# MSc Semantic Analysis Exercise

## Rationale

Argument Structure (sometimes called Predicate Argument Structure) is an important clinical topic, especially in the field of Aphasia intervention. However, it is not assessed in the Semester 2 Linguistics exam. Therefore to assess knowledge of this topic, MScs are required to pass a separate assessment on this topic.

## The brief

***Part 1 – Analysis of Argument Structure***

Analyse the argument structure of the following Cinderella stories, taken from adult clients with aphasia. To do this, first identify the sentences using square brackets, e.g.

[ The fairy godmother cast a magic spell ] [Cinderella was… into a pumpkin]

Sometimes it’s a bit difficult to decide where a sentence begins as there are lots of fillers, e.g. “ooh”, “ahh” and groping patterns (e.g. repetitions of the same Noun Phrase). Try to “segment” the sentences (i.e. identify beginnings and ends) to ignore the filler material

Guidelines regarding segmentation are provided in

Saffran, E. M., Berndt, R. S., & Schwartz, M. F. (1989). [The quantitative analysis of agrammatic production](https://www.sciencedirect.com/science/article/pii/0093934X89900308): Procedure and data. Brain and Language, 37(3), 440–479. https://doi.org/10.1016/0093-934X(89)90030-8

The relevant information on sentence segmentation is in Section V or the Appendix.

Click on the hyperlink above to access, or go to this URL: <https://www.sciencedirect.com/science/article/pii/0093934X89900308>.

Further details on segmentation are provided in

Rochon, E., Saffran, E. M., Berndt, R. S., & Schwartz, M. F. (2000). [Quantitative Analysis of Aphasic Sentence Production](https://www.sciencedirect.com/science/article/pii/S0093934X9992285X?via%3Dihub): Further Development and New Data. Brain and Language, 72(3), 193–218. https://doi.org/10.1006/brln.1999.2285

Click on the hyperlink above, or go to the this URL: <https://www.sciencedirect.com/science/article/pii/S0093934X9992285X?via%3Dihub>

Be aware that it is often very difficult to segment utterances especially when you don't have access to the original recordings. There will be no points allocated for utterance segmentation.

Then use a code to classify the sentence;

A = Argument included

V = Main Verb included

X = Argument / Verb omitted

I = Implicit element

For example…

*Jack likes* = AVX (Subject Argument included, main Verb included, post-verbal argument omitted)

*The scary witch* = AX (Subject argument, but no mainVerb)

*Come here* = IVA (Implicit subject argument, main Verb, and postverbal argument (locative ‘here’)

*She ran* = AV (Subject argument, plus main Verb. No post-verbal argument required)

*Ate it* = XVA (Subject argument omitted, main Verb included, and postverbal argument included.

*Yes, I have. =* AI (Subject argument and implicit main Verb (ellipsis of verb is allowed after auxiliary))

When writing these codes, **make sure there is no gap between the letters.**

Put the Argument Structure codes inside the square brackets at the end of the sentence which they refer to, e.g.

[ The fairy godmother cast a magic spell AVA ] [Cinderella was… into a pumpkin AXA ]

For marking purposes it would be very useful if you could **highlight your responses**, so I can more easily see the annotations that you have made.

This particular coding scheme is not a conventional clinical coding scheme, but it is (hopefully) easy for students to use, and easy for the marker (me) to mark. There is an additional reason for this coding scheme, which I will demonstrate after the assignment has been marked.

***Part 2 – Brief Report***

Now that you have coded the transcripts, you need to determine the extent to which both clients have a difficulty with argument structure. To do this you need to refer to the following paper:

Webster, J., Franklin, S., & Howard, D. (2007). [An analysis of thematic and phrasal structure in people with aphasia](https://www.sciencedirect.com/science/article/pii/S0911604407000127): What more can we learn from the story of Cinderella? *Journal of Neurolinguistics*, *20*(5), 363–394. https://doi.org/10.1016/j.jneuroling.2007.02.002

Click on the hyperlink above to access the article or go to the following URL: <https://www.sciencedirect.com/science/article/pii/S0911604407000127>

In particular you should look at table B1. The bold figures show performance greater or less than 2 standard deviations above and below the mean. This data is summarised below:

* % UTS more than 8.5% (UTS = “Unidentified Thematic Structure”)
* % 1 argument sentences more than 23%
* % 2 argument sentences less than 41%
* % 3 argument sentences less than 7%
* Omission of obligatory arguments in more than 2% of sentences
* Mean valency (average number of arguments for non-UTS utterances)

You need to do the following:

1. Count the percentage of sentences falling in each category (“Unidentified Thematic Structure”, 1 argument, 2 argument, 3 argument). Present these graphically using tables and/or figures.
2. Discuss the extent to which the client has argument structure difficulties, and whether you would prioritise the treatment of argument structure for this client.

