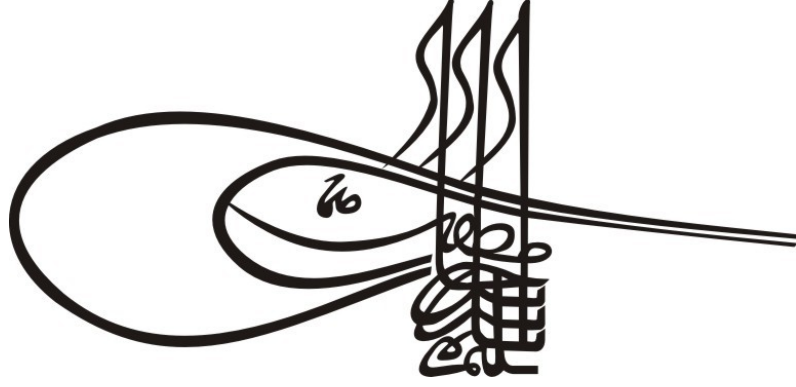# Turkish Studies

International Periodical For The Languages, Literature and History of Turkish or Turkic

ACADEMIC JOURNAL

KARŞILAŞTIRMALI DİL-EDEBİYAT-EĞİTİM ÖZEL SAYISI

DEPENDENCY GRAMMAR OF LUCIENE TESNIERE IN THE PERSPECTIVE OF TURKISH, ENGLISH AND FRENCH[*]

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ABSTRACT

Luciène Tesnière's Dependency Grammar whose roots may go back to Pânini's grammar of Sanskrit several centuries before the Common Era forms the basis of the modern theoretical tradition of the Dependency Grammar. Dependency Grammar coming out against predication fact of the traditional grammar degrades the subject at the same level of the other elements of the sentence by taking predicate in the center. According to Tesnière's Dependency Grammar, subject and object are actants and circumstances are complements.

Tesnière's model is based on the distinction between linear order and structural order of the sentence. The linear order that is one-dimensional is realized in speech and observable while structural order is multidimensional and hidden. For the representation of the structural order, Tesnière uses a graphical representation named as 'stemma'. Stemma serves to visualize the vertical and horizontal relations within syntactic constructions. In this representation the predicate is the highest element of the hierarchical level. It governs the complements including the subject. The core constituents imposed by the predicate form the valency of this verbal predicate. In general the predicate can take a maximum of three arguments and thus this predicate is trivalent. But sometimes the valency of the predicate can be four. Some verbs such as 'bet' (Eng.), 'bahse girmek' (Tr.), 'parier' (Fr.) are considered to be a tetravalent verb.

In addition, in the method of Tesnière the basic syntactic relations are connection, junction and transference. This method describes the hierarchical structure between the elements of the sentence. Dependency Grammar is suitable to represent the syntactic structure of the natural languages. In this study, while the principles demonstrated by Dependency Grammar are explained, two languages English end French, are tried to compare in a narrow frame in front of Turkish.

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As a result, this graphical representation has been observed to be suitable to represent the syntactic structure of the English, French and Turkish from different language families. While the English and French fallow SVO syntactic order, the Turkish fallows SOV order. But in this representation because the predicate is the governor of the sentence, these three languages represent the same aspect in the stemma.

Key Words: Dependency Grammar, connection, junction, transference, Turkish, English, French.

TÜRKÇE, İNGİLİZCE VE FRANSIZCA AÇISINDAN LUCIENE TESNIERE'İN BAĞIMSAL DİLBİLGİSİ

ÖZET

Kökleri İsa'dan birkaç yüzyıl öncesine uzanan Pânini'nin Sanskritçe dilbilgisine dayalı Lucièine Tesnière'in Bağımsal Dilbilgisi, modern, teorik Bağımsal Dilbilgisi geleneğinin temelini oluşturur. Geleneksel dilbilgisinin yüklemleme olgusuna karşı çıkan Bağımsal Dilbilgisi, yüklemi tümcenin merkezine alarak özneyi tümcenin diğer unsurlarıyla aynı seviyeye indirger. Tesnière'in Bağımsal Dilbilgisi'ne göre, özne ve nesneler eyleyen, tümleçler tümleyen olarak adlandırılır.

Tesnière'in modeli tümcenin çizgisel düzeni ile yapısal düzeni arasındaki farka dayanır. Tek boyutlu olan çizgisel düzen konuşma sırasında gerçekleşir ve gözlemlenebilir. Yapısal düzen ise çok boyutlu ve gizlidir. Yapısal düzeni gösterebilmek için Tesnière 'stemma' diye adlandırılan bir grafik gösteriminden yararlanır. 'Stemma' sözdizimsel yapılardaki yatay ve dikey ilişkileri görselleştirmeye yarar. Bu gösterimde, yüklem hiyerarşik yapının en üstteki elemanıdır ve öznenin de dahil olduğu diğer elemanları yönetir. Yüklemin dayattığı temel kurucular o yüklemin değerliğini oluşturur. Genellikle yüklem en fazla üç temel kurucu alabilir. Bu durumda yüklem üç değerlidir. Fakat, 'bahse girmek' (Tr.), 'bet' (İng.), 'parier' (Fr.) gibi bazı fiiller dört değerli olarak kabul edilirler.

Öte yandan Tesnière'in metodunda temel sözdizimsel ilişkiler bağıntılama, bağlama ve aktarma olarak adlandırılır. Bu yaklaşım, tümcenin unsurları arasındaki hiyerarşik yapıyı betimler. Bağımsal Dilbilgisi doğal dillerin sözdizimsel yapısını göstermeye uygundur. Bu çalışmada, Bağımsal Dilbilgisi tarafından belirlenen ilkeler açıklanırken Türkçe karşısında İngilizce ve Fransızcanın dar bir çerçevede karşılaştırılması da yapılmıştır. Sonuç olarak bu grafik gösterimin İngilizce, Fransızca ve Türkçe gibi farklı dil ailelerinden olan dillerin sözdizimsel yapısını göstermek için uygun olduğu gözlenmiştir. İngilizce ve Fransızca sözdizimsel olarak SVO (Özne Yüklem Nesne) düzenini izlerken Türkçe SOV (Özne Nesne Yüklem) düzenini izlemektedir. Fakat bu gösterimde yüklem tümcenin yöneticisi durumunda olduğu için, bu üç dil stemmada aynı görünümü sunmaktadır.

Anahtar Kelimeler: Bağımsal Dilbilgisi, bağıntılama, bağlama, aktarma, Türkçe, İngilizce, Fransızca.

1. Introduction

Human language is a mental faculty that allows humans to learn languages and produce and understand utterances. Language is a formal and structural system of symbols governed by some grammatical rules. These rules combine particular signs with particular meanings. With Saussure's words, "Language is a system of interdependent terms in which the value of each term results solely from the simultaneous presence of the others (…)" (Manjali 1994: 86). In linguistics, syntax is the study of the principles and rules that govern the sentence structure of any individual language. There are lots of theoretical approaches to the discipline of syntax. Dependency Grammar (DG) is one of them.

It is matter of an increasing interest in natural language parsing in dependency-based representations in recent years. Lucien Tesnière accepted as father of DG forming the base of this study, is one of the most prominent and influential French linguists. Since he developed a syntactic theory known as DG, exposed in his book *Éléments de Syntaxe Structurale* (Elements of Structural Syntax), published posthumously in 1959, he is very important in the history of linguistics. In his work he asserts a sophisticated formalization of the sentence syntactic structures, supported by many examples from different languages. Despite its profound influence on European linguistics, his work is not translated into English.

Tesnière's grammatical model is based on the stemma. This is a graphical representation of the dependency relations between the words in a syntactic construction. In the sentence, the verb is seen as the highest-level word, governing a set of complements, which govern their own complements themselves. Instead of the division of the sentence into a subject, object and predicate, in Tesnière's work the grammatical subject and object in other word all the core constituent elements are considered subordinate to the verb.

