These pages contain some notes regarding the Syntax course, it doesn't include everything but it can help you understand some key concepts.

Syntax: Dr Maen Saa.
" The Language Gene"
" Universal Grammar"

- The question of how languages have a theory of "syntactic structures" → Hypothesis.

Tuesday, March 22, 2022

- Language speakers do not produce ungrammatical sentences.
- We start by observing, and hypothesising with experiments.

Adequacy: 1- Observational adequacy
2- Relating the structures to 'generalisations on principles'.
3- The explanatory adequacy on how people or adults acquire specific grammatical structures.

-Children acquire language naturally and automatically→ Implicit acquisition.
C-Command→ Poverty of stimulus structures.
1- All children acquire language in the same way.
2- humans have a natural endowment for language.
We relate this to the theory of Universal Grammar.
' the extended projection of language' (parameters, principles variations)

Tuesday, March 29th, 2022
Synatx as arrangements in sentences:
-Permutation(how many orders we can put in a word.)
-We have six possibilities overall> and that is called factorial. (3, 2,1 = 6)
- (4,3,2,1= 24 possibilities)

3! > the lexicon, it is stored in our brain.
-the **head** is basically the word that changes the **agreement** in the sentence itself, it also determines the position of a phrase.
E.g> in English is it always head-initial

Head-final is Japanese.
>Subject: specifier. In English the subject always comes first(SVO)
> Head initial, Spec,initial.(SVO)
Head initial, Spec final.(VOS)
Head initial, Spec initial.(SOV)
Head final, spec final. (OVS)
The Morphological form that a word takes based on its position in the sentence:
>Nominative: it came in the subejct position. (I)
> Accusative: it came in the object position. (Me)

Thursday, March 31st, 2022
Parameters and variation features:
EPP>Extended Projection Principle.
V-movement: Arabic usually uses **Aux-SVO(VSO)**

The possible word order of the v-movement:
If X moves then we have these possibilities:(H-I , H-F)
SVO, SOV= VSO.
If Y doesn't move then: (H-I H-F)
SVO, SOV.

-Lexical Items are a package of features combined together.
e.g> He(male, adult, human)
She(female, adult, human)

-Morpho Syntactic features:(Morphology and Syntax)
e.g> He(singular, 3rd person), eats(singular, 3rd person)

-Number: Plural, Singular. e.g> Man: singular, Men: plural.

-Person: Speaker, Addressee, Hearer. (mostly pronouns)
>1st person: (I)
>2nd person: (you)
>third person: (they)

-1st person, 2nd person is a simplier, minimalist feature in a grammatical category.
e.g> He(Singular, 3rd person) or (Singular, empty)
-Gender: VSO (limited agreement which means there is no agreement in Number such as Arabic: it is called asymmetry →in person and in gender.)
-Category/ Merge.

Tuesday, April 5th, 2022
Features: Properties.

- Category: e.g> eat, pray, drink, study: **V** category feature.
  Nation, state, university: **N** category feature.
  Down, VP, since: **Propositions** category feature.
  Beautiful, easy, difficult: **Adj** category feature.

-University: (N, Singular, 3rd person as in the referring noun it.)

-interpretable features, to interpret : they affect our understanding of the features semantically. e,g> university(Singular), universitites(Plural).
- e.g> he watches matches everyday> Watch(V), Singular, 3rd. They don't affect how we conceptualize the lexical tem itself semantically, so they are uninterpreatble features.
-Gender, Number, Person> Interpretable, Phi features.
-e.g> He saw(V, un) combine with the interpretable features: N)
>Same categorical interpretable features, for example nouns with nouns.
-He saw (the cat)>NP we call this **Merge.**
-Verbs always have uninterpretable features.

>Predicate: He(Agent) saw his friend (Theme).
-(Theme) →The flower died. The theme was affected by the action.
-(Agent) → He ran.
V (Saw(un, un) so it merges with the complement (his friend) → N. it takes the category feature of the item that already had the uninterpretable feature.

