

How dependency syntax found its modern form in the French Encyclopedia: from Buffier (1709) to Beauzée (1765)

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1. Introduction

From 1660, the date of the publication of the Port-Royal Grammar, to 1765, when the articles by Beauzée were published in the *Encyclopedia* of Diderot and d'Alembert, grammar and, in particular, syntax went through a remarkable century of development in France, well documented by the seminal work of Jean-Claude Chevalier (1968). I will focus here on one particular aspect, the description of the syntactic properties of a sentence via a formal syntactic structure, i.e. a precise description of the whole set of relations that link the words of the sentence together.¹ Syntactic diagrams representing syntactic structures did not appear until the 1830s (Mazziotta & Kahane 2017), but in the *Encyclopedia* we can find a syntactic description, which, although expressed in words, is strictly equivalent to a dependency tree, as well as considerations on the distinction between the syntactic hierarchy and the surface linear order and a sketch of the property of projectivity.

The chapter is divided in two parts. Section 2 presents the most complete description of dependency structure proposed during the 18th century. This structure was described in the article *Régime* of the *Encyclopedia*, written by Nicolas Beauzée and published in 1765. Section 3 takes us back one century before Beauzée's article, to the *Port-Royal Grammar*, published in 1660, in order to try to understand how such a successfully complete syntactic analysis was achieved in the *Encyclopedia*. To that end, I will follow the thread that led from the foundational work of Port-Royal to Beauzée's contribution by successively presenting Arnaud and Nicole (1660), Buffier (1709), Girard (1747) and the article *Construction* by Du Marsais published in the *Encyclopedia* in 1754.²

2. Dependency syntax in Beauzée

Nicolas Beauzée (1717-1789) was the second writer for the articles on grammar in the *Encyclopedia*, starting at the letter G, when the first writer, Du Marsais, died in 1756. Beauzée published his *General grammar*, in two volumes of 618 and 664 pages, in 1767

¹ Although this paper was written for a volume dedicated to the history of dependency syntax, I was interested by all kinds of syntactic structures considered during the period studied.

² Other grammars of the same period were consulted (see Chevalier 1968 or Bouard 2007) but are not discussed here as they do not deal to any significant extent with syntactic structure. For the same reason, the present study stops with Beauzée, who, it is argued, gave the most complete version of syntactic structure, which was not outshone in the French school until Tesnière (1934).

and was elected to the *Académie* in 1772. I will focus on the article *Régime*, which was published in volume 14 of the *Encyclopedia* in 1765. On other contributions by Beauzée, cf. Auroux (1992) for Beauzée's role in the emergence of the category of *déterminer*, or Rey (2011) for phonetics, Swiggers (1983b, 1984a, 1989) for mood, parts of speech, and complementation, and Pavy-Guilbert (2014) for a biographical sketch.

This section presents four contributions by Beauzée: the distinction between dependent and complement (section 2.1), the dependency tree and another equivalent syntactic structure (section 2.2), the notions of analytical order (section 2.3), heavy shift and projectivity (section 2.4).

2.1. Regime vs. complement

As we will see in section 3, the Fr. terms *régime* and *rection*, from Lat. *rex, regis* 'king' and Fr. *régir* 'to govern', shifted in meaning from a morphological sense inherited from Latin grammar to a syntactic sense (which it still has today), without a clear frontier being marked out between the two senses. Beauzée started the article *Régime* by separating the two concepts and recalling that *regime* should only designate:³

“the particular form that a grammatical *complement* of a word must take, as a consequence of the particular relationship in which it is then envisaged. [...] This is the effect of the *regime*: to determine the different endings of a word that expresses the main idea, according to the diverse functions that this word fulfils in the sentence.”

