may have been writing a letter, and so he may have been.
    b. *Mary thinks he may have been writing a letter, and so he may have.
    c. *Mary thinks he may have been writing a letter, and so he may.

(12) Speaker A: Do you think he may have been writing a letter?
    a. Speaker B: Yes, he may have been.
    b. Yes, he may have.
    c. *Yes, he may.

For each of the six analyses given above, i.e. (2)–(7), explain whether it is or is not consistent with the data, i.e. (8)–(12). Based on your explanations, which analysis best fits the data?

**Part II**

**Notes on Semantic Categories**

This part of the problem set deals with Thematic Roles. The notes here are designed to supplement those in the text; they do not replace it.

First, let’s construct a small theory of meaning (semantics), i.e. a theory of our conceptualization of the world (either the real world or an imagined world). All of the categories in our theory of meaning will be semantic and not syntactic.

**Semantics**

Let’s assume that the conceptual world contains the following types of things:

<table>
<thead>
<tr>
<th>Semantic Category</th>
<th>Rough description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EVENTS</td>
<td>actions; usually have starting and/or ending points</td>
</tr>
<tr>
<td>STATES</td>
<td>hold over time; don’t have clear beginning or ending points</td>
</tr>
<tr>
<td>ENTITIES</td>
<td>a person, place, thing or idea</td>
</tr>
<tr>
<td>LOCATIONS</td>
<td>answers the question where</td>
</tr>
<tr>
<td>TIMES</td>
<td>answers the question when</td>
</tr>
<tr>
<td>MANNERS</td>
<td>answers the question how</td>
</tr>
<tr>
<td>PROPOSITIONS</td>
<td>an event situated in time and space; something that could be true or false</td>
</tr>
<tr>
<td>QUESTIONS</td>
<td>a question</td>
</tr>
</tbody>
</table>
Now let’s define some further ways of describing ENTITIES with respect to the EVENTS that they participate in. These are called “semantic roles” or “thematic roles”.

<table>
<thead>
<tr>
<th>Thematic Role</th>
<th>Rough description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agent</td>
<td>entity which intentionally initiates the action</td>
</tr>
<tr>
<td>Cause</td>
<td>entity which causes the action</td>
</tr>
<tr>
<td>Experiencer</td>
<td>entity which experiences some psychological state from the action</td>
</tr>
<tr>
<td>Patient or Theme</td>
<td>entity directly affected by the action</td>
</tr>
<tr>
<td>Goal</td>
<td>entity at which the theme ends up</td>
</tr>
<tr>
<td>Source</td>
<td>entity that the theme comes from</td>
</tr>
<tr>
<td>Instrument</td>
<td>entity which is used to perform the action</td>
</tr>
</tbody>
</table>

Problems

2 Thematic Roles I

For each of the phrases in italics in the sentences below, identify the semantic category or thematic role. If you think there is more than one possibility, give both and explain why.

(1) a. *John* handed *Mary* the book.
   b. *John* rolled down the hill.
   c. *The wind* rolled *John* down the hill.
   d. *John’s grandfather* died.
   e. *John* inherited a million dollars.
   f. *John* donated *half a million* to *the Red Cross*.
   g. *John* shot *the deer* with *a crossbow*.
   h. *The crossbow* was used by *John* to shoot the deer.
   i. *John* annoys *his little brother*
   j. *Ice* flowed from *the glacier* into *the ocean*
   k. *The glacier* lost *3 tons of ice* last summer.
   l. *That Bill left* annoyed *Mary*.
   m. *Bill* asked *whether it was o.k. to leave*.
   n. *Mary* said *that it was o.k. to leave*.

3 Thematic roles II

English has an adverb *personally* which is usually expressing the view of the speaker, and therefore has to be connected to a first person pronoun (*I, me* or *we, us*). This accounts for the contrast between (1a) and (1b). However, the data is more complicated that that. Consider the data in (2).
All of these sentences involve a first person pronoun, yet not all are acceptable. Use thematic roles to explain the pattern of when you can use *personally* and when you cannot.

(1) a. Personally, I hate ice cream.
    b. *Personally, John hates ice cream.

(2) a. *Personally, I ate ice cream.
    b. Personally, your proposal doesn’t interest *me*.
    c. *Personally, you hit *me*.
    d. *Personally, I caught the ball from Bill.
    e. Personally, I caught the flu from Bill.
    f. Personally, ghosts frighten *me*.
    g. Personally, I fear ghosts.
    h. *Personally, Bill gave *me* the book.
    i. *Personally, I collapsed on the floor.

4 Argument Structures

For each of the following argument structures:

(i) find 4 different verbs that match the argument structure. Do not use verbs from Question 2 above.

(ii) for each verb, give a sentence that exemplifies the argument structure. The verb must be in the active voice (i.e. not a passive) (E.g. *John hit Bill* is ok, but *Bill was hit by John* is not.)

1. (Theme)
2. (Agent)
3. (Agent, Theme, Goal)
4. () [no arguments at all]
5. (Agent, Theme)
6. (Cause, Experiencer)
7. (Agent, Question)
5 Sinhala

Examine the data from Sinhala, a language spoken in Sri Lanka.

(1) a. lameya  elu-mas kanawa  
child-NOM mutton eat-A
“The child eats mutton.”
b. lameyətə elu-mas kæwenəwa  
child-DAT mutton eat-B
“The child eats mutton (accidentally).”

(2) a. lameya  kataawə ahanəwa  
child-NOM story hear-A
“The child listens to the story”
b. lameyətə kataawə æhenəwa  
child-DAT story hear-B
“The child hears the story”

(3) a. lameya  a”danəwa  
child-NOM cries-A
“The child cries.”
b. lameyətə æ”denəwa  
child-DAT cries-B
“The child cries out”

Questions

Using the data above, and answer the following questions.

1. For each noun phrase in the data, identify the theta role that it receives.

2. What morphological changes characterize the A and B forms of the verbs?

3. In terms of theta roles, what does the dative suffix –tə attach to?

4. In terms of theta roles, what is the difference between the A and B forms of the verb?

Now consider one last set of data.

(4) a. lameya  dorə arinəwa  
child-NOM door open-A
“The child opens the door.”
b. *lameyətə dorə ærenəwa  
child-DAT door opens-B
“The child accidentally opens the door”
c. dorə ærenəwa  
door-ACC opens-B
“The door opens.”

5. Does this data pose a problem for your analysis?

6. If not, explain why not; if so, suggest a possible solution.