You can use Tables and Figures if you wish. Figures are not included in the word count, but tables will be as Microsoft Word automatically counts numbers as words.

## Practicalities

Please do all of your work in this Word file. Firstly, annotate the scripts.

Secondly, write your report in the space provided at the end of this document. The maximum word length for your report is 500 words (excluding references).

10% of your overall mark will be deducted if you go over this limit.

## Marking scheme

*Part 1* will be quantitatively marked. Points will be awarded for correct labelling of arguments and verbs using the prescribed coding scheme. Differences in sentence segmentation will be overlooked given the difficulties of segmenting sentences in disjointed monologues.

*Part 2* will be graded according to the following scheme:

**\*\*DISTINCTION\*\*** (70 and above)

Labelling is extremely accurate. Data are clearly presented. There is a clear and detailed discussion. The clinical decision on whether to prioritise the treatment of argument structure is based on extensive reference to the existing research literature.

**\*\*MERIT\*\*** (60 and above)

Labelling is very accurate. Data are well presented. There is a clear and detailed discussion. The clinical decision is appropriately-motivated, but is not sufficiently motivated to merit a distinction. There are appropriate references to the existing research literature.

**\*\*PASS\*\*** (50 and above)

Labelling is moderately accurate. Data are well presented. There is a superficial discussion, and a weak motivation for the clinical decision. There is limited reference to the research literature. The assignment demonstrates sufficient understanding to obtain a pass grade.

**\*\*FAIL\*\*** (below 50)

Labelling is not very accurate. Data are poorly presented, and the clinical decision is poorly motivated, with scant reference to the research literature.

## The transcripts.

**DON’T FORGET TO SWITCH ON “TRACK CHANGES”**

**5. CG**

**Details: Female, 47 year old, 2 years post-onset, non-fluent.**

**Rate: 19.39 wpm**

CG: the ugly sisters .................. I don't know ....................

cinderella's scrubbing the floor and the three sisters .erm .....erm

....dressing up ............... she erm ... two sisters have got an

invitation . erm and cinderella's .. got none erm .................. the

fairy godmother ...erm ............... she .. has erm ......... a carriage

and horses.... the horses are horses have mice and the pumpkin no horses are

mice and carriage is a pumpkin oh no speech erm .... cinderella's . at the

ball and he . she meets the prince charming .................................

twelve o'clock and cinderella's have to leave and .... she loses her shoe

......... erm and prince charming ......... picks up the shoe and ........

keeps it .....erm .......... the ugly sisters erm . force the shoe on but ..

doesn't fit and er .. but cinderella's ................. does no

.................... what's the verb .... oh dear me ....................

SLT: OK just go onto the next bit

CG: ....................

SLT: OK so the shoe fits cinderella doesn't it and then what happens

CG: yes and after that ..... ever happily ever after

**3. MK**

**Details: Female, 67 year old, 2 years post-onset, non-fluent.**

**Rate: 23.13 wpm**

MK: once upon a time is Cinderella . two ugly sister ... and she was made do all

the work and the fairy godmother ............... come ............

SLT: take your time

MK: ............. the the two er ugly sisters were going the ball and the fairy

godmother ....... er... telled .. Cinders ........ would she go to the ball

..... and ... she got the mice .. and lovely dress .................... and

when she went to the ball ......... the prince dance with her and the fairy

godmother ..... said twelve o'clock and er ...... clock struck twelve o'clock

and she run out of the ... leaving her slipper behind ....... and the

prince came ........... with the .. two ugly sisters won't fit the shoe

......... Cinders fit the shoe ...... prince married her (laughs) and lived

happily ever after

## Brief report

In the space below discuss the extent to which the client has argument structure difficulties, and whether you would prioritise the treatment of argument structure for this client.

**You have 500 words (excluding references). Please write the word count at the end.**