Semantics & Syntax

Mrs. Rana Al-Dakhel

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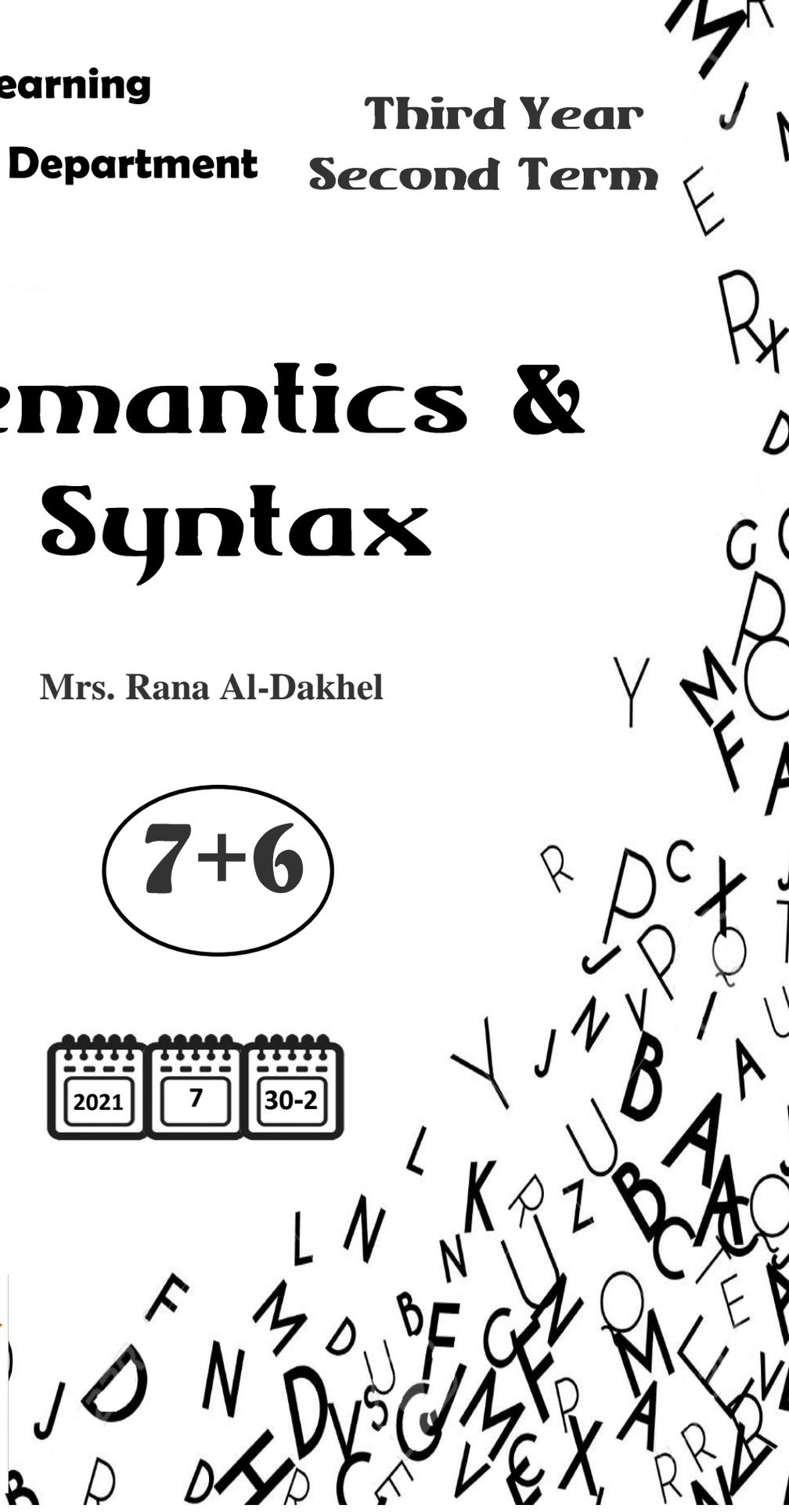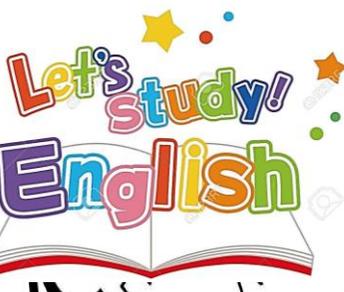
GOOD MORNING EVERYONE!