Besides the theory of structural syntax developed by Tesnière (1959), there are lots of well-known theories of DG. We will not try to review all these theories here. Instead, we will try to denote the basic properties of the DG proposed by Tesnière with some examples. In particular we will reintroduce three key concepts: the division of a sentence into blocks of words, which act as intermediate linguistic units, the junction operation, to handle coordination and other types of conjoined structures, and the operation of transference, to generalize over the categories of the linguistic elements. This paper aims to try to describe the basic features of DG with English, French and Turkish examples by considering new approaches and to question whether Teniere's DG is applicable to Turkish.

2. Dependency structures of Tesnière

Although DG roots may go back to Pânini's grammar of Sanskrit several centuries before the Common Era (Kübler, McDonald, Nivre: 2009), it is still a subject of discussion that model linguists should use. As pointed out by Nivre (2005: 1), DG was used by traditional grammarians especially in Europe, and particularly in Classical and Slavic domains. It has largely developed as a form of syntactic representation. It is considered that this grammatical tradition reached the peak with the effective and qualified work of Tesnière. This work is generally accepted as the starting point of the modern theoretical tradition of DG. Since dependency grammars are not defined by a specific word order, they are well suited to languages with free word order, such as Turkish.

In linguistics, L. Tesnière developed graphical representations for his system of DG. Following figure shows one of his graphs for the sentence *L'autre jour, au fond d'un vallon, un serpent piqua Jean Fréron* 'The other day, at the bottom of a valley, a snake stung Jean Fréron'. At the top is the verb *piqua* 'stung', the head of the sentence, from which the words that depend directly on the verb are hanging: the subject (serpent), the object (Jean), and two prepositional

phrases. The bull's eye symbol indicates an implicit preposition 'à'. Every word other than piqua is hanging below some word on which it depends (Tesnière 1959: 635). An example of Tesnière's stemma is as in (1):

(1)
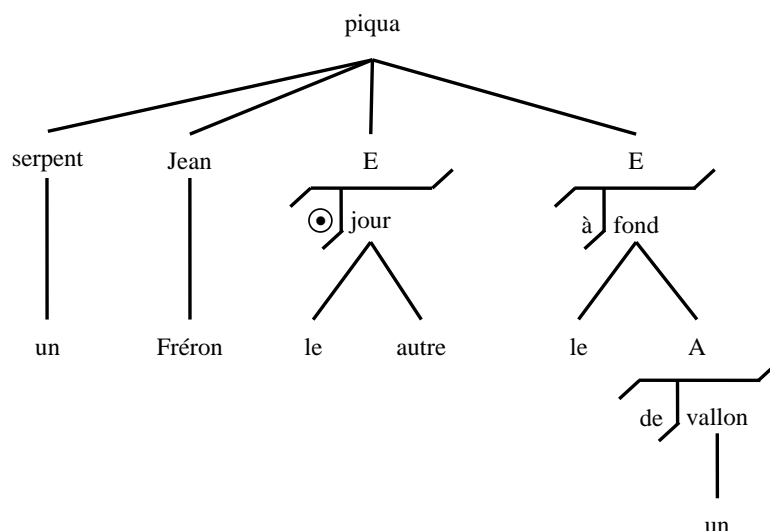
According to Nivre (2005: 2), "This tradition comprises a large and fairly diverse family of grammatical theories and formalisms that share certain basic assumptions about syntactic structure, in particular the assumption that syntactic structure consists of lexical elements linked by binary asymmetrical relations called dependencies. Thus, the common formal property of dependency structures, as compared to representations based on constituency is the lack of phrasal nodes."

The structural syntax aims to reveal the reality of deep structure which hide behind of the linear appearance of the language on the speech chain in other words to categorize the words which form the sentence and determine the relations existing between these words (Schwischay 2002: 1). The syntactic relations revealed by Tesnière are the connection, junction and translation. "Connection, junction and translation are three big chiefs under which come to rank all the facts of the structural syntax" (Tesniere 1959: 323).

3. Connection

DG is based on relationships between words, that is, dependency relations. In Tesnière's model the main idea is the notion of dependency that means the syntactic relation existing between two elements within a sentence, one of them has the position of head ('régissant' in the original terminology) and the other of dependent ('subordonné' in the original terminology) (Sangati, Mazza 2009). The fundamental notion of dependency is based on the idea that the syntactic structure of a sentence consists of binary and asymmetrically vertical relations between the words of the sentence (Kübler, McDonald, Nivre: 2009). The head of a sentence is usually a tensed verb, and every other word is either dependent on the sentence head, or is attached to it through a path of dependencies. According to Tesnière (1959: 11-13), the sentence is an organized whole whose constituent elements are words. Every word that forms part of a sentence ceases by itself to be isolated as in the dictionary. Between the word and its neighbors, the mind perceives connections whose totality forms the structure of the sentence. The structural connections found dependency relations between the words. As a principle, each connection unites a superior term and an inferior

term. The superior term receives the name governor. The inferior term receives the name subordinate. So, in the sentence *Alfred parle* 'Alfred speaks', 'parle' is governor and 'Alfred' subordinate. (2) shows French, English and Turkish examples of governor and subordinate.

(2)

parle	is speaking	konuşuyor
Alfred	Jean	Ali
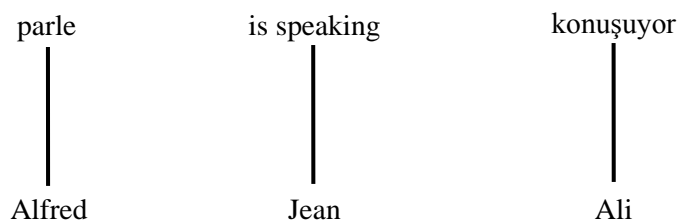
For Tesnière (1959: 11-12), in the sentence, "Alfred parle", there are three elements: (1) Alfred (2) parle and (3) the connection which unites the two first elements, and without connection it is not possible to form a sentence. The connection is indispensable for the expression of thought. Without connection, we will not be able to express any thought, and we will only be utter a succession of images and indices, isolated from each other, and without any link between them. As expressed by Kruijff (2002), "Tesnière's grammar was a structuralist grammar, imposing a one-to-one relation between meaning and structure."

Tesnière schematizes this syntactic relation by using a stemma as in figure 3, putting the governors above the dependents. 'My old friend is singing this nice song', in Tesnière's graphical notation is as in (3):

(3)

is singing
friend   song
my   old   this   nice
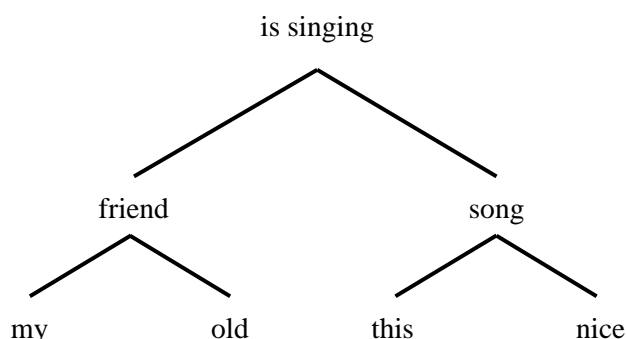
Turkish and French representations of the same sample sentence are as in the below. It is interesting that these three languages from different language families follow the same visual rule in the stemma, except the suffixes added to nouns, in the basic structure in Turkish. This is also an indication that the natural languages have the same fiction in the deep structure. Turkish and French schemes for the same sentence are as in (4):

(4)

```
        söylüyor                              chante
       /        \                            /       \
  arkadaş-ım    şarkı-yı                   ami       chanson
   /     \       /     \                  /    \      /     \
ben-im  eski   bu    güzel             mon  ancien cette   belle
```
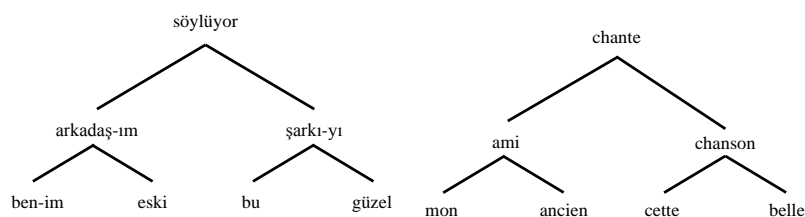
In (4), the head and governor of the sentence, the tensed verb governs all its dependents. In Turkish example, the subject 'arkadaşım' and the object 'şarkıyı' are in the management of the predicate 'söylüyor' and they are dependents of the predicate at the same time they govern their dependents that is the noun 'arkadaşım' governs the adjectives 'benim' and 'eski' and the noun 'şarkıyı' governs the adjectives 'bu' and 'güzel'.

