# Understanding the Semantic Tree

**“Understanding** a language involves trans­forming linear order to structural order.

One must not lose sight of the fact that syntactically, the true sentence is the **structural sentence**, for which the linear sentence is only an image projected onto the spoken chain, with all the disavantages associated with flatness.”

*Preamble, Structural and linear order,* (Tesnière, 2015)

## Excerpts from the Book “Structural and linear order” and Discussion

“The connection is **indispensable** for the expression of thought. Without the connec­tion, we would not be in a position to express a single continuous thought and we would only be capable of producing a succession of isolated images and ideas, with nothing link­ing them together.”

*Preamble, The Connection,* (Tesnière, 2015)

“Structural connections establish **dependency** relations between words. In principle, each connection unites a **superior** term and an **inferior** term. The superior term is called the **governor**, and the inferior term the **subordinate**. A word can be both subordinate to a superior word and governor of an inferior word.

The set of words of a sentence constitutes a veritable **hierarchy**.”

*Preamble, Hierarchy of Connections,* (Tesnière, 2015)

“In principle, a subordinate can only depend on a **sole** governor. A governor, in con­trast, can govern **multiple** subordinates. Every governor that governs one or more subordinates forms what we call a **node**.

Thus, we define a node as a set consisting of a governor and all of the subordinates that are directly or indirectly dependent on the governor and that the governor in a sense **links** together into a bundle.

Just like connections, nodes can be superimposed. There is therefore a **hierarchy of nodes**, just as there is a hierarchy of connections.

The node formed by the governor that governs all the subordinates of a sentence is the **node of nodes**, or the **central node**. It is at the center of the sentence and ensures its structural unity by tying the diverse elements into a single bundle. It can be identified with a sentence.

The node of nodes is generally verbal, as is evident from the examples produced thus far. But nothing prevents a sentence from having a noun as its central node, or an adjective, or an adverb. These cases are frequent in colloquial speech and in titles of literary works.

Since the inferior connections can be numerous, we are obliged to cheat in the graphic representation by using slanted instead of vertical lines.

The set of connection lines constitutes a stemma. The stemma clearly shows the hier­archy of connections; it presents the various nodes that join connections into groups sche­matically, and therefore, visually manifests the structure of the sentence. The stemma is thus a visual representation of an abstract notion: the structural schema of the sentence.”

*Preamble, Node and Stemma,* (Tesnière, 2015)

“The **structural order** of words is the order by which the connections are established. Yet the connections are numerous, since each governor can govern several subordi­nates. The result is that structural order has **multiple dimensions**. The stemma, which is the graphical expression of structural order, obeys the same law. It must also exist in **multiple dimensions**. But it can in fact be reduced to **two dimensions**.

Indeed, a single governor can govern multiple subordinates, without the opposite being the case. This particularity con­ditions the form of stemmas, which can be seen as analogous to that of a genealogical table with a single supreme ancestor (the central node of the sentence) and many inferior ancestors. Yet such a representation does not require more than **two dimensions**. But the other aspect of the stemma is such that it can be drawn on a plane. A plane has by definition only two dimensions. Therefore the stemma can only be represented graphically if it has at most **two dimensions**.

The number of dimensions in the stemma is thus a **minimum** of two from the point of view of the structural order that it represents, and a **maximum** of two from the point of view of the graphical possibilities to which it is tied. The stemma will therefore necessarily have **two dimensions**.”

*Preamble, Structural Order,* (Tesnière, 2015)

“The raw material of speech is the sequence of sounds or phonemes that we perceive by hearing. We give this sequence the name **spoken chain**.

The spoken chain is the **immediate result of speech**. In its natural form or in its written notation, it is what provides the basic empirical realities, the observation of which is thus the source of all linguistic speculation.

The spoken chain is **one-dimensional**. It is presented like a line. That is its essential trait.

The linear character of the spoken chain is tied to the fact that we speak **in time**, which is one-dimensional. Indeed, the phonemes or groups of phonemes, which are the signs for the ideas we want to express, cannot occur **simultaneously**.

The linear character of the spoken chain is automatically transposed into the written notations for speech, where it constitutes an everyday elementary observation of reality. Writing has a linear form.

We refer to the order by which words come to be arranged in a spoken chain as linear.13 Linear order exists in one dimension, just like the spoken chain.

We say that two words that follow each other in the spoken chain constitute a **sequence**.

A word of the spoken chain cannot be in sequence with more than **two** other words, with the word that immediately precedes it and with the word that immediately follows it.

The spoken chain is not only one-dimensional, but it is also **uni-directional**, for it is, as we have seen, a function of time and is therefore inherently uni-directional.”

*Preamble, The Spoken Chain,* (Tesnière, 2015)

**“**All structural syntax rests on the relationships that exist **between structural and linear order**. Constructing or establishing the stemma of a sentence involves transforming linear order to structural order. Conversely, transposing a stemma, or **transforming it into a sentence**, is the act of switching from structural order to linear order by arranging the words in the spoken chain.

**Understanding** a language involves trans­forming linear order to structural order.

The fundamental principle of transforming structural order to linear order involves changing the **connections** of structural order into the **sequences** of linear order. This transformation occurs in such a manner that the elements connected in structural order become immediate neighbors in the spoken chain.

The switch from structural order to linear order has the effect of flattening the struc­ture to a **laminate**. In a sense, the linear string is a structure that has been wiredrawn and laminated.

The transformation of structural order to linear order is often facilitated by gram­matical agreement, which involves marking connected words with the signs that con­vey agreement. Agreement greatly aids comprehension of the sentence by facilitating the establishment of connections.

One must not lose sight of the fact that syntactically, the true sentence is the **structural sentence**, for which the linear sentence is only an image projected onto the spoken chain, with all the disavantages associated with flatness.”

*Preamble, Structural and linear order,* (Tesnière, 2015)

# Bibliography

Tesnière, L. (2015). *Elements of Structural Syntax.* Amsterdam / Philadelphia: John Benjamins Publishing Company.