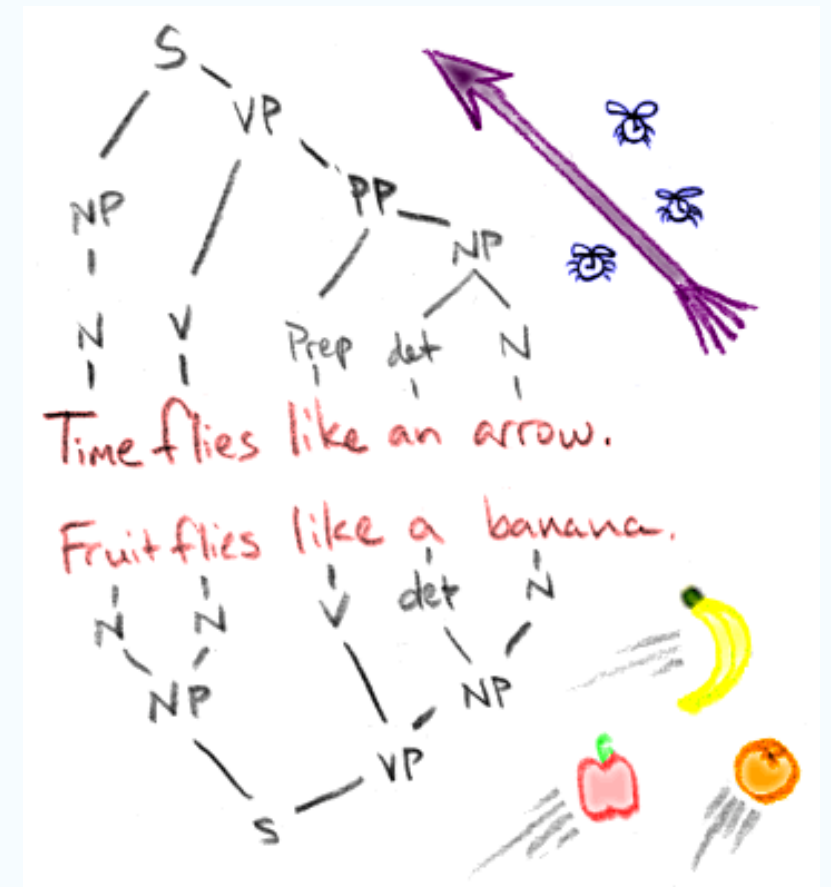




Syntax II: Merge, Move and Universal 20

Reading: FRH Ch. 3

PLIN0006: Introduction to Language



Universal vs. Language-Specific Properties

- **Universal:** NPs consist of {Dem, Num, Adj, N}.
- **Language-specific:** The relative order within the NP.

- **Examples:**

- English: **Dem Num Adj N**
- Spanish: **Dem Num N Adj**
- Burmese: **Dem N Adj Num**
- Basque: **Num N Adj Dem**

Implications of Cross-Linguistic Variation

- Our account of syntactic knowledge must be flexible enough to permit the NP-internal ordering variation we've seen.
- However, not everything goes: some conceivable orders are unattested!
- Our account cannot be too flexible. It must place constraints on what is, and what is not, allowed.

Greenberg's Universal 20

1. When any or all of the items Dem, Num, and A **precede** N, they are always found in that order.
 2. If they **follow** N, the order is either the same or its exact opposite.
- This is an observation about cross-linguistic variation, i.e. orders we find from one language to the next.
 - Universal 20 says that we find no order variation **before** the noun, but that we do find it **after** the noun.

English and its inverse

• English:

These five public employees (have committed crimes)
Dem Num A N

Gungbe (Gbe, Nigeria):

Kɔku xɔ tavo ɖaxoxoxo atɔn ehe ɔ ɛ
Koku buy.PRF table big old Num Dem SPF_[+def] PL
N A (A) Num Dem