Today, we will start with **semantics**, but let us first do the homework.

✎ I killed the king with a knife

It is an ambiguous sentence that has two meanings.

The first meaning:

I killed the king using a knife.
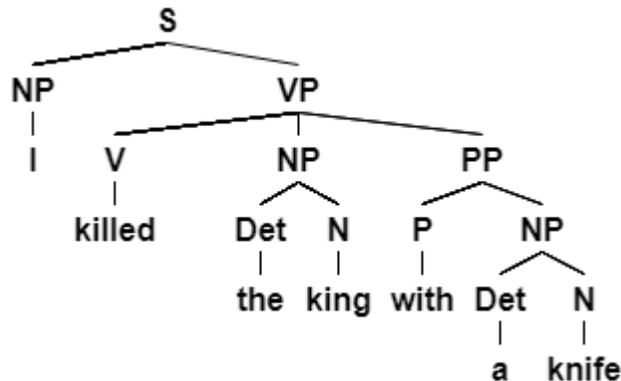
The prepositional phrase "with a knife" modifies the verb "killed." So, it is dominated by a verb phrase as you see above.

Note:

It is not wrong to have a verb phrase that consists of a verb phrase and a prepositional phrase like this:
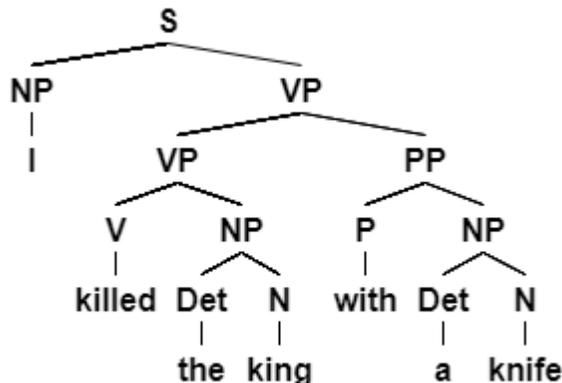
Do not get confused! In the exam, I do not give you two possibilities; I give you just one.

However, **I prefer the first one** because according to recursive rule it is okay to have three constituents in a verb phrase.

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The second meaning:
I killed the king who carries a knife.
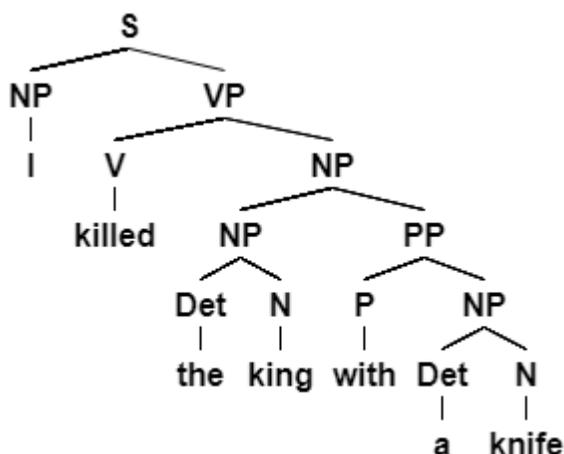
The prepositional phrase "with a knife" modifies the noun phrase "the king." So, it is dominated by a noun phrase as you see above.

In the EXAM, you will not have to draw a tree diagram; you will just fill the missing constituents.

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Semantics

What do we mean by semantics?
Student: it is the meaning behind words.
Professor: no, this is related to pragmatics.
Pragmatics is about the context; the meaning behind words. On the other hand, **semantics** is looking for the meaning of words, phrases and sentences, taking into consideration the syntactic structures i.e. how the words are combined together to form a sentence.

E.g. *Jack swims.*
Jack: proper name of an individual.
Swims: verb related to this individual.

So, when you want to know the meaning of any sentence, you should also depend on the syntax to know the meaning of each word.

Truth conditions

Of course, by depending on syntax, we can know if the sentence is true or not.

E.g. *Jack swims amazingly.*

If you already know that Jack is a good swimmer, you will judge the sentence as true, and if you know that Jack never learned swimming, you will judge the sentence as false because you have a background about this person.