The notion of node corresponds to the notion of connection. The head and its dependents constitute a node. As defined by Tesnière (1959: 14), the node is "the whole constituted by the head and all dependents which, at any degree, directly or indirectly, depend on it." Syntactic relations are also realized between words, and nodes in stemmas are purely lexical. For most theories, dependency relations occur between lexical elements, rather than phrases. For example, in the sentence 'Your friend sings', 'sings' forms a node with 'friend' and 'your' and 'friend' forms a node with 'your'. In this context Tesnière (1959: 39) expresses that "The head has a function of establishing in a single beam the different connections which bind to itself its different dependents." The most accepted view is that the nodes of the dependency structure are simply the word forms occurring in the sentence, which is the view adopted in most parsing systems based on dependency grammar.

The relations between head and dependents are very important in DG. For Nivre (2005: 4), "Such criteria have been discussed not only in the DG tradition, but also within other frameworks where the notion of syntactic head plays an important role, including all constituency-based frameworks." Some researchers have emphasized the need to distinguish different kinds of dependency relations. Polguère and Mel'čuk (2009) express the existence of three types of dependency relations between two word forms in sentences of natural languages: morphological, syntactic and semantic dependencies.

Tesnière's theory (1959) is based on three complementary concepts of connection, junction and transfer where connection corresponds to dependency. Junction and transference are other kinds of relations that can realize between the words of a sentence.

3.1. Words, blocks and categories

In Tesnière's dependency structure, all words are divided into two classes: Full content words (e.g., nouns, pronouns, verbs, adjectives and adverbs), and empty functional words (e.g., determiners, prepositions, conjunction, etc.). Each full word forms a block, which may additionally include one or more empty words, and operations are realized on blocks. Empty units, empty complementizers and empty relative pronouns pose no problem to DG, as they are non-head material. In Turkish, the suffixes are not empty words because in predicates the suffixes that indicate person refer to subject. At the same time, in Turkish, in the noun complements, the genitive '-nın' and the possessive suffixes '-ı' are not either empty word, and they cannot be represented in stemma. But in this method which represents us the hierarchical structure of the

constituents which form the sentence, since the derivational affixes and inflectional affixes are evaluated within the word, to which they are belonged, and they are not competent to change the hierarchical structure of the sentence, the impossibility of the representing of the affixes does not pose a problem.

Tesnière distinguishes four block categories (or functional labels), here listed with the original single letter notation: nouns (O), adjectives (A), verbs (I), and adverbs (E).

3.2. Valency

The verb is a word (part of speech) that in syntax conveys an action (read, watch, walk, run, clean), or a state of being (be, exist, stand). A verb represents the process expressed by the clause, and all its arguments, representing the participants in the process, have the functional labels of nouns, and are determined by the valency of the verb. The verb's adjuncts (or circonstants) represent the circumstances under which the process is taking place, i.e., time, manner, location, etc., have the functional labels of adverbs. In linguistics, an adjunct is an optional or structurally dispensable part of a sentence.

According to DG, the two most important arguments are the subject and the direct object. They are called core arguments. The central notion is valency that is the distinction between core arguments and non-core arguments. The subject must be present in all well-formed clauses, and intransitive verbs do not accept any other arguments. Transitive verbs accept an optional object argument. A few verbs like 'give' (Eng.), 'donner' (Fr.), 'vermek' (Tr.) may also accept a third core argument, the indirect object; those verbs are sometimes called ditransitive. The number of core arguments of a verb is called its valency. Non-core arguments are also called 'oblique arguments'. They are usually phrases showing time (in the morning), location (at home), beneficiaries (for her), etc.

We may note that Tesnière is one of the first linguists who described the capacity of a verb to bind a certain number of 'actants' and introduced the notion of 'valency' to denote the number of actants carried by a verb. Franson Manjali (1994: 87-88) denotes his thoughts about this subject in the following sentences: "For Tesnière, the meaningfulness of a sentence was due to the central organizing role of the predicate verb which represented an action and functioned as the highest syntactic node of the sentence. The verb is the complete and the independent term of a sentence. Dependents on the verb are the 'actants' that are the participants in the action (this dependency relation is to be diagrammatically represented by means of a tree-structure or 'stemma'). Tesnière viewed the sentence as representing a 'little drama' (petit drame) wherein the predicate represents an action (in the theatrical sense) or even a process and the dependents of the predicate are the principal elements in the action. Since Tesnière is distancing himself from a logical conception of grammar he is eschewing the "subject-verb-object-indirect object" type of propositional structure; he is opting for a rather theatrical conception where the nominal elements are initially non–heterogeneous actants in participating in a process but appearing in their functionally specialized roles as subject, object, and indirect object in the context of sentence-structure."

For Manjali (1994), "While actants are one type of dependents of the predicate (they designate characters in an anthropomorphic sense), the other type called the circumstants designates situations. According to Tesnière, there can be a maximum of only three actants in a sentence while the circumstants may be several." Tesnière considered the function of a verb as most important in DG and invented the term 'actant', various persons that accompany a verb:

1. 'prime actant', the nominative case

2. 'second actant', the accusative case

3. 'third actant', the dative case

In this context Manjali (1994) forms a schema for the sentence 'Mohan bought an electronic camera for his son yesterday.' (5) represents this schema of Manjali (1994):

(5)

```
                              bought

          Mohan        camera         son         yesterday
          (A1)                                     (C)

                        (A2)          (A3)

                     electronic    for     his
```
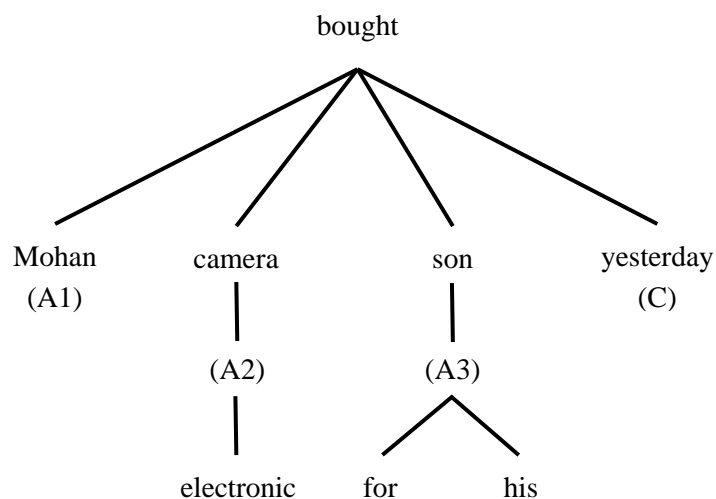
So, (6) represents French example for the same sentence adopted from Manjali while (7) shows Turkish example for the same sentence.