Kĩĩtharaka has no inverse

- **Kĩĩtharaka (Bantu, Kenya):**

i-kombe bi-bi bi-tano bi-tune

8-cup 8-this 8-five 8-red

N Dem Num Adj

- **Missing: Reverse Kĩĩtharaka:**

*A Num Dem N

green three these apples

The complete paradigm of Universal 20

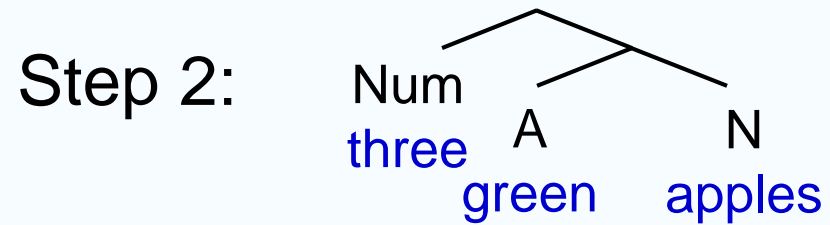
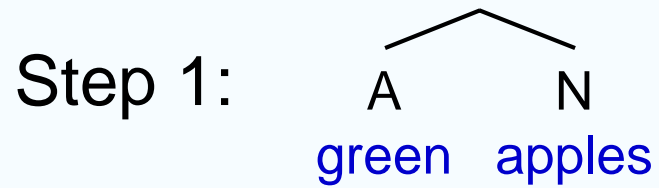
	I	II	III	IV
a	Dem Num A N	N A Num Dem	N Dem Num A	A Num Dem N
b	Dem Num N A	A N Num Dem	Dem N Num A	A Num N Dem
c	Dem A N Num	Num N A Dem	A N Dem Num	Num Dem N A
d	Dem N A Num	Num A N Dem	N Num A Dem	Dem A Num N
e	A Dem Num N	N Num Dem A	N Dem A Num	Num A Dem N
f	A Dem N Num	Num N Dem A	N A Dem Num	Num Dem A N

- What is it about human language that causes the shaded orders not to be attested?

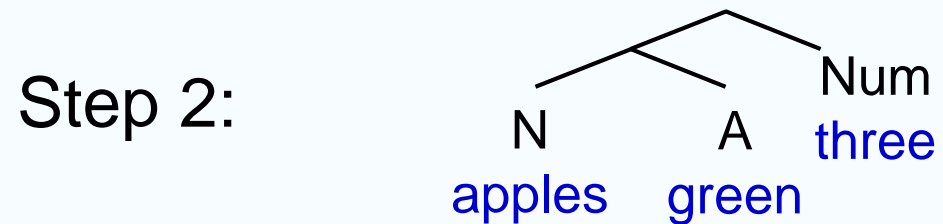
Let's make some assumptions...

1. Syntactic phrases are formed through an operation of pairwise combination, we call this **merge**.
2. The order in which {Dem, Num, A, N} combine is fixed universally:
 - i. The Noun is combined with Adjectives first
 - ii. Then the Numerals are added
 - iii. Then the Demonstrative is added
3. In every pairwise combination, languages can choose different **linearisations** (think of a mobile).

