**Language Science - PSYCH-UH 2218 Name:**

**Problem set 2 Student ID:**

**I. Morphological structure of “anti-mismanagement report” (35 points)**

Your goal in this problem is to perform a complete morphological analysis of the complex (multi-morphemic) word *anti-mismanagement report*.

The first step is to determine the structure-building rules for each of the affixes in the word: *anti*, *mis*, and *ment*. The rules should be written using categories and the notation we learned in class (e.g., ADJ → N + ful).

To figure these rules out, you need to look across a bunch of words that use these affixes and try to spot the patterns. Here is a data set for us to look at. This data set contains words that use *anti*, words that use *mis*, and words that use *ment*. For each word in the data set, I have told you its category. This should help you figure out the rule for each affix.

|  |  |  |  |
| --- | --- | --- | --- |
| N: acne | V: lead | ADJ: anti-acne | V: mislead |
| N: crime | V: state | ADJ: anti-crime | V: misstate |
| N: frost | V: govern | ADJ: anti-frost | N: government |
| V: construe | V: amuse | V: misconstrue | N: amusement |

Please provide the following in your analysis:

1. Based on the evidence you see in the table above, fill in this table with the structure building rules for each affix. Use the notation we learned in class (e.g., ADJ → N + ful). (10 points)

|  |  |
| --- | --- |
| **affix** | **rule** |
| *anti* |  |
| *mis* |  |
| *ment* |  |

The word *anti-mismanagement report* is clearly a compound of some sort (because there are at least two roots here: *manage* and *report*). So we also need to understand the compounding rules in English. Here is a table of compounds in English that we can use as a dataset. There are two compounding rules that can be uncovered from this data set.

|  |  |  |  |
| --- | --- | --- | --- |
| N: dog | ADJ: happy | N: dog bed | N: sweet cookie |
| N: bed | ADJ: soft | N: cookie jar | N: large jar |
| N: cookie | ADJ: sweet | N: happy dog | N: large dog |
| N: jar | ADJ: large | N: soft bed | N: soft cookie |

1. Based on the evidence that you see in the table above, fill in this table with two rules for creating compounds in English. Use the notation we learned in class (e.g., ADJ → N + ful). (5 points)

|  |
| --- |
| **Compounding rules** |
|  |
|  |

1. Now we are going to apply the structure building rules that you just uncovered for both the affixes and the compounds to the string *anti-mismanagement report*. This set of rules is interesting because they generate two possible hierarchical structures for this string. The trick here is to remember that you can only draw a connection in a tree if you have a rule for it. If you don’t have a rule for it, the connection is not grammatical (which means it is not possible). Use the rules to draw the two possible trees that are licensed by these rules. You may find it easiest to draw these by hand on a sheet of paper and take a photo. That is completely ok! HINT: when drawing a tree, write the string at the bottom of the page, and work up by trying to connect one morpheme to one next to it with a rule, one step at a time! (10 points)
2. And here is the big point of our theory of structure building rules. These two possible tree structures lead to two possible meanings for the string *anti-mismanagement report.* Look at the trees, and tell me in your own words what you think the compositional meaning is for each of the possible structures. It is ok to use “management” and “report” directly in the description of the meaning. What I am looking for here is that you can map the hierarchical structure to a compositional meaning, so it is mostly about the meanings of the affixes (since we could plug different roots into the tree and get a similar meaning). You do not need to be a native speaker of English to do this. In case it helps, *anti* means “against” and *mis* means “poorly”. (10 points)

And that’s it! Now you have seen the power of a morphological analysis. You can see that the rules and our intuitions about the meanings of words create an explanatory system. The rules explain why it is that we think words have the number of meanings that they have – if there are two structures made possible by the rules, then there are two meanings. This kind of analysis is something that you can do as a language scientist now!

**II. A morphological analysis in your language. (25 points)**

For exercise II, you have three options. You only need to complete one option. It is your choice which one you do.

Here are the three options:

**Option A:** If you speak a root-and-pattern language (Arabic or Hebrew), you can provide a root-and-pattern analysis of two consonantal roots that each appear in the same two patterns. From this, you can uncover the meanings of the roots (they will be identical in the two patterns), and the meanings of the two patterns (they will be identical with the two roots).