We call this **truth conditions** or **truth conditional semantics**, and it is related to **truth values** (judging a sentence or an utterance as true or false). So, it depends on the context; it depends on having a background about the subject.

E.g. *circles are square.*

According to truth conditions, this sentence is false because it is a **contradictory** sentence.

E.g. *the bachelor is married.*

Also, this sentence is false because we have a **contradiction**.

Entailment

In semantics, we have something called Entailment, which means knowing the truth of a sentence implies the truth of another sentence.

Example 1:

(a) *Jack swims.*

(b) *Jack swims amazingly.*

We say here that the sentence (b) entails the sentence (a).

We cannot switch between them because "Jack swims" does not entail "Jack swims amazingly."

So, the entailment here has just one direction.

However, entailment does not have one direction all the time.

Example 2:

(a) *Jack put off the meeting.*

(b) *Jack postponed the meeting*

In this example, we can switch between the two sentences because they are **synonyms.**

So, entailment here has two directions.

Example 3:

(a) *Jack is dead.*

(b) *Jack is alive.*

Here, we don't have entailment because we have **antonyms.** The two adjectives are contradictory.

What we need to do is to have a negation form of one of the two sentences.

(a) *Jack is dead.*

(b) *Jack is not alive.*

These two sentences entail each other.

So, the sentence (a) entails the **negation** of sentence (b).

Conclusions:

- Two sentences are synonyms if they entail each other. (Example 2)

- Two sentences are contradictory if they entail the negation of each other. (Example 3)

Paradox

We have a paradox when we cannot judge if the sentence is true or not.

E.g. *this sentence is true.*

This sentence is not contradictory; therefore, we cannot judge it according to truth conditions. So, we call it a paradox.

Student: how can I differentiate between this and S-Selection?

Professor: This sentence does not violate neither the semantic rules not the syntactic rules. So, it is true semantically and

syntactically, but according to truth conditions I cannot judge if it is true or false, and this is why it is called a paradox.

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In semantics, we identify the meaning of any sentence according to the components of the sentence and according to the syntactic structure.

Anomaly

It is a sentence that is right syntactically, but it does not make sense semantically.

Anomaly: odd.

E.g. *Colorless green ideas sleep furiously.*

In terms of syntax, this sentence is right because it obeys all the syntactic rules; we have a subject (Colorless green ideas) and a verb (sleep).

In terms of semantics, it has no sense because how come that the ideas are "colorless" and "green" at the same time? So, this sentence is **uninterpretable**; it cannot be interpreted because it violates the semantic rules. However, it could have a meaning, for example, in a poem.

So, this sentence in semantics is called **anomaly**.

Compositional semantics: it means interpreting the meaning of a sentence according to the meaning of its components.

However, compositional semantics is not good all that time because we have expressions whose meaning does not depend on the meaning of their components, such as metaphors and idioms.

Metaphor

It is an expression where we compare between two different things.

Professor: so can we guess the meaning of a metaphor just from the meaning of its components?

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Student: no.

Professor: right because it would be funny to interpret the metaphor literally.

E.g. *time is money*.

We cannot understand the meaning of this metaphor just by using compositional semantics.

Time is an abstract idea. We say, for example, "Waste time" and "Save time." It is difficult to understand such abstract ideas using compositional semantics.

Idiom

Idioms are expressions that cannot be interpreted according to the meaning of the words; rather they have fixed meanings.

E.g. *break a leg*.

It means good luck.

E.g. *piece of cake*.

It means easy.

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Connotation and Denotation

Denotation: the act of naming things with a word. So, it has to do with names; the names of things that the words refer to.

E.g. *Bashar Al-Assad*.

Its denotation: the president of Syria.

E.g. *Donald Trump*.

Its denotation: the former president of USA.

Connotation: an idea suggested by a word in addition to its main meaning. So, here we have a reference; something that the word is referring to other than the main meaning.

E.g. *Professional*.

Its connotation: superior, hardworking, skilled, excellent, expert, etc.

E.g. *winter.*

Its denotation: a season.

Its connotation: cold, rain, snow, mud, wind, storm, fireplace, etc.