(6)

```
                            a acheté

          Mohan        caméra         fils          hier
          (A1)                                       (C)

                        (A2)          (A3)

                     électronique  pour     son
```
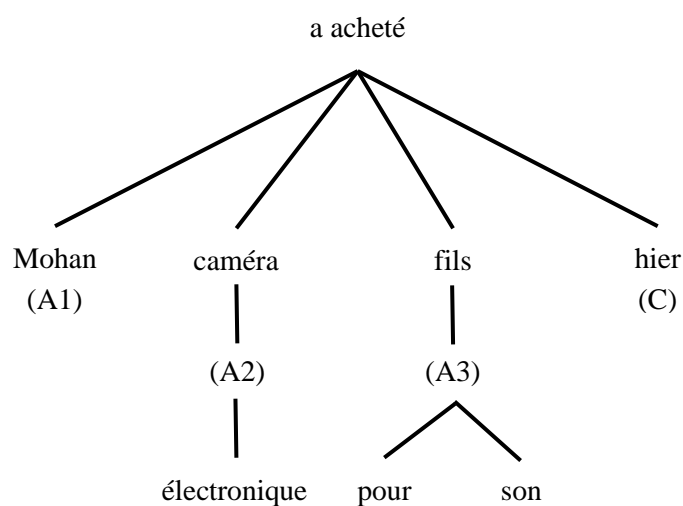
(7)
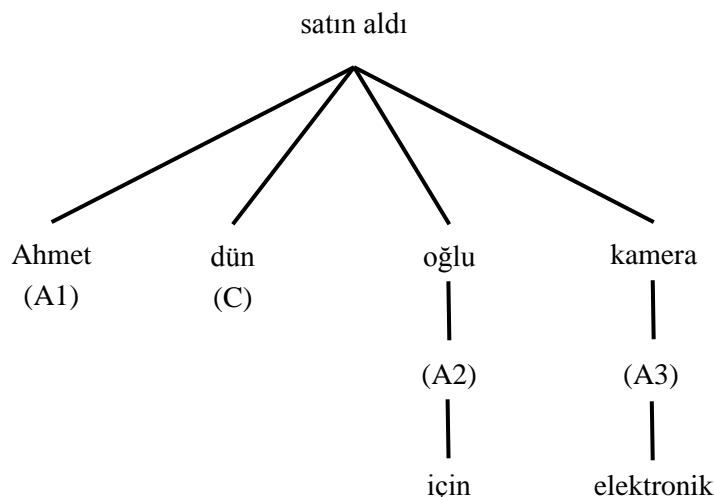
In Turkish, adjective possessives can be seen as suffixes not an isolated word. In this sentence, the word 'oğul' takes a suffix '-u' corresponding to a third singular adjective possessive and the first letter 'u' in the word 'oğul' falls because of sound reduction and it becomes 'oğlu' not 'oğulu'.

As Nivre (2005: 5) transferred from Sgall et al. (1986), "The idea is that the verb imposes requirements on its syntactic dependents that reflect its interpretation as a semantic predicate. Dependents that correspond to arguments of the predicate can be obligatory or optional in surface syntax but can only occur once with each predicate instance. By contrast, dependents that do not correspond to arguments can have more than one occurrence with a single predicate instance and tend to be optional. The valency frame of the verb is normally taken to include argument dependents, but some theories also allow obligatory non-arguments to be included."

As a result an avalent verb takes no arguments, the valency could be zero as in the sentence 'It rains'. Though 'it' is technically the subject of the verb in English, it is only a dummy subject that is a syntactic placeholder - it has no concrete referent. No other subject can replace 'it'. A monovalent verb takes one argument; the valency could be one, for example, 'He sleeps.' A divalent verb takes two, the valency could be two, for example, 'He kicks the ball.' A trivalent verb takes three; the valency could be three, 'He gives her a flower.' A tetravalent verb takes four. In general the verbs take three arguments but sometimes some verbs such as 'bet' (Eng.), 'bahse girmek' (Tr.), 'parier' (Fr.) are considered to be a tetravalent verb like in the example, 'The crowd (A1) bet him (A2) fifty dollars (A3) on the horse (A4) to win.'

4. Junction

In Tesnière's DG, junction is the relation that occurs between coordinated items that are dependents of the same head or heads of the same dependent. Junction is both a two-place syntactic relationship of subordination, as well as the process of explaining linguistic combinations that are possible when nodes of the same syntactic function are connected with coordinating conjunctions (and, or, but).

In this grammar, the junction is the first operation. It is employed to group blocks that lie at the same level, the conjuncts, into a unique entity. The conjuncts are horizontally connected in the DG of Tesnière, belong to the same category, and are possibly (and not always) connected by means of empty words, the conjunctions. Figure 8 displays three coordinated structures. Although according to some linguists (Joakim Nivre, Sandra Kubler, Ryan McDonald, Federico Sangati, Chiara Mazza and Pierre Lison) coordinated structures are a problematic subject, Tesnière well uses the junction operation to represent coordinated structures and other particular joined structures, such as the apposition (e.g., the wife of my brother, Amy). (8) shows the examples of coordinated structures from Tesnière's original notation.

(8)

fall
Alfred —— and —— Bernard

a lunch
good —— but —— expensive

laugh —— and —— sing
children
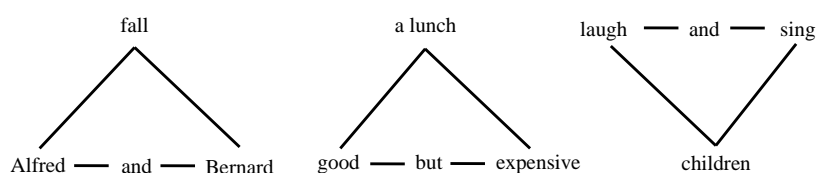
(9) shows French coordination examples while (10) shows Turkish coordination examples.

(9)

parle
Pierre —— et —— Jean

une fille
belle —— mais —— bavarde

chantent —— et —— dansent
les enfants

(10)

konuşuyor
Ahmet —— ile —— Mehmet

bir elbise
güzel —— fakat —— pahallı

çalışıyorlar —— ve —— başarıyorlar
çocuklar
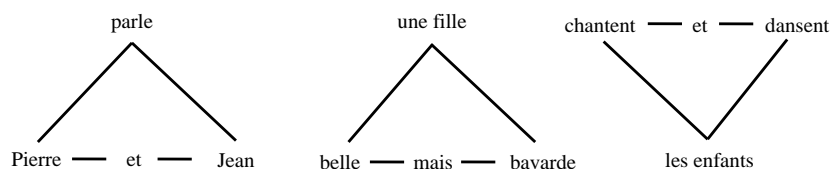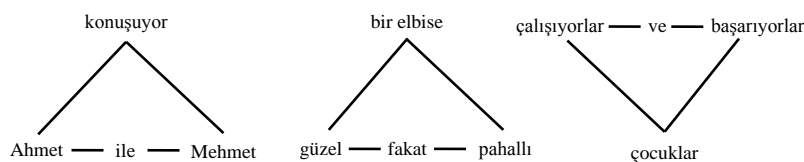
Lison (2006-2007) transfers a coordination example by Mel'˘cuk as in (11):

(11)

```
                              slipped
           subj-distr           |obl            coord
          /                     |                      \
      Hans                    into                    and
                               |pcomp                  |conjunct
                             jacket                   left
                               |det
                              his
```
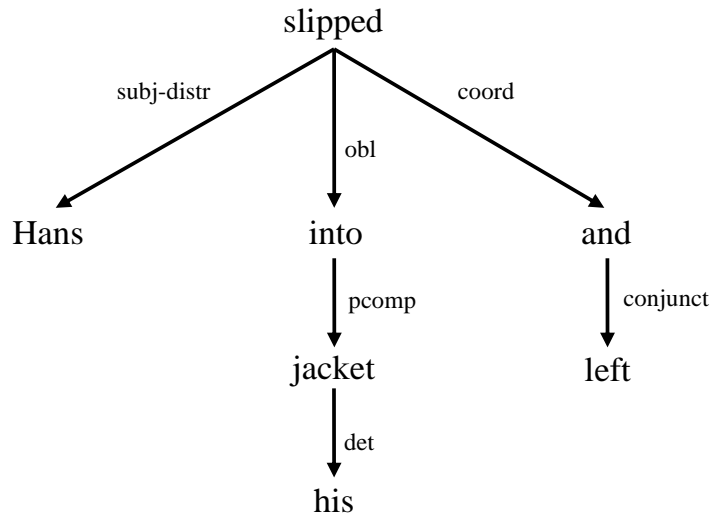
   Lison can consider the connective as the syntactic head of the construction. But this is not a viable solution: In this case, it is problematic to describe the 'valency' of connective. To the knowledge of Lison, no mainstream DG formalism still supports this approach. Lison's this coordination representation is as in (12), the connective as syntactic head.