Thursday, 7th April, 2022

-Carnie's Constituent Structure.

>Combination in Langauge: Phrase Structure.

Commutative procces e.g< X plus Y= Y plus X.

>Non-Commutative addition means X plus Y does not equal Y plus X.

-Finite-State Grammar: "Chomsky" they have no memory.

State1→ State2→ State3→ etc… (Initial and final states as a machine).

The importance of memory in Language e.g> Noun-Verb agreement→ N1,N2,N3: V1, V2, V3.

-Dependency: machines don't have a grammar that captures dependencies e.g> If and then, either and or etc…

-Non-Local Dependencies e.g> The Boy (3rd, Singular), who has flown to Washington to pursue his dream of joining….. Is smart.

-Subject-Auxiliary inversion: the problem is that a machine will not know the specific placement of a subject, so it will produce sentences with different subject placements.

-Sentences are made of groups and they have an inteconnected relationship together, and synatx treats these groups as one units, and this is called constituents.

Tuesday, April 12th,2022

>Constituency: A group of words that have a certain grammatical relationship between them, and they function together as a unit.

>Fragments: e.g: I studied Syntax at home.

Where did you study Syntax? At home (the constituent).

-Elipses: if we delete a string of words from a sentence and it still makes sense, then it is a constituent.

If a test fails, then it couldn't be a constituent, and vise versa.

-Replacement tests: Strings→ Pro-Forms(the switching of Prounouns.)
e.g> The old man →(he), if it replacable then it is a constituent.
went to the fancy restaurant→(he did so=VP)
-they usually replace entities and actions, etc…
e.g> he is extremely smart→ she is less so, (so) here either represents the Adjcetive itself or the adjectival phrase as a whole.
-Movement: 1- Fronting: Topicalization(making the string the Topic of a sentence)
2-It-Clefting (NP): e.g> it is (at the fancy restaurant) that the man ate.

Tuesday, April 19th, 2022
-It- Clefting doesn't apply on VPs.
-Psendo-Cleft: Fake Cleft: **X is/was what Y did.** These clefts work for VPs.
>Constituency tests will converge on right answers or results.
-Topicalization/ Fronting: e.g> 'studied syntax splendidly, the students did'.
-Passivization: e.g> The students saw the teacher= the teacher was seen by the students. We consider 'the teacher' to be a constituent here.
>Coordination: Maen is a (genius **and** a scholar.)
Right-node raising: if two verbs agree/coordinate with the same object then it is a constituent.

-Compositionality: meaning in langauge are usually composed.
>Idioms are an example of non-compositionality.
-Syntax takes precedence over meaning (Semantics).
>Syntax takes lexicons, and collects them together to form structures or objects.
Once it is constructed: it is seperate from our system of Interface Pronouncing, and Interface Understanding.
> The combinations of syntactic structures define meaning.

Tuesday, April 26th, 2022

-Features in Syntax are properties that are also lexical items.
-(The) →determines the distribution of the phrase itself.
-Each item in a syntactic tree is a Node, and lines are branches.
-Dominance Axioms:
1- Reflexive:X Dominates itself, which guarantees that X=Y.
2- Single root axiom(condition): For Every X there is a Y, and X dominates Y.
3-Transitive: e.g>Ahmed is in the room, the room is in the building….etc
4-Anti-Symmetry: DP dominates D, but D doesn't dominate the DP or the VP as a whole.
-No Multiple Mothers: If X dominates Y, and Z dominates Y→Z dominates X and vise versa.
>Sister nodes are immediately dominated by the same node.
>DP dominates D and N, which means they are sisters.
>They are daughters in relationship with the Mother dominant.