[la forme particuliere que doit prendre un *complément* grammatical d'un mot, en conséquence du rapport particulier sous lequel il est alors envisagé. [...] Voilà l'effet du *régime* ; c'est de déterminer les différentes terminaisons d'un mot qui exprime une certaine idée principale, selon la diversité des fonctions dont ce mot est chargé dans la phrase.] (Beauzée, entry “Régime”, in *Encyclopedia*, vol. 14, p. 8, 1765)

As a result, Beauzée created a sub-entry *Complément* 'Complement', which was absent from the *Encyclopedia*. This article was announced in 1757 in the entry *Gouverner* 'to Govern', which was one of the first written by Beauzée:

“However, the misuse of the word in question and of the words *regie* and *régime*, intended for the same use, could be avoided. It was simpler to give the name *complement* to what we call *régime*, because it serves indeed to make the meaning that we wish to express complete; and then we would have simply said: *the complement of such prepositions must be in such and such a case; the objective complement of the active verb must be in the accusative*, etc. Mr. Dumarsais made use of this word in many occurrences, without dedicating a specific article to it: We will develop our views on this topic with *the word RÉGIME*, by presenting there the principles of Grammar which can be related to it. We will see that we can sometimes, at little cost, shed light on the elements of Science and Arts.”

³ The translations from French given in this paper remain quite close to the terminology of the original authors, and favor similar English terms. The French word *régime* will be systematically translated by *regime* and we will see that its meaning evolved during the 18th century.

[. Dumarsais a fait usage de ce mot en bien des occurrences, sans en faire en son lieu un article exprès : nous développerons nos vûes sur cet objet au mot REGIME, en y exposant les principes de Grammaire qui peuvent y avoir rapport. On y verra que l'on peut quelquefois à peu de frais répandre la lumiere sur les élémens des Sciences & des Arts.] (Beauzée, entry "Gouverner", in *Encyclopedia*, vol. 7, p. 792, 1757)

Even if the definition of the notion of *complement* is given in rather semantic terms, it is, without any doubt, a syntactic notion that Beauzée introduces, as shown by the following examples:

"We must see, as the *complement* of a word, what is added to that word to determine its meaning, in whatever way it may be. [...] The general meaning [of the noun *book*] is restricted when we say *a new book*, *Peter's book* (*liber Petri*), *a grammar book*, *a book that can be useful*; and in these phrases, *new*, *Peter's* (*Petri*), *grammar* or *that can be useful* are all *complements* of *book*. *Learned* is an adjective; the general meaning is limited when one says, for example, that a man is *not very learned*, that he is *very learned*, that he is *more learned than wise*, [...] that he is *learned in law*, &c. in all these phrases, the different *complements* of the adjective *learned* are *not very*, *very*, *more than wise*, [...] *in law*. It is the same thing, for example, of the verb *to love*; [...] *we love a lot*, *we love ardently*, *we love more sincerely*, *we love in appearance*, *we love with a constancy that nothing can alter*; these are all ways to determine the degree of meaning of the verb *to love*, & consequently the *complements* of this verb. The adverb *wisely* can also take various complements; one can say *not very wisely*, *very wisely*, *more wisely than ever*, *as wisely as fortunately*, *wisely without affectation*, etc."

[On doit regarder comme *complément* d'un mot, ce qu'on ajoute à ce mot pour en déterminer la signification, de quelque manière que ce puisse être. [...] *Livre* est un nom appellatif ; la signification générale en est restreinte quand on dit, *un livre nouveau*, *le livre de Pierre* (*liber Petri*), *un livre de grammaire*, *un livre qui peut être utile* ; & dans ces phrases, *nouveau*, *de Pierre* (*Petri*), *de grammaire*, *qui peut être utile*, sont autant de *complémens* du nom *livre*. *Savant* est un adjectif ; la signification générale en est restreinte quand on dit, par exemple, qu'un homme est *peu savant*, qu'il est *fort savant*, qu'il est *plus savant que sage*, [...] qu'il est *savant en droit*, &c. dans toutes ces phrases, les différens *complémens* de l'adjectif *savant* sont *peu*, *fort*, *plus que sage*, [...] *en droit*. C'est la même chose, par exemple, du verbe *aimer* ; [...] *on aime beaucoup*, *on aime ardemment*, *on aime plus sincèrement*, *on aime en apparence*, *on aime avec une constance que rien ne peut altérer* ; voilà autant de manieres de déterminer le degré de la signification du verbe *aimer*, & conséquemment autant de *complémens* de ce verbe. L'adverbe *sagement* peut recevoir aussi divers complémens ; on peut dire, *peu sagement*, *fort sagement*, *plus sagement que jamais*, *aussi sagement qu'heureusement*, *sagement sans affectation*, &c.] (Beauzée, entry "Régime", in *Encyclopedia*, vol. 14, p. 5, 1765)