   (12)

```
                              and
           subj          coord1            coord2
          /              |                      \
      Hans            slipped                   left
                         |obl
                        into
                         |pcomp
                       jacket
                         |det
                        his
```
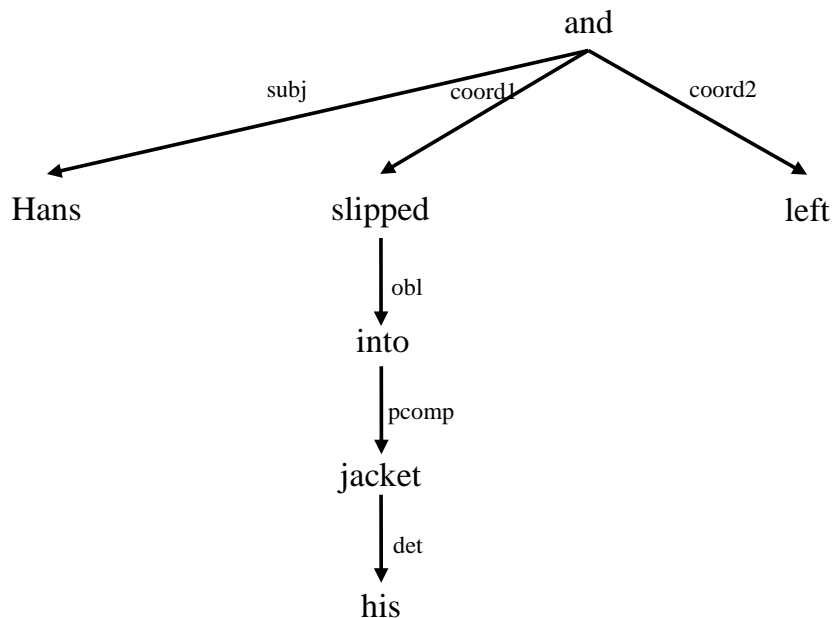
   Even though coordinated structures are seen as a problematic subject, Tesnière already distinguished dependency and coordinative relations by his concept of 'junction'. For us in the

sentence 'Hans slipped into his jacket and left', 'Hans' is the common subject of the two verbs 'slipped' and 'left' and two verbs are connected to each other by a the conjunction 'and'. We have commented the same sentence in the stemma as in (13):

(13)
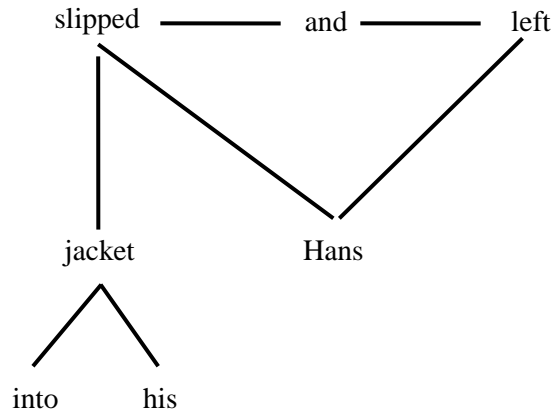
Lison (2006-2007) tells that the dependency in coordination principle states, "The conjuncts of coordination must share the same dependencies to words outside the coordination". In this context, he transfers following schema of coordination from Hudson in (14):

(14)
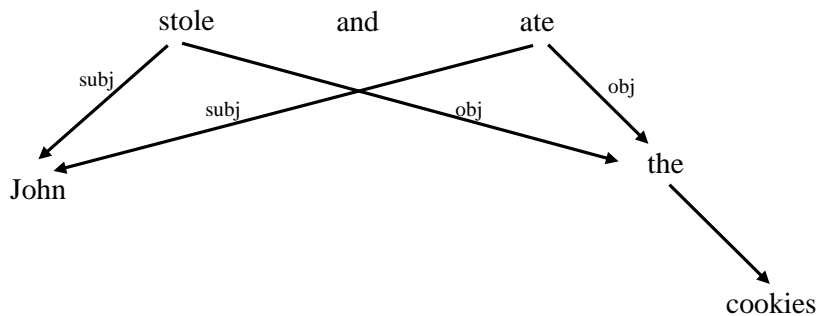
There is a new syntactic representation, bubble trees, which also belongs to this class of "hybrid" dependency-constituency models, and which, in the view of Lison, is particularly appropriate for the treatment of coordination (among others).

Intuitively, in a bubble tree there are nodes that are bubbles. Each bubble can contain other bubbles or a lexical element and form dependency relations with other bubbles. (15) is a bubble tree example:

(15)

loves   and   hates

subj

dobj

John   Mary   Ann
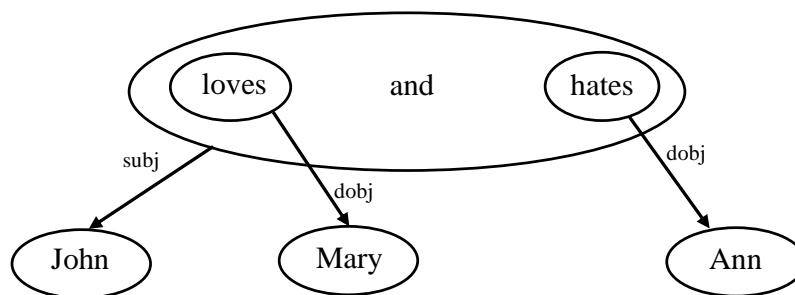
In the sequential sentences, it is matter of a semantic dependency between two predicates that are linked by a conjunction. Coordination is a construction which contains not only one but several heads that can replace the whole construction syntactically. Every head has its actants and the bubble tree parsing can represent this semantic relation. For the economical use of the language, in the sentences like this, the subject is not repeated. Every predicate is a head and has valencies and in the same proposition, a semantic dependency created by predicates may be mentioned more than one. These dependency relations for the same sentence can be easily represented in the stemma as in (16):

(16)

loves —— and —— hates

Mary

John   Ann
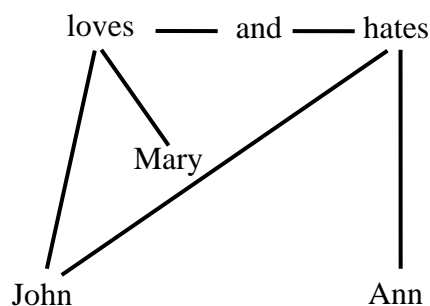
(17) is a coordinated structure example of a sequential sentence:

(17)

is studying —— but —— is dancing

daughter   son

my   my
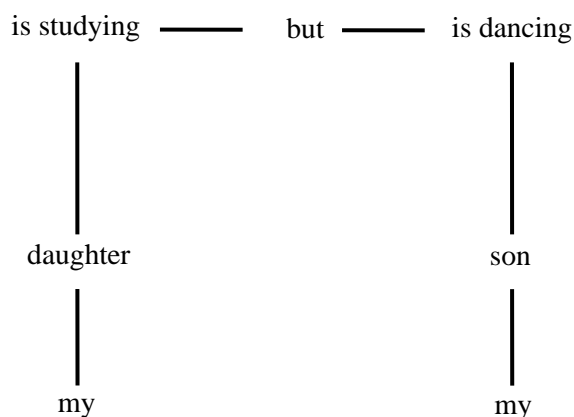
These two predicates are linked to each other due to semantic dependency via the conjunction of 'but'. In this case, coordinated structures are not a problem since in such sequential

sentences there are two predicates and each of them has valencies. As seen in the above schemes, it is interesting that the languages originated from different language families represent the same visual structure in the illustrations based on stemma. This indicates the natural languages are shared in the deep structure.

5. Transference

The second operation is transference. Transference is the relation that happens between a function word and other element that changes the syntactic category of a lexical element so that it can enter into different dependency relations. "In the terminology adopted by Tesnière the transference transfers a full word from a grammatical category to another" (Schwischay 2002: 8). An example for this explanation is the relation occurring between 'de' and 'Cécile' in the construction 'le cahier de Cécile' or between 's' and Cécile in the construction 'Cécile's notebook', where the preposition 'de' and clitic 's' allows the proper name Cécile to modify a noun, a dependency relation otherwise reserved for adjectives.

There are three types of transference. The first degree transference is a shifting process which makes a block change from the original category of the content word to another. This process often occurs by means of one or more empty words belonging to the same block, called transferors. In the figure 18, first stemma shows an example of first degree transference. The word 'Peter' is transferred from the word class noun and takes the functional label of an adjective via the possessive clitic 's' which acts as a transferor.