Thursday, April 28th, 2022
-Exhaustive Dominance: Set of nodes that are immediately dominanted by the same mother node, they are also a set of terminal nodes.
-Precedence: what is said first or what is written on the left → (left to right relationship).
>General Precedence: looking at immediate domination and sister precedence. E.g> V(VP, **V**) , DP(**D**, NP) in a tree, VP precedes DP, and V precedes D.
Precedence:
-A precedes B iff.
-A doesn't dominate B or vise versa.
-E, which dominates A, sister precedes F, which dominates B.
-Immediate Precedence: they precede each other without having any intermediate nodes between them.
Precedence Axioms:
-Transitive: if A precedes B, and B precedes C, then A precedes C.
>The relationship between **Domination and Precedence** is mutual exclusivity.

> Precedence: is irreflexive which means that N does not precede N.

Tuesday, May 10th, 2022

-Privative features: Number, Merge, Movement.

-Properties of Lexical Items: The Agreement of (S-V) whether it is based on Number Agreement or etc… it is also the Person Feature> e.g: He is (**3rd** person, Singular) → I am (**1st** person, Singular).

-Morphosynatctic features:

e.g> He(M), She(F) this features either applies to the feature system or it doesn't.

For Numbers: we have the system of (SG), (PL)

Dual: (SG-PL) → this means it is now considered to be one feature.

>The Default Number Feature: this is when any langauge has the empty number feature and it is not specified.

>Merge: why certain features combine together.

e.g> VP→ Ate(V, Uninterpretable Determiner) it has to merge with a familiar feature→ DP(D) = The(D, Uninterpretable) apple.

-Privative features: the property is either there or not there, e,g> (D), ( ).

Thursday, May 12th, 2022

-The Difference between feature and category:

-Feature: Properties.

-Category: Set.

e.g> Nouns: inflect for Number.

Verbs: tense.

Adjectives: gradable.

Adverbs: come after nouns.

-We have a difference within the nouns themselves, e.g> Water(N→ plus countable)

Beans(N→ plus uncounatble minus countable)

-Privative features: The distinction of features.
Cars(→ Plural)
Car(→ Singular)
>**privative features** cannot be interpretable or uninterpretable, since they do not apply for any specific properties.
-The Operation Agree: this unifies features in a sense.
e.g>D→ PL - N→ PL
e.g>(if it agrees with PL)then it is out of the privative feature system.

Tuesday, May 17th, 2022

- In the English Language S-V Agrees on Number, Person.
-We can group features into a class which is called Phi → Gender, Number, Person.
-it only allows the only property, which means it is not considered as a privative system, and it doesn't allow the connection to exist. It only cares about the only property a feature can have.
-Multi-Valued features: we can consider categories to be values(attriubte) e.g> Privative(SG), Binary(SG+, Plural -), Multi-valued (Number: SG).
- (Case: NON) - (Case: ACC) - (Case: GEN)
-First Order features: (V, NP etc….) Category features.
-Second Order features: whether it is uninterpretable or interpretable, and this is what makes it have the feature on its own.
-Strength:
>Whatever merges with a V-bar is called specifier.
>Heads can have one or more uninterpretable features, but the phrasal projection (VP) doesn't have any uninterpretable features.
>TP (Tense Phrase) → (T, UD* which refers to a 'strong' features) and these features are checked locally, which means it has to be close to it →Strength triggers movements.

Thursday, May 19th, 2022

-C-command→(constituent command): a node c-commands its sister and any notes it dominates.

-Co-reference: both nodes share phi- features(gender, number, person).
e.g> he saw herself→ He(SG, M, 3rd) → Herself(SG, F, 3rd).
-Binding: pronouns can't be bound, the pronouns has to be co-referent to the antecedent and it also has to co-command its antecedent.
-The subject always c-commands the nodes, however, a node cannot c-command anything since it is c-commanded by the subject itself.