**Option B:** If you speak a language with affixation and/or compounding, you can choose a multimorphemic word (usually at least 3 morphemes) that has 2 meanings, and show me the structure-building rules and the two trees for the two meanings.

**Option C:** If you speak a language with allomorphy, you can choose a morpheme that has at least 2 allomorphs, and show me the underlying form of the morpheme and the rule that gives rise to the non-identical allomorph.

I will break each one down below for you to complete them (just like problem I above).

**Option A: Root-and-pattern morphology** (only possible if you speak Arabic or Hebrew)

For this problem, I’d like you to identify two consonantal roots that both combine with two patterns. The result will be 4 words: root1+pattern 1, root2+pattern1, root1+pattern2, root2+pattern2. Using these 4 words, you will be able to identify the meanings of the two roots (because that meaning will be identical across the two words containing the root), and the meanings of the 2 patterns (because that meaning will be identical across the two words containing the pattern).

To be clear about the grading, I will be grading the logic of your analysis – whether the meanings you propose fit compositionally, whether the diagram of the tiers captures the pattern, etc. I will not be grading whether your analysis is ultimately correct or incorrect for your native language. Grading based on the correctness of the analysis would require me to independently investigate the language, and I will not be able to do that.

To demonstrate the alternation, you must show me the following:

1. Name your native language. (5 points)
2. Write out the four words in their full form, in IPA, along with the meanings of each word in English. (5 points)
3. Draw a diagram for each word that separates the consonantal root from the pattern (a CV skeleton), and connects the two using lines (just like slide 34 in lecture 9). (5 points)
4. Tell me the meanings of each of the two consonantal roots. (5 points)
5. Tell me the meanings of each of the two patterns. (5 points)

**Option B: Structure of an ambiguous multimorphemic word** (requires affixes and/or compounding in your language)

For this problem, I’d like you to identify a multimorphemic word in your language that has 2 meanings and contains at least 3 morphemes (using either affixation or compounding). Your task is to uncover the structure building rules for the affixes or compounds, and then draw the two tree structures (based on those rules) that will give rise to the two meanings.

To be clear about the grading, I will be grading the logic of your analysis – whether the data you show me leads to the rules you identify; whether the rules will give rise to the tree. I will not be grading whether your analysis is ultimately correct or incorrect for your native language. Grading based on the correctness of the analysis would require me to independently investigate the language, and I will not be able to do that.

To demonstrate the alternation, you must show me the following:

1. Name your native language. (5 points)
2. Write out the multimorphemic word in IPA, along with the two possible meanings in English. (5 points)
3. Create a data set of words that demonstrate the structure building rules for each affix or compound. You only need 3 words for each one. Use problem I above as an example. Tell me the category of each word, and its meaning. (5 points)
4. List the structure building rules for each affix or compound. (5 points)
5. Draw the two trees for the multimorphemic word according to the structure building rules. Write the meaning that derives from each tree underneath it in English. You can draw these by hand and take a photo if that is easier. (5 points)

**Option C: Allomorphy**

For this problem, I’d like you to identify an allomorphic alternation in your native language. This alternation must involve one morpheme with at least two allomorphs. It can be any allomorphic alternation you want. The only restriction is that it can’t be one that we covered in class or in any of the readings for class. I want you to find the alternation as hands-on practice doing language science.

To be clear about the grading, I will be grading the logic of your analysis – whether your data set justifies your conclusions, whether your rules use natural classes, whether your rules are maximally simple, etc. I will not be grading whether your analysis is ultimately correct or incorrect for your native language. Grading based on the correctness of the analysis would require me to independently investigate the language, and I will not be able to do that.

To demonstrate the alternation, you must show me the following:

1. Name your native language. (5 points)
2. Create a data set of words from your native language, written in IPA, that provides the logical information one would need to identify the underlying form of the morpheme and the morphophonological rules that give rise to the allomorphs. You only need to show me enough to demonstrate the phonetic contexts of the alternation. This should not be more than 15 words (and likely far fewer). (5 points)
3. List the morphophonological contexts of each of the two allomorphs. (5 points)
4. Tell me the underlying form of the morpheme. (5 points)
5. Write the morphophonological rule required to give rise to the allomorph that is not identical to the underlying form of the morpheme. Use the notation from class and articulatory features or roots/affixes if it is morphologically conditioned. Create the simplest possible form of the rule that still captures the data correctly. (5 points)