While the first degree transference operates on the words, the second degree transference operates on clauses. In other words, the second degree transference transforms an independent or principal clause into a dependent clause. The second degree transference occurs when a simple clause becomes an argument or an adjunct of another clause, maintaining all its previous lower connections, but changing its functional label within the main clause. That is, the verb of the embedded clause becomes a dependent of another verb. The second degree transferors are transferors that serve to generate the compound sentences by transforming an independent sentence into a dependent sentence. This should not be confused with the case of compound verbs, which are represented as a single block, where auxiliaries are labeled as empty words.

The following sentences represent some examples of second degree transference:

(1) She believes that he knows.

(2) The man I saw yesterday is here today.

(3) You will see him when he comes.

(18) is an example of first degree transference of the phrase 'Peter's book', and two examples of second degree transference of the sentence 'She believes that he knows' and the sentence 'You will see him when he comes'.
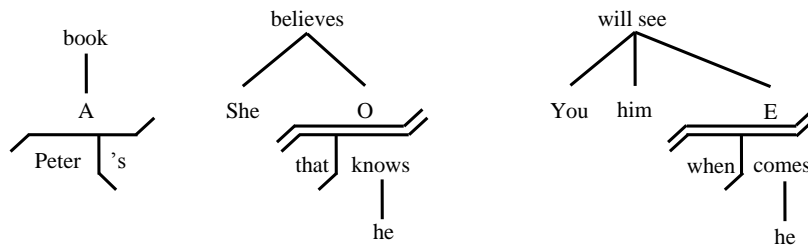
(18)

In the first sentence, we have a transference verb >> noun by means of the transferor 'that'. The embedded clause takes the functional label of a noun, and becomes the object of the verb. The second sentence is an example of transference verb >> adverb: the clause has the functional label of a temporal adverb through the transferor 'when'.

5.1. First degree transference

Our examples for first degree transference are as follows with French, English and Turkish representations. We employed the letters of Tesnière to indicate word types. For example, adjective = A, noun = O, verb = I, adverb = E.

(19a) *Examples, noun >> adjectif*

(19b) *Exemples, noun >> adverbe*

(19c) *Exemples, adjective >> noun*

(19d) *Examples, adjective >> adverb*

(19e) *Examples, adverb >> noun*

sera lumineux   will be fine   ümit veriyor

| | |

O   O   O

le | demain   (the) | tomorrow   Ø | yarın
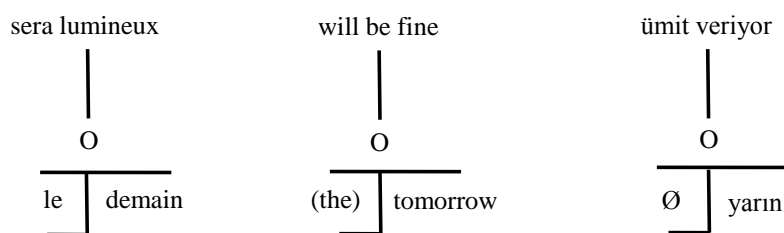
(19f) *Examples, verb root >> noun*

veut   wants   istiyor

Jean   O   Emily   O   Ali   O

réuss | ir   to | succeed   başar | mak
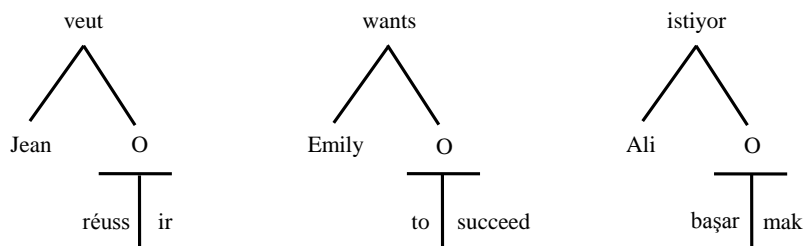
(19g) *Examples, verb root >> adjective*

porte   door   olay

une   A   a   A   A   bir

ferm | ée   open | ed   unutul | muş

(19h) *Examples, noun >> noun*

O   O   O

ambassade | ur   friend | ship   arkadaş | lık
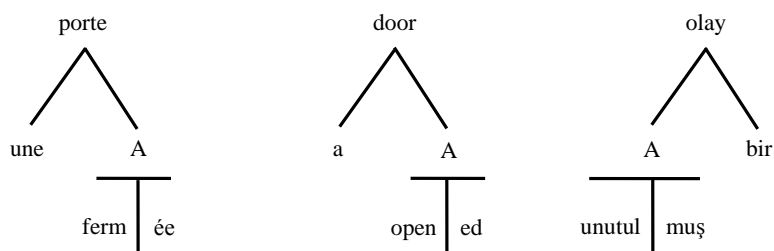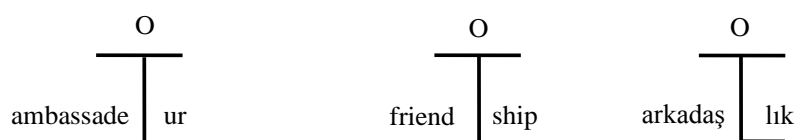
The name sentences are also in the first degree transference.

(19i)

I   I   I

est | ami   is | friend   arkadaş | tır

le livre   the book   kitap
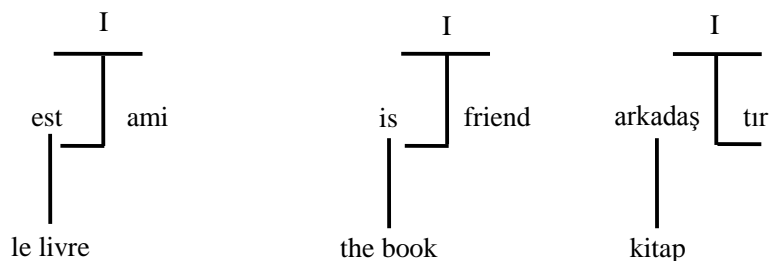
5.2. Second degree transference

Our examples for second degree transference

(20a) *Examples, predicate >> noun*

```
        sait                    knows                   biliyor
       /    \                  /    \                  /      \
     Ali     O             Jhon      O             Ali         O
            ===                     ===                       ====
         que │ rentrera          that │ will return      dönece(k) │ ğini
                  /  \                    /  \               /
              Ayşe    tot             Mary    early        A      erken
                                                          ===
                                                       Ayşe │ -nin
```