-Ditransitives: verbs that take more than one object, such as Give, Send, etc…..
>Meaning is usually generated between the **verb and the object.**
>once we add Little V, we have a relationship between the verb and the object, and when we think about the verb projection itself, we will no longer have any uninterpretable features, so the projection of the verb is the **little v.**
-ΘTheta-roles:(Agent, Theme, Goal)
-Numerate: e.g> I (D) →Sent→(V,UD, UP) → Little V(UD) →Money(D) → My(D) → Mom(N) → To (P, UD).
-Move: it is basically an Internal Merge. e.g> V moves to little v within the tree structure.
-Tense, and Agree: the agreement between the tense and the verb.
Agree: sets a relationship between features in a tree but from a distance.

Tuesday, May 24th, 2022
- Any verb requires certain elements in sentences, and that clarifies why it changes based on the change of the verb itself.
-Theta-roles: e.g> the table saw the man→(saw) needs an Agent: inanimate.
-Theta-roles have to be assigned with certain elements.
-Semantically we have to have an →Agent, Phenomena or Experience.
-Synatctically: (V, UD, UD)
Some of the **Theta-roles in syntax** → Agent, Theme, Experience, Goal, Instrument, Source, Benefactive.
Theta-Criterion:
1-Predicates have to assign all their theta-roles.
2-Each argument can only be assigned with one theta-role.

-Passivization→ it assigns with the lexical level of the lexicons.
e.g> She was seen → SEM: Agent, Phenomena.
-Causative: e.g> The water boiled, I boiled the water, I caused the water to boil.
-Inchoatives: we do not have agents in inchoatives.

-Alterations rules in languages may differ, e.g> some languages we have morphological change that is added to verbs, while others have syntactical change to verbs.

Number of Theta-roles: Unergatives: Theme. Unaccusatives: without an Agent, Ditransitives: They acquire 3 arguments.

Thursday, May 26th, 2022
-the Number of theta-roles we could have, and why can't we have more than 6 or 7 or even 50 theta-roles?
-the syntactic structure of theta-roles only allows a certain number of them in a tree.
-if the theta-roles are different, then→ the structures are different too.
-Locatum verbs: verbs that show the placement of the object. e.g> saddle.
-Show + Cause(Little V), See(VP)

Tuesday, May 31 2022

- Every theta-role has fixed positions in a syntactic tree.
- Verbs like unergatives apply to 'light' verbs.
- e.g> the sky reddened: VP → V, AdjP: Dp, Adj: reddened was incorporated within the verbalising head/ element → (V -en) it has an uninterpretable feature that merges with the Dp. e.g> the sun reddened the sky.
- Locatom verbs→ Put X on OBJ, e.g> the cow boy saddled the horse.
- If every theta-role has a position fixed in a tree, and that makes it have at least three theta-roles.
- We need a structure where the antecedent is at least at the same level with reflexive pronouns like himself.

- Little V is an extra projection that most likely has an uninterpretebale determiner feature→ Ud.
- UTAH→ Uniformity of theta-role assignment hypothesis :
  -Agent: Dp daughter of Little Vp.
  -Theme: Dp daughter of Vp.
  -Goal: Pp daughter of V bar.

Thursday, June 2nd, 2022

-Unergatives: they don't have a theme, but they do have an agent.
-Predicate→ One→ Agent.
-Numerate: He (D), Run(V), Little V(Ud) →Recursive merge until we build a synatctic object.
-in any syntactic derivation: Little V always merges with V.
-V(ud, ud): Little V (ud), V(ud).
-e.g> He fell, Numerate: he(D), fell(ud), Little V(v).
-Vp will always merge with Little V, and that makes it project to **Little Vp.**
-TP: e.g> I ran today, I ran every day. Tense will always be higher than Little V→ hirerarchy of projections **(HOP) :** T>LittleV> V.
- The Operation Agree: the valued feature(X:F) c-commands the unvalued feature (X: —), so it becomes a valued feature, and the unvalued inflectional feature gets checked with the past tense as in "ran".
-Strong uninterpretable V-feature: it can only be checked under sisterhood, through merger operations.
-Modal Verbs: after modal verbs the actual verb doesn't show any morphologial change.
e.g> he must eat the apple.
-Numerate: He(D), Must(M, Unvalued Inflectional feature), eat(v,ud), Little V(uv,ud, uninfl:), the(d, uninterpretable noun), apple(N), I:tense, past ud strong feature).