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I want you to focus on the terms we have studied, like truth conditions, entailment, paradox, contradiction and synonyms because they are related to each other.

Next lecture, we will deal with lexical semantics.

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Last time, we started talking about semantics. We said that semantics is about the meaning of words, phrases, utterances in general, and how they are combined syntactically to form a meaning.

Also, we talked about truth conditional. It is related to truth values; we judge the sentence as true or false.

Regarding truth conditional, we have some terms:

❖ **Tautology:** it is a sentence whose truth value is true all the time irrespective of the context or the situation.

E.g. *circles are round.*

This sentence is true all the time.

❖ **Contradiction:** it is a sentence whose truth value is false all the time because it is contradictory.

E.g. *bachelors are married.*

This sentence is false. It is contradictory because bachelors cannot be married.

Of course, this sentence has a meaning or a sense that can be understood, but it is wrong.

❖ **Paradox:** it is a sentence that we cannot judge if it is true or false.

E.g. *that sentence is false.*

❖ **Entailment:** knowing the truth of a sentence implies the truth of another sentence.

Example:

(c) *Jack swims.*

(d) *Jack swims beautifully.*

The sentence (b) entails the sentence (a). This is a one-direction entailment.

We can have a two-direction entailment in the case of **synonyms.**

Example:

(c) *Jack is <u>alive</u>.*

(d) *Jack is <u>not dead</u>.*

These two sentences entail each other. The word *alive* and the **negation** of the word *dead* are synonyms.

Another example:

(c) *Jack <u>put off</u> the meeting.*

(d) *Jack <u>postponed</u> the meeting.*

Also, these two sentences entail each other. Here, we have synonyms with no negation.

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We also talked last time about **anomaly,** and we had this example:

Colorless green ideas sleep furiously.

We said that in semantics we understand the meaning of any sentence from the meaning of the words. If we combine the meanings of the words in the example above, we find that the sentence has no sense, but it can be used sometimes in poetry or fiction. So, we call it anomalous sentence.

Student: so it will be a paradox in fiction?

Professor: yes, but it is used just for imagination and for having fun.

The anomalous sentences are syntactically right, but they violate the semantic features. For example, "Colorless" and "green" are contradiction, and this is a violation of the semantic features.

Now, <u>**metaphors** and **idioms** are similar to anomalous sentences, but they do NOT violate the semantic features. They make sense.</u>

What is the difference between metaphors and idioms?

We cannot understand the meaning of both of them from the meaning of the words.

<u>Metaphors are related to culture</u>.

E.g. *walls have ears.*

We have a meaning beyond the lines here. It means that here you should be careful because maybe you will be heard by someone else. This is related to culture. In our culture, we have this expression. So, this expression is correct both semantically and syntactically.

E.g. *time is money.*

This means do not waste your time. You know that you get paid according the number of hours you are working. So, I understand the meaning of this metaphor according to my culture.

<u>Idioms have fixed meanings that should be learned and memorized</u>.

E.g. *over the moon.*

It means I am happy.

Examples of idioms:

- *Cats and dogs*: heavily.
- *Sell down the river*: to betray someone.
- *Eat my hat:* challenge. In Arabic, we say (بقص إيدي).
- *Put his foot in his mouth*: saying something unpleasant, annoying or embarrassing.

- *Bite your tongue*: try not to speak. In Arabic, we say (بلعها).

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Lexical semantics

We have said before that compositional semantics is just to know the meaning of words one by one.

Lexical semantics is about the relationship between words.

We have several relationships:

1. Synonyms:

They are words that have the same meaning.

Examples:

- *Start* & *begin*.

- *Try* & *attempt*.

- *Bother, annoy torment, pester, plague, molest, worry, badger, harry, harass, heckle, persecute, irk, vex, nettle, ruffle, tease* & *disturb*.

Do you think all synonyms are completely similar?

Students: no.

Professor: so, there are no perfect synonyms. We always have a little bit difference.

E.g. *bother* & *disturb*.

Disturb means maybe talking and making noise whereas *bother* means like doing something unpleasant.

Here, we have what we call **scales**. *Bother* (يضايق) is stronger than *disturb* (يزعج).

Sometimes, we can use the same synonyms for the same sentence.

E.g. *couch* & *sofa*.