(20b) *Examples, predicate >> adjective*

```
       est tombé                 fell                    düştü
       /      \                 /    \                  /     \
   enfant   par terre        child    down          çocuk     yere
    /   \                    /   \                     │
  l(e)    A                the     A                    A
         ===                      ===                  ===
       qui │ court             that │ runs          koş │ an
```
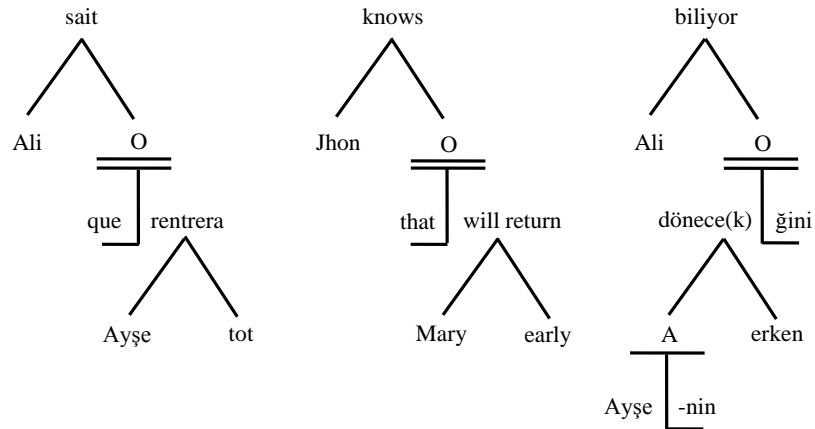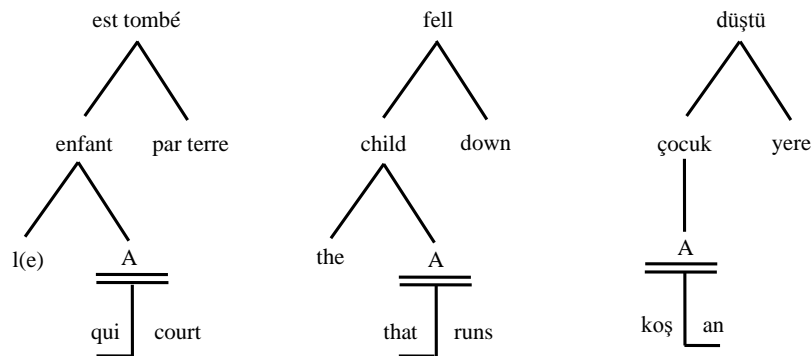
(20c) *Examples, predicate >> adverb*
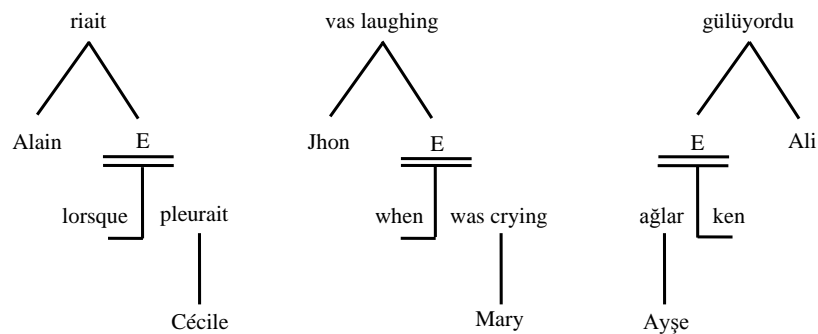
```
        riait                vas laughing              gülüyordu
       /    \                /     \                   /      \
    Alain    E            Jhon      E               E          Ali
            ===                    ===             ===
       lorsque │ pleurait     when │ was crying  ağlar │ ken
                    │                     │          │
                 Cécile                 Mary        Ayşe
```

5.3. Third degree transference

There is also third degree transference, multiple transferences, in literature. Different transference examples can overlap. It can be observed more comprehensive transferences. In other words, at the end of transference, a new transference can occur. While (21) represents multiple transferences derived via the affixes added to the root of the word, (22a, 22b and 22c) are the examples of the multiple transferences formed by a sentence having more than one finite verb.

(21)
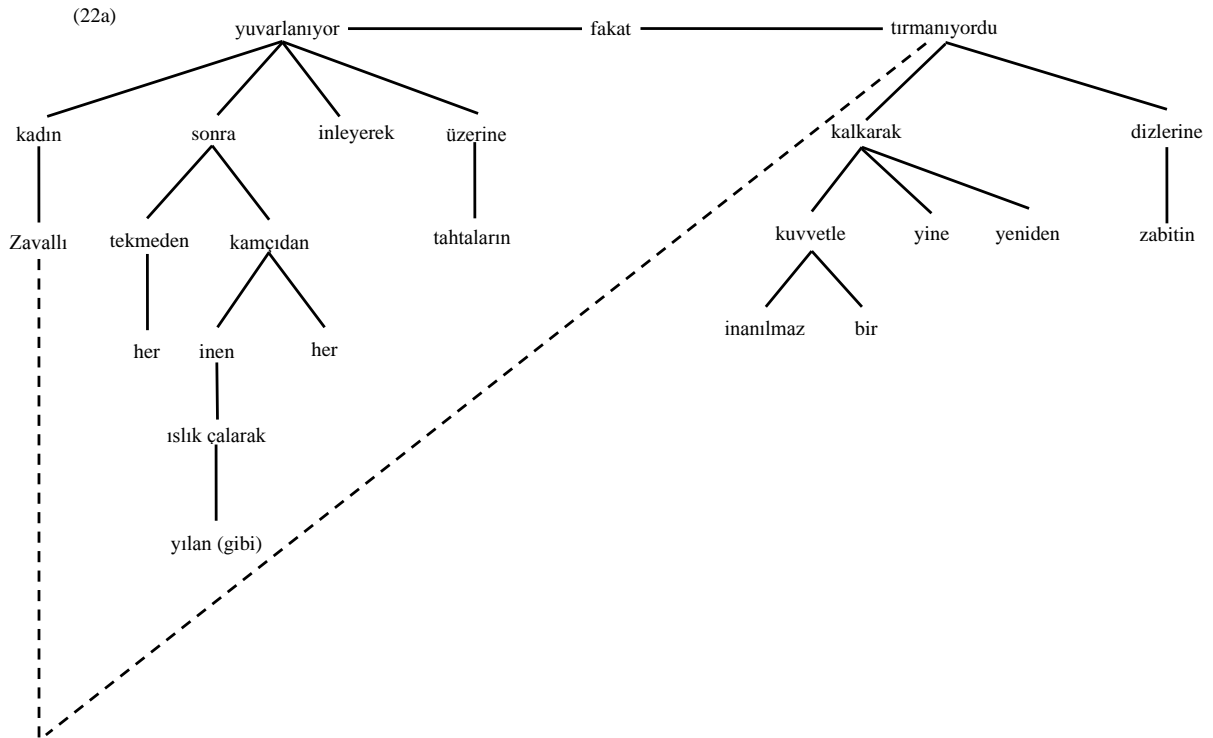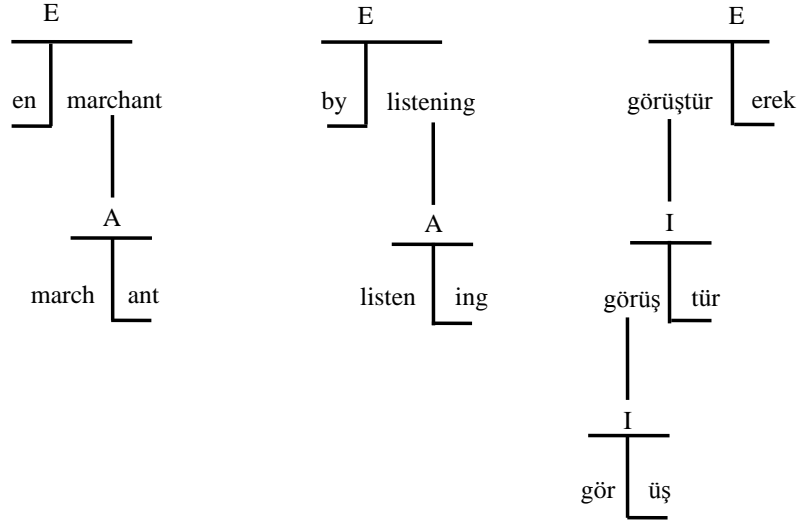
(22b)

was rolling ————— but ————— was climbing

woman · after · by moaning · (on) the boards · standing up · the kness

Poor · kick · whip · force · once · again · (of) the officer

every · each · descending · (with) an incredible

whistling

(like) · a snak

(22c)

se roulait ————— mais ————— grimpait

femme · après · en gémissant · (sur) les planches · en se levant · les genoux

La pauvre · coup · fouet · force · encore une fois · de nouveau · (de) l'officier