Tuesday, June 7th, 2022

-How does T value little v in a sentence like "he must have been eating"?

-so we base it on HOP: T>M>Perf>Pros>little v. That is why T doesn't value little v, it values the modal verb.
-The fact that T has a strong uninterpretable determiner feature is what we call an **EPP.**
-HOP of the negative projection:
e.g>I must not eat a sandwich
Numerate:
I: (D), Must(M, Uninfl:), Not(Neg), eat(v, ud), Little V(uv*, uninfl: ,ud), a(d), sandwich(N).

Thursday, June 9th 2022
-UTAH: Identical structural relations between identical theta-roles → Agent(subject), Spec-TP.
-Psychological verbs: such as fear,frighten angry, please etc…
>e.g: John fears dogs, Dogs frighten John → the underlined word is an Agent since dogs are the ones who caused john to be scared or frightened.
-UTAH > PP daughter of V bar is Goal.
-Some sentences are not expressed in the same way, meaning their syntactical structure is not the same. However, he said we could have an original sentence that we derive the second sentence from.
>e.g:
I taught the children French> taught them how to speak French fluently.
I taught French to the children> taught them the basics of French, but that doesn't mean they speak it fluently.
-Changing the positions of arguments, makes them have different meanings, which also means the structure will be syntactically different.
-Dative Construction: DP, PP
-Double Object Construction (DOC): DP, DP.
e.g:
I sprayed this wall with paint for an hour >Direct Object
I sprayed this wall with paint in an hour> Direct Object
>Paint is an example of Mass nouns.

>Secondary predication: what we can modify in a sentence.
>Syntactically, we can modify the direct object, but we can't modify the Goal, so they are syntactically different.

Saturday, June 11th, 2022
-The Agent appears as Dp daughter of Little Vp.
-The Theme appears as Dp daughter of Vp.
-The Goal appears as Pp daughter of V bar.

>He fell: it is an unaccusative.
>Numerate:
He(D), Fell(V, uD), LittleV(uV*, UnInfl:), TP(Tense: past, uD*)
>Unergatives: The boy cried.
>Numerate:
The (D), Boy(N), Cry(V), LittleV(uV*, uD,uUnfl:), T(tense:past, uD*)

>I gave money to him (Dative Object)
Numerate:
P(P,uD), Him (D), Money(N), The (D), Give(uD,uP), LittleV(uV*, uD, UnIfl:), I(D), T(tense:past, uD*)

>I gave him the money (Double Object)
DP→ VP: Theme?
DP→V bar?
Here (the money) is a possessee.

Passiveness (The Passive):
e.g>
The soldiers killed the journalist.
The journalist was killed by the soldiers.
-To model things into syntax by these distinctions: (Case)
1-By-phrase: it is a lexical case.
2- "Be" + Past Participle.
3-Active+Passive forms of a sentence.
Collins: he says using these observations we can understand the derivation of the Passive sentences from the Active ones.

-The journalist was killed by the soldiers.
-A functional head called “Voice” in order to move the Participle Phrase to the top.
-The Voice head is By.

Tuesday, June 14th, 2022
-Passive: She was killed.
-When we expand Little V we call it Adjunction.
-The By-phrase is adjoined with little v.

-Case: the relationship between a head and its dependant.

1-Structural: I (Nominative) saw **him**(Accusative), he(Nominative) saw **me**(Accusative)→ A case that is tied to the structural position of a word.

2-Inherent (Dative Case Marker): the receiver of the action or the theme as such, it is usually tied to the Goal theta-role.

-Identifying case is not easy when dealing with universal grammar.

-Case in English: what assigns the object ACC case is little v
And what assigns the subject NOM case is T.
-Little V:(ucase: ACC, uV*, uD, uInfll:)
-T: (ucase: NOM)