Merge and linearization in action



or

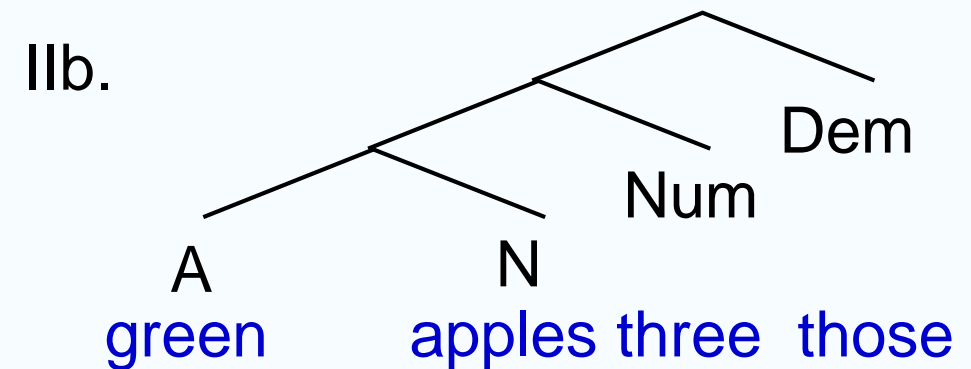
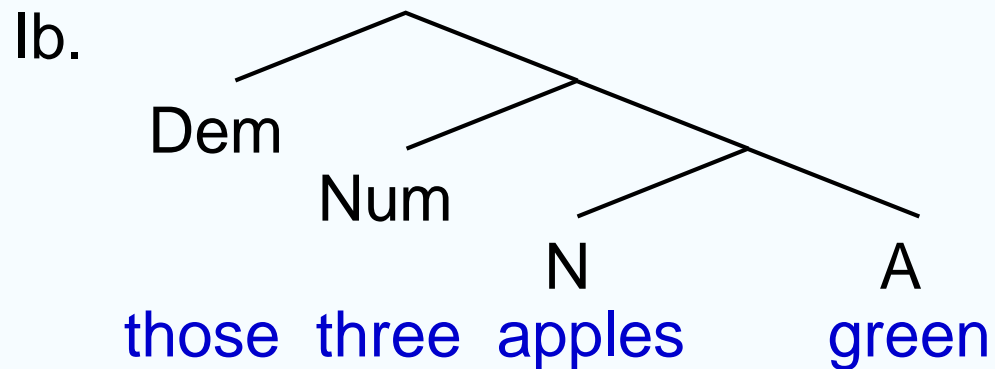
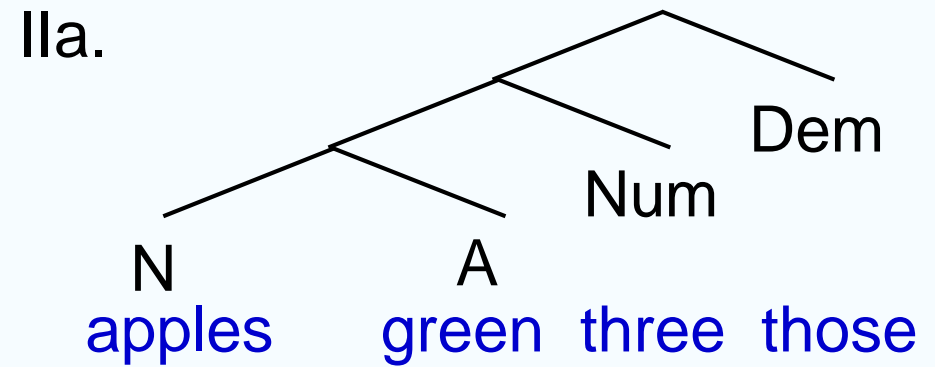
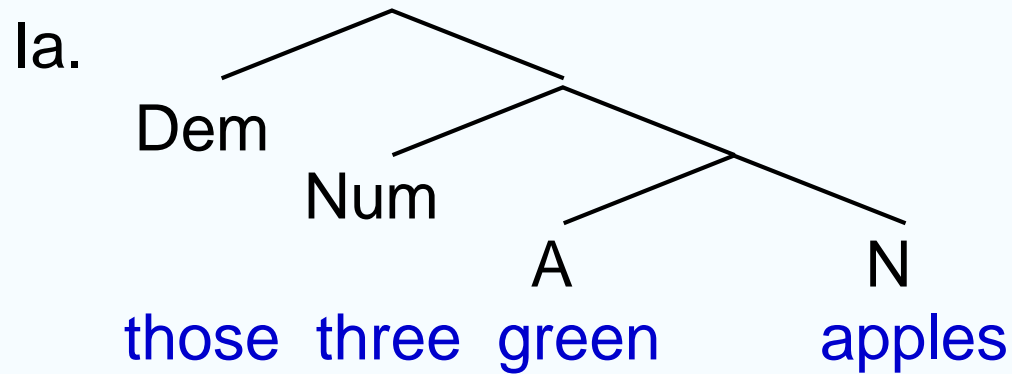


