

英語学概論 January 2020

Attempt ALL the following questions:

Section One:

Write down simple PHONOLOGICAL, SYNTACTIC, and SEMANTIC information for the following English words:

1. Christmas 2. London 3. string 4. think 5. frenetic
6. envelope 7. tiresome 8. erosion 9. principle
10. fully 11. crisis 12. difficulties 13. fraught
14. television 15. vilification 16. pencil 17. egregious
18. abject 19. bombastic 20. embezzlement

For example:

1. straight PHON: /streɪt/ SYN: adj SEM: not bent

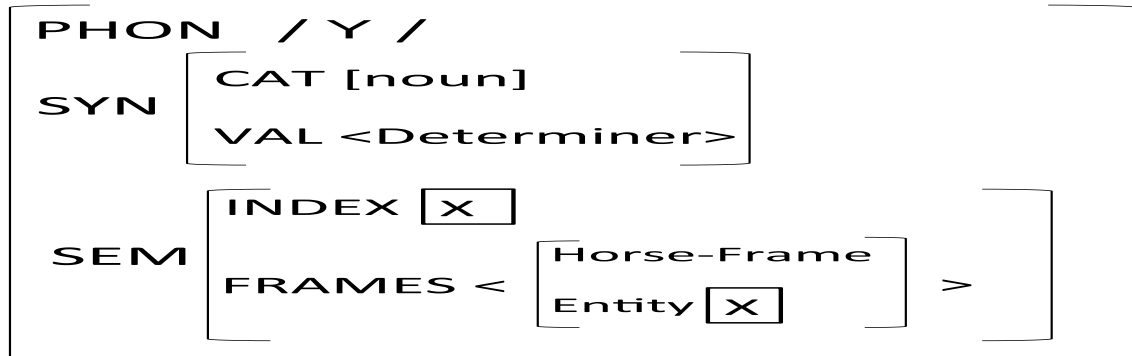
Section Two

Draw and label **double-branching** phrase structure diagrams to illustrate the composition of the following words and expressions:

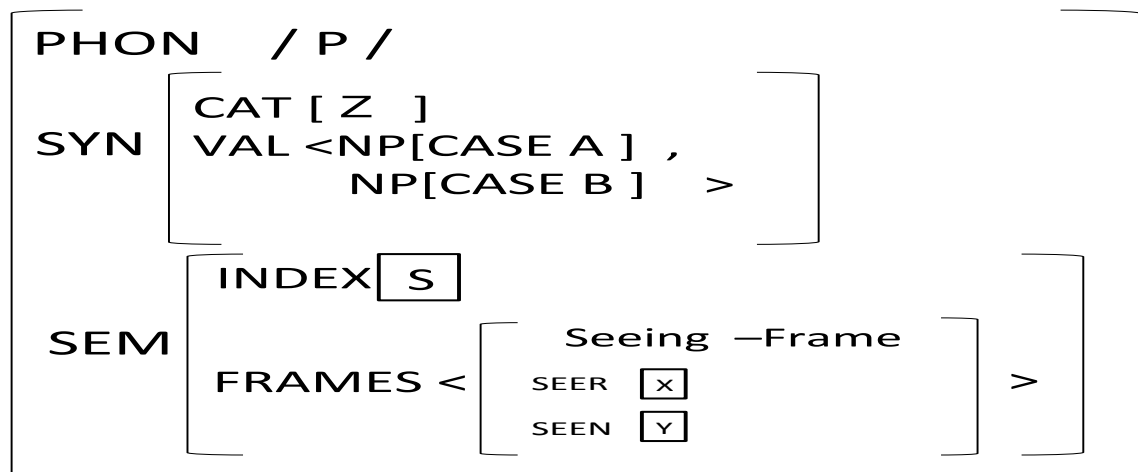
1. handed 2. that boy 3. funny animal 4. 彼女が 5. probably ate
6. punched him 7. the tall girl kicked the ball 8. slowly read the book
9. 飲んだ 10. her problem 11. wrote my name 12. small dog
13. usually make the same mistake 14. I don't like his idea
15. continued to eat the apple 16. a very high level solution
17. I failed 18. in the bowl 19. ate the hamburger 20. he chose the best dish

Section Three

1. The information below is for the word “horse.” What is X and what is Y?



2. The information below is for the word “sees.” What is A, B, P, S, Z?



Section Four

Write the meanings of the following formulae in simple English:

1. $p \rightarrow q$
2. $p \& q \rightarrow r$
3. $p \vee q \rightarrow r$
4. $\neg (p \& q) \rightarrow r$
5. $\forall x[\text{Student}(x) \rightarrow [\text{Studies}(x)]]$
6. $\exists x[\text{Teacher}(x) \& \text{Fell_over}(x)]$

Section Five

1. Create a simple database to encode the following information:

Jen is Mary's parent. Emi is Ellie's parent. Mary is Kate's parent.

Will is Mary's parent. Will is Bob's parent. Bob is Ellie's parent. Bob is Bill's parent.

Jen, Mary, Emi, Ellie, and Kate are female.

Will, Bob, and Bill are male.

2. $X \rightarrow \text{Mother}(x, y)$

What is X?

3. $Q \rightarrow \text{Daughter}(y, x)$

What is Q?

4. $R \rightarrow \text{Father}(x, y)$

What is R?

5. $W \rightarrow \text{Grandparent}(x, z)$

What is W?

Section 6

Write 100 words EACH on the following topics. Explain your answers.

1. Do you think our brains are like computers?
2. About when do you think the first humans started speaking?