E.g. *start* & *begin*.

They are not totally the same; they are a bit different, but they can be used for the same sentence.

2. Antonyms:

They are words that have opposite meanings.

Types of antonyms:

A. Complementary antonyms: they complement each other.

E.g. *happy* & *sad*.

E.g. *alive* & *dead*

Saying "He is dead" complements the meaning of saying "he is no alive."

B. Gradable antonyms: this is related to scales.

E.g. *big* & *small*

Could you give me other examples?

Student: new & *old*.

Student: *old* & *young*.

Student: *pretty* & *ugly*.

Professor: yes.

Student: we have *light* & *dark* for colors.

Professor: yes, but not for all colors.

Gradable antonyms have some characteristics:

- We have no absolute scales. For example, a small elephant is bigger than a big turtle.

- In certain pairs of gradable antonyms, we have one that is **marked** and the other is **unmarked**. We use the unmarked in questions of degree.

Marked antonyms: they have something special and uncommon, such as *low, slow,* and *short.*

Unmarked antonyms: they are normal, such as *height, fast,* and *tall.*

Example:

☑ How <u>height</u> is this mountain?

☒ How <u>low</u> is this mountain?

We use "height" because it is unmarked.

Another example:
- ☑ How <u>fast</u> is this plane?
- ☒ How <u>slow</u> is this plane?

C. Relational antonyms: <u>there is a relation between them.</u>
Examples:
- *Teacher* & *student.*

One is teaching and the other is studying. This is the relationship.
- *Parents* & *kids.*
- *Sell* & *buy.*
- *Give* & *receive.*

We have a case of antonyms called auto antonyms.
Auto antonyms: <u>it is when we have a single word that has two opposite meanings.</u>

E.g. *cleave.*

This word could mean both "to split" and "to cling," which are totally opposite meanings.

E.g. *dust* (verb).

It means "to remove" or "to spread."

<u>In English, we can form antonyms by adding</u> **prefixes.**
- *Happy* & <u>*un*happy.</u>
- *Legal* & <u>*il*legal.</u>
- *Like* & <u>*dis*like.</u>
- *Agree* & <u>*dis*agree.</u>
- *Polite* & <u>*im*polite.</u>
- *Possible* & <u>*im*possible.</u>
- *Healthy* & <u>*un*healthy.</u>
- *Common* & <u>*un*common.</u>
- *Tolerant* & <u>*in*tolerant.</u>
- *Valuable* & <u>*in*valuable.</u>

3. Homonyms or Homophones

They are words that have different meanings but are pronounced the same. They may have the same spelling.

- *Bank* & *bank.*

One of them means the financial institution, and the other means the side of the river.

- *No* & *know.*
- *Eight* & *ate.*
- *Two, too* & *to* (when it is pronounced in its strong form).
- *Scene* & *seen.*
- *Flower* & *flour.*
- *Night* & *knight.*
- *I* & *eye.*
- *There, they're* & *their.*
- *Son* & *sun.*

4. Polysemy

It is when one word has a lot of meanings, but they are related historically or culturally.

- *Get.*

It can mean *give, receive,* or *understand.*

- *Sound.*

It can come as a verb, a noun, or an adjective. So, it has many meanings.

- *Diamond.*

It can mean something special and valuable, a geometric shape (معيّن), or a baseball field.

5. Hyponyms

They are words that are types of the same general word. So, we go from general to specific.

- *Lion, tiger* & *leopard.*

These animals are related to the same species, which is *cat* or *feline*. So, we say that these three words are hyponyms of *feline*.

First, we have something general (animal). We go to something specific (feline), and then to more specific (lion, tiger & leopard).

- *Red* & *blue*.

These two words are hyponyms of the general word *color*.

- *Star*, *moon* & *sun*.

They are hyponyms of *planet*.

6. Metonymy (كناية)

<u>They are words that have an indication or a reference to a thing or a concept in which they are closely related.</u>

- *The White House*: it refers to the US presidency.
- *The British crown*: it refers to the British royal family.
- *Hollywood*: it refers to American film industry.
- *Disney*: it refers to animation industry.
- *Sword*: it refers to military forces.

Next lecture, we will start with pragmatics.

That is all for today

See you next week