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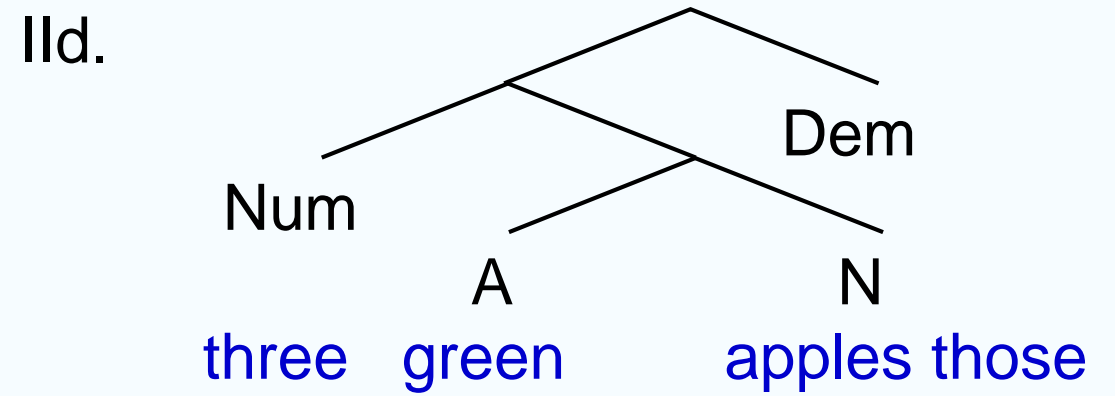
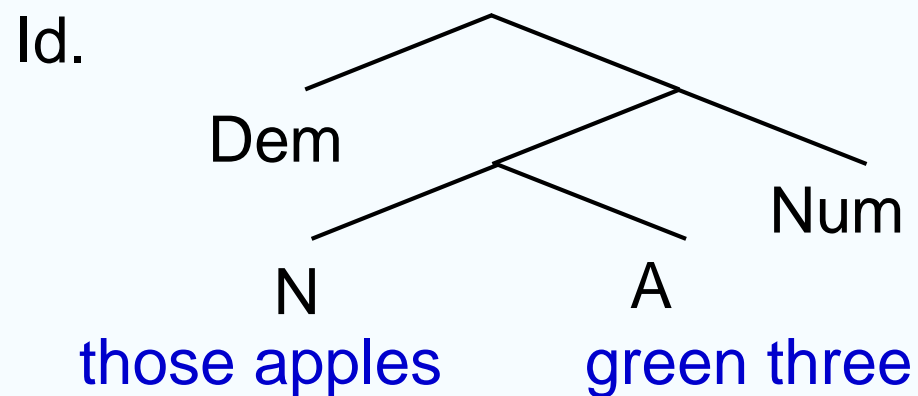
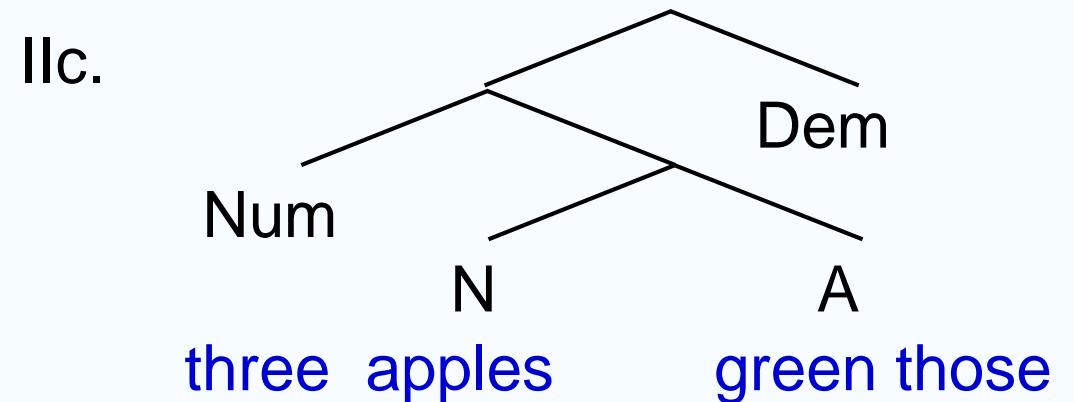
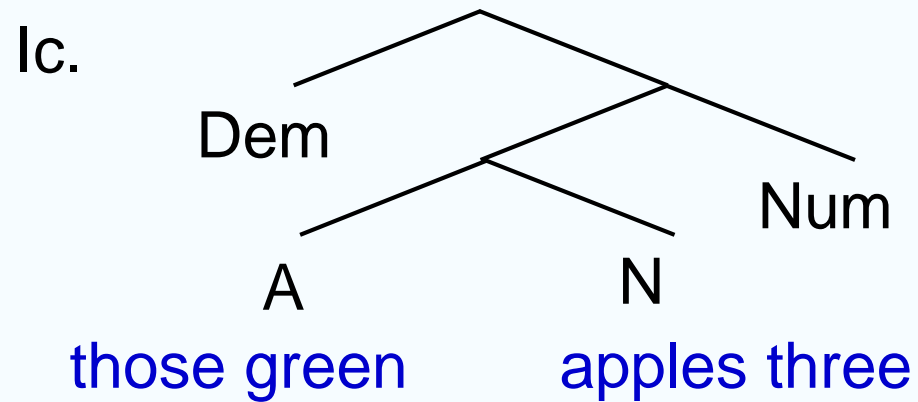
PRESS PAUSE and complete the following task:

