Plato and Aristotle both occasionally use ordinary prose to construct some sort of RELATIONAL STRUCTURE, or set of objects (or entities) organized according to some set of relations.

Another way of saying this is that they draw diagrams with words, the diagram corresponding to the relational structure in question.

This statement could be illustrated with many examples, but I will not set them forth now. A number of examples from Aristotle will engage our attention in the coming weeks. The simpler sort among these diagrams amount to what we would call a "table".

The existence of relational structures in the works of these philosophers (which perhaps has not been sufficiently recognized) somewhat, though not entirely, blunts Bertrand Russell's criticism of the philosophical tradition as a whole (which is strongly based in Plato and Aristotle) with respect to its failure to take relations seriously. We shall address this issue at greater length in dealing with the theory of the syllogism.

One type of relational structure posited by both Plato and Aristotle is the LOGICAL DIVISION.

A logical division is, roughly speaking, a classification or inventory of the kinds of objects that constitute a domain or, in Aristotle's preferred term, GENUS.

It seems clear that in some way access to such an inventory is indispensable to any science, because part of a science's aim is to state universal propositions about classes of objects. One question that arises is whether such inventories are to be conducted empirically or a priori.

Later, we will examine Aristotle's views of the role of logical division in a science and the requirements for a correct logical division.

It seems clear that in POETICS 20 Aristotle is constructing a logical division of the genus *PHO-NE* (in our translation,
"sound", which must be interpreted as "speech-sound"). Most of the eight "parts of diction" are defined, and these definitions can be combined so as to produce a tree structure diagramming a logical division.

The eight parts of speech with their definitions are as follows:

Element: indivisible sound from which naturally come about composite (or intelligible, according to a textual variant) sounds.

Syllable: non-significant composite sound, made up of a mute and something having sound. [THE TEXT FOR THE DEFINITIONS OF "SYLLABLE", "CONJUNCTION", AND "ARTICLE" IS CORRUPT AND NOT FULLY RECONSTRUCTIBLE.]

Conjunction: non-significant sound.....

Article: non-significant sound....

Noun (name): composite significant sound without time [or tense] of which no part is in itself (independently) significant.

Verb: composite significant sound with time [tense] of which no part is in itself significant.

Case (inflection--this encompasses cases, tenses, and perhaps other types of inflection as well): [Here no real definition is given, but merely some examples--in English they would include plural forms of nouns and past tenses of verbs.]

Sentence (phrase or discourse): composite significant sound having parts which are independently significant.

If we leave out the items "conjunction" and "article", whose definitions I have not fully included because of the textual problems, we have the following parts of corresponding prívitive and positive differentiae:

indivisible/ composite

non-significant/ significant

having parts which are independently significant/ not having parts which are independently significant
without time/ with time

These differentia-pairs are so arranged in the definitions that one side of a certain differentia pair sometimes occurs in combination with both sides of another, but not vice-versa. For example, composite occurs in combination with both non-significant and significant, but neither significant nor non-significant occurs in combination with both indivisible and composite.

From this relationship we can rank the differentia-pairs as higher or lower, and they come out in the order given above. From this ranking we can partition all speech-sounds according to the following logical division tree:

```
SPEECH SOUND
   *
   *
   **************************************
  indivisible                          composite
    *
  ELEMENT                             *
    *************************************
   non-significant                  significant
     *
  SYLLABLE                            *
   not having parts               having parts
   - 3 -
  signif. per se                 signif. per se*
    **********************************
   without tense               with tense*
    *
  NOUN                             VERB
```

(This omits conjunction, article, and inflection, because reconstructing the differentiae for these is an elaborate task.)

By taking up before down and left before right we can make the terminal nodes (the "parts of diction") come out in a wholly determinate linear order: element, syllable, noun, verb, sentence.

Hypothetically, this would also be true if we had the entire tree including conjunction, article, and inflection.)
There is reason to interpret Aristotle as holding that every genus can be decomposed into species that have this linear order, and that the order represents the process from potentiality to actuality, or matter to fully realized being.

So understood, such a logical division represents an analysis of the domain in question in that it places all phenomena within the domain in a determinate place in the process from simple to complex, which is also a process from universal to particular.

In the case of speech-sound, there are two processes at work in the process to developed language out of its elements—composition, or the putting together of sounds to form other sounds, and significance, or the process by which some of the sounds acquire meaning. In the progression from noun and verb to sentence (*LO-GOS*) these forms of development are combined in the distinction between significant sounds which are merely simply significant (nouns and verbs) and significant sounds which are significant in a compound way, or whose significance is compounded out of the significance of its parts (*LO-GOS*).

HIGH POINTS OF
ON INTERPRETATION (DE INTERPRETATIONE) 1-11

Chapter 1, first paragraph. Theory of meaning. Very compact, but unfortunately all that there is.

Chapters 1-5. Nouns, verbs, and statements. Main doctrinal point here is that truth and falsity do not pertain to nouns and verbs isolation, but to statements, which are a kind of *LO-GOS* [in the text, "sentence"] simply defined by their susceptibility of truth and falsity.

Chapter 5. Statements are initially divided into those which are one by revealing a single thing and one by conjunction ["in virtue of a connective"]. I think of this as simple vs. compound, but it is important to realize that the simplicity of a simple sentence is here explicated by Aristotle in terms of the semantic attribute of "signifying one thing." Simple statements are divided into affirmations and negations.

- 4 -
I tend to use "proposition" where the translator here uses "statement" and will probably do so in class.
The remaining part of ON INTERPRETATION is devoted to matching contradictory pairs of affirmations and negations.

Chapters 6-8: Aristotle constructs the famous square of opposition.

Chapter 9. Must every proposition be either true or false? No. In the case of future contingent signulars, this would imply universal determinism.

Chapter 10. Difficult and not very important. Hypercube of opposition.

Chapter 11. Important because it lays the groundwork for the concept of accidental being.