chaque · chaque · descendant · (avec) une incroyable

sifflant

(comme) · un serpant
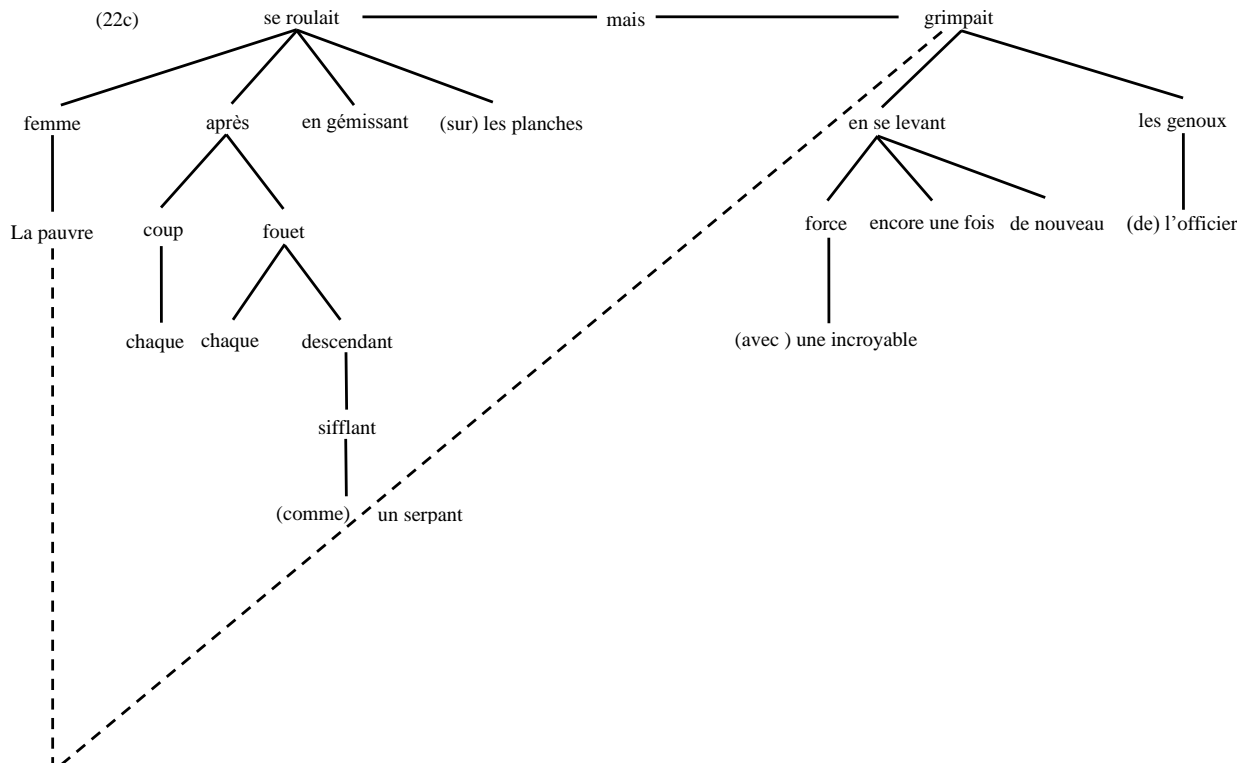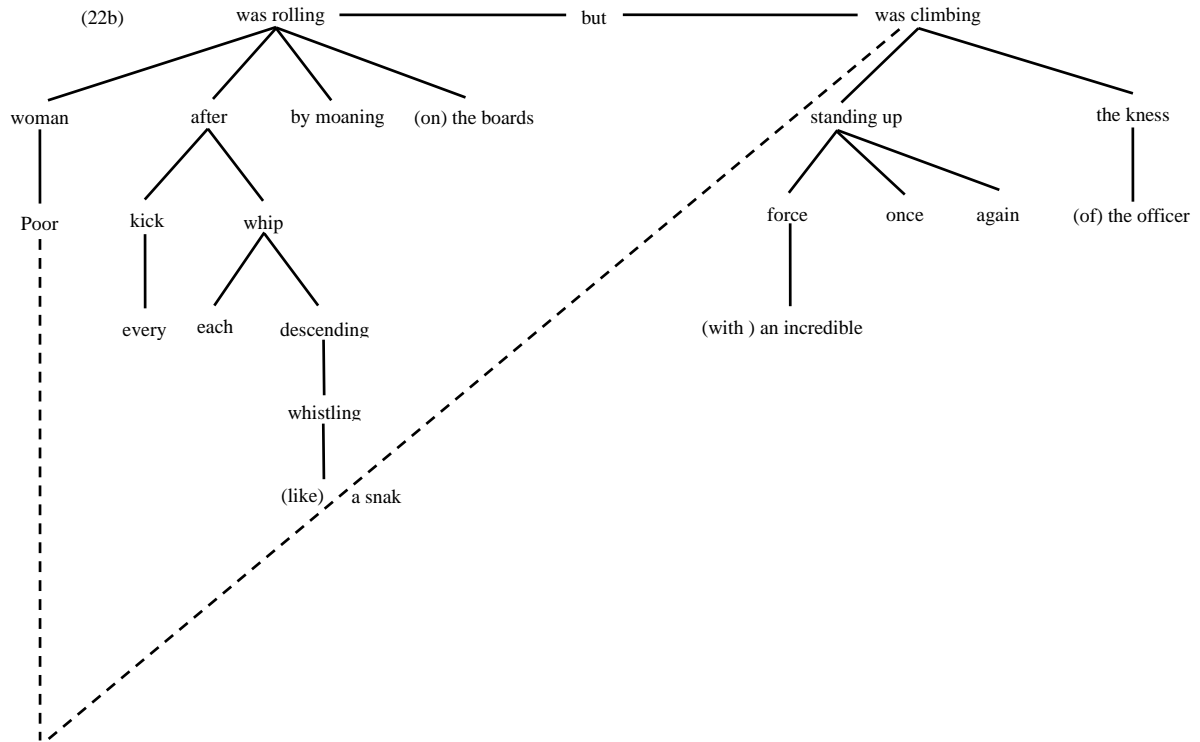
6. Conclusion

The work of the French linguist L. Tesnière, published posthumously in 1959, is usually considered as a starting point of the modern theoretical tradition of DG. Since then a number of different DG frameworks have been proposed. The most prominents are probably the Prague School's Functional Generative Description, Mel'čuk's Meaning-Text Theory, and Hudson's Word Grammar (Kübler, McDonald, Nivre: 2009). Dependency-based methods for syntactic parsing have become increasingly popular in natural language processing in recent year. One of the reasons for the success of these methods is that dependency-based methods are suitable to demonstrate the system of the syntactic structure of the languages from different families. DG model that is very successful in the parsing of the syntactic system of the natural languages, as point out by Kruijff (2002), is also useful in teaching foreign languages and asserted by Aydın (2006, 2008), this method can be also a model in the teaching of Turkish.

The basic assumption underlying all types of DG is that syntactic structure essentially consists of words linked by binary, asymmetrical relations realizing between lexical elements called dependencies. A dependency relation holds between a syntactically subordinate word, called the dependent, and another word on which it depends, called the head.

Some linguists have argued against the adequacy of this grammar in representing frequent linguistic phenomena such as coordination. But this paper reintroduces several key features from Tesnière's work: on one hand the operation of junction enriches the model examples with a more sufficient system to handle conjoined structures (e.g., coordination); on the other, the blocks, the category system and the transference operation, further simplify and generalize the model examples.

In this paper, we have tried to explain some major features of Tesnière's DG with the examples of prominent linguists and our examples weighted English but sometimes French and Turkish, inspired by the work of Tesnière. We have described some subjects like connection, junction, transference and the importance of the binary relations between words in a sentence. So we had the possibility of comparing Turkish with English and French. In a sentence, the head that governs other full content words is the predicate namely; every full content word depends on predicate. Because when we want to detect the subject, in the traditional grammar, in a sentence, for example, 'Ayşe gave a flower to her mother', we generate this interrogative sentence, 'Who gave a flower?' for object, 'What did Ayşe give?' for indirect object, 'To whom Ayşe gave a flower?' As we have seen, the predicate is always the most important constituent of a sentence and each full word is its dependent. The absolute dominance of the predicate in the sentence is clearly observed in the languages erasing subject such as Turkish.

Because Turkish is a predicate-based language having free word order and the essential of this method is based on the predicate, the DG is appropriate to describe the syntactic system of the Turkish that is an agglutinative language. It can represent easily the hierarchical structure between the constituents of the sentence. In Turkish, the suffixes are not empty words because in the predicates the suffixes indicating person refer to subject. At the same time, in Turkish, in the noun complements, the genitive '-nın' and the possessive suffixes '-ı' are not either empty word, and they cannot be represented in stemma. But in this method which represents us the hierarchical structure of the constituents forming the sentence, since the derivational affixes and inflectional affixes are evaluated within the word, to which they are belonged, and they are not competent to change the hierarchical structure of the sentence, the impossibility of the representing of the affixes does not pose a problem. It is interesting that English, French and Turkish from different language families follow the same visual rule in the stemma. This is also an indication that the natural languages have the same fiction in the deep structure.

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