- Using **merge** on N, A, Num and Dem (in that order), see how many word orders you can derive.
- Take 5 minutes or so.
- Make sure to go about this in an organised way, so you find all options.
- You should be able to find these eight:
 - Ia. Dem Num A N; Ila. N A Num Dem
 - Ib. Dem Num N A; Ilb. A N Num Dem
 - Ic. Dem A N Num; Ilc. Num N A Dem
 - Id. Dem N A Num Ild. Num A N Dem

What you should have found:



What you should have found:

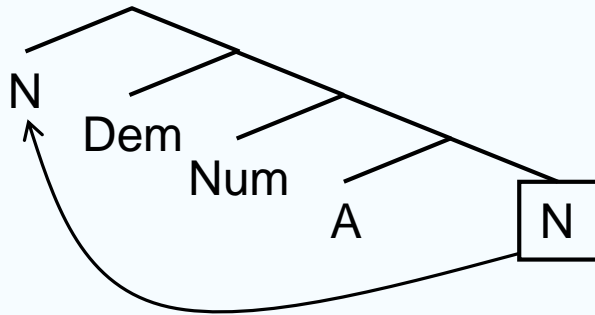


Movement

- Suppose that, at any point in the process of building phrases, a language may choose to recombine the current structure with an element contained within it. We call this **movement**.
- Let's assume that only the Noun can be moved (in an NP).
- Let's assume that movement is always to the left.

Movement

- Let's try to derive Illa. N Dem Num A:



applies those three green

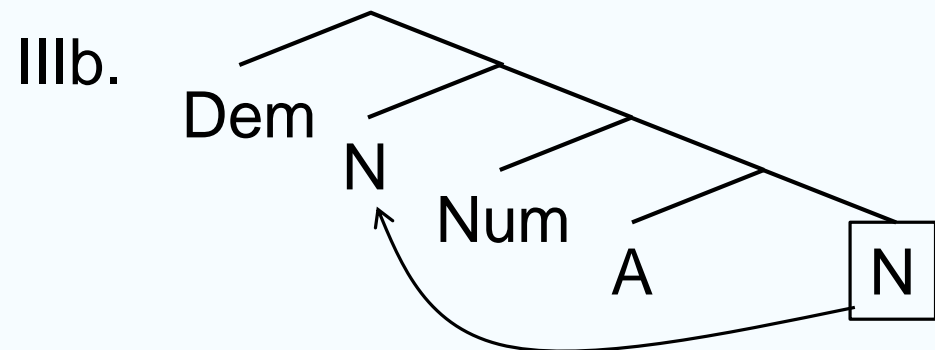
Can you see how to make the following?

- Dem N Num A
- N Num A Dem
- N Dem A Num

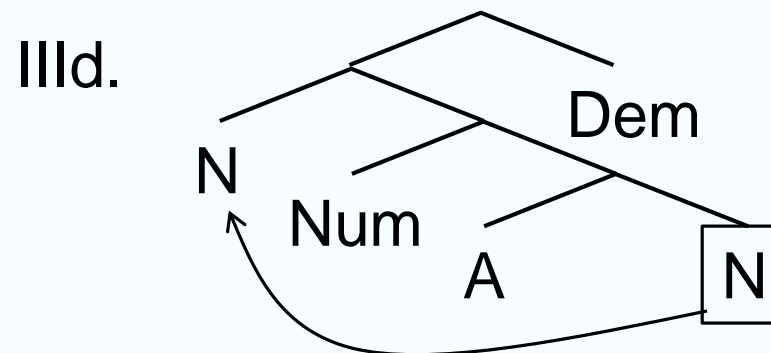
PRESS PAUSE and complete the following task:

- Again using **merge** on N, A, Num and Dem (in that order), but this time adding **movement** of N, derive the following three word orders:
 - IIIb. Dem N Num A
 - IIIc. N Num A Dem
 - IIId. N Dem A Num
- Take 5 minutes or so.
- Make sure to go about this in an organised way, so you find all three.

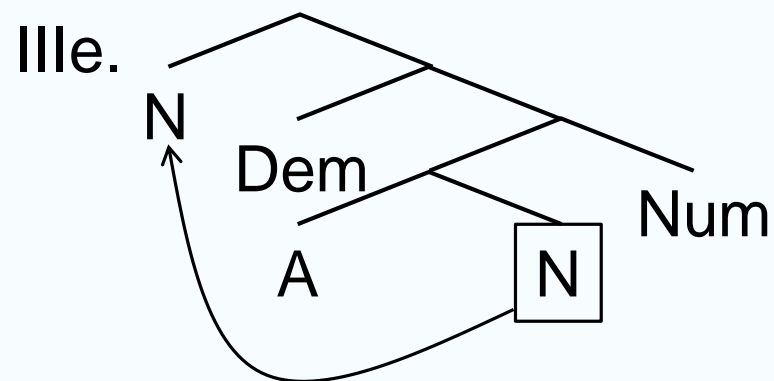
Structures generated by movement



those apples three green



apples three green those

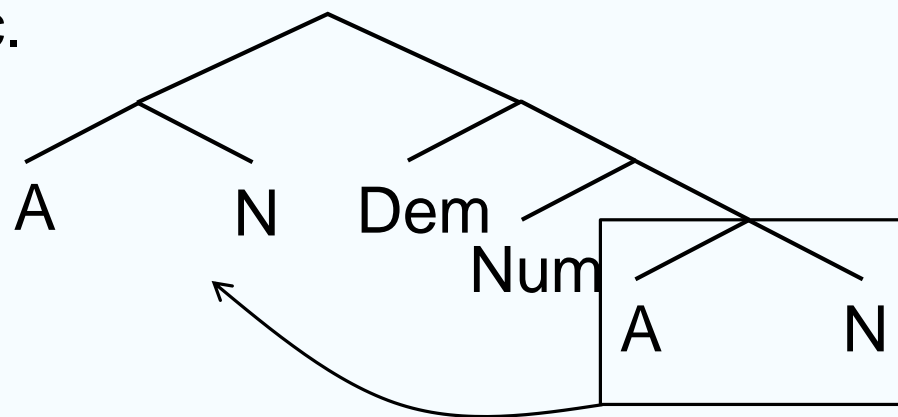


apples those green three

More structures generated by movement

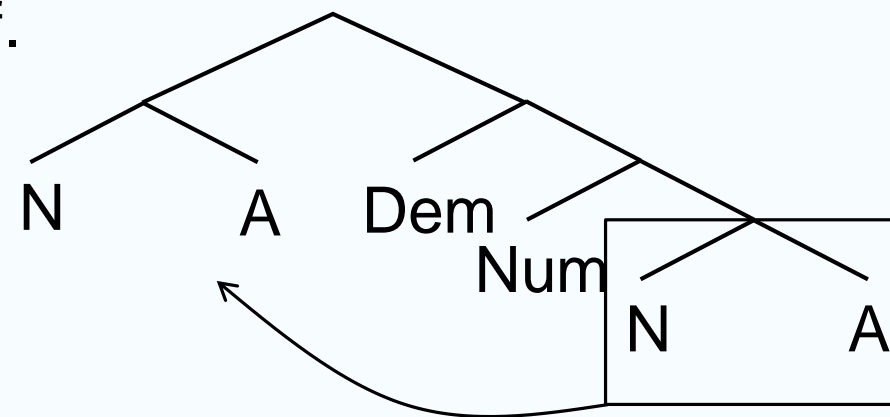
- There are two orders we cannot make yet. We can build them if we allow **pied-piping** of the adjective along with the noun:

IIIc.



green apples those three

IIIf.



apples green those three

Why are the unattested orders unattested?

1. We saw that movement has to be leftward.

What would go wrong if we allowed movement to the right?

2. We said that movement must always move at least N.

What would go wrong if we allowed A to move on its own?

Some conclusions from Universal 20

- In order to account for U20, we have to postulate the following **universal** restrictions on human syntax:
 1. Strings of words form hierarchical, binary-branching structures.
 2. The order of combination of the NP is universally $N < A < Num < Dem$.
 3. Movement recombines an already formed structure with its root.
 4. Movement is leftward.
 5. Movement in NP must include the noun.
- **Universal** means there is no human who has a rule system in his mind-brain that violates any of these properties!

References

- Greenberg, J. (1963). Some universals of grammar with particular reference to the order of meaningful elements. *In J. Greenberg, ed., Universals of Language. 73-113. Cambridge, MA.*