Beauzée notes that complementation is a recursive process and that one complement can be embedded in another one:

"For example, in this sentence, *we have to live with men similar to us*: *us* is the *complement* of the preposition *to*; *to us* is the *complement* of the adjective *similar*; *similar to us* is the total *complement* of the appellative noun *men*."

[Par exemple, dans cette phrase, *nous avons à vivre avec des hommes semblables à nous* :

ce dernier *nous* est le *complément* de la préposition *à* ; *à nous* est celui de l'adjectif *semblables* ; *semblables à nous* est le *complément* total du nom appellatif *les hommes*.] (*ibid.*, p. 5)

The only relation that is not analyzed in terms of complementation is the subject relation:⁴ in the previous example, the verb *have* with its whole complement is “the total attribute, the subject of which is *we*.” (Articles are not analyzed either in terms of complementation and are not separated from the noun.)

Beauzée considered in fact two kinds of complements, which more or less correspond to Tesnière's (1959) notions of actant and circumstant or the notions of argument and modifier. The definition of the modifier is based on the notion of determination introduced in the *Logic* of Port-Royal (see section 3.1) (Auroux 1981). The following quotation is taken from Beauzée's *Grammar*, published two years after his article *Régime* which it reiterates with only minor modifications and a few additions:

There are, in general, two kinds of words likely to be a *Complément*: 1°. those which have a general meaning, which can consequently receive different degrees of determination; 2°. those which have by themselves a relative meaning, and which require the expression of a consequent term of the relationship which they express. The addition serves to change the meaning of the words of the first species; it completes the meaning of the words of the second species.

[Il y a, en général, deux sortes de mots susceptibles de Complément : 1°. ceux qui ont une signification générale, qui peut, en conséquence, recevoir différents degrés de détermination ; 2°. ceux qui ont par eux mêmes une signification relative, & qui exigent l'expression d'un terme conséquent du rapport qu'ils expriment. L'addition sert à changer la signification des mots de la première espèce ; elle complète la signification des mots de la seconde.] (Beauzée 1967: 45)

Beauzée was probably the first author to remark that arguments could not be defined in terms of determination. Words that govern an argument are called relative words, because they define a relationship between their governor (including the subject for verbs), called the *antecedent* of the relationship, and their argument, called the *consequent*.

Examples of relative nouns: *the founder of Rome*, [...] *the father of Cicero* [...] Examples of relative adjectives: *necessary for life*, [...] *easy to conceive*, &c. Examples of relative verbs: *to love God*, *to fear his justice*, *to go to the city*, *to return from the army*, *to pass through the garden*; *to resemble someone*, *to repent of one's errors*, *to begin to drink*, *to desire to be rich*, &c. When one says, *to give something to someone*, *to receive a present from one's friend*, the verbs *give* and *receive* each have two *complements* that fall on the idea of the relationship that they express. [...] As for prepositions, by their very nature they require a *complement*, which is a noun, a pronoun or an infinitive.

⁴ The term *complément* is used by Beauzée (and Du Marsais) to denote both arguments and modifiers. It still has this meaning in French, where *complément circonstanciel* is a very common term for denoting phrases modifying a verb.

[Exemples de noms relatifs : *le fondateur de Rome*, [...] *le pere de Cicéron* [...] Exemples d'adjectifs relatifs : *nécessaire à la vie*, [...] *facile à concevoir*, &c. Exemples de verbes relatifs : *aimer Dieu*, *craindre sa justice*, *aller à la ville*, *revenir de l'armée*, *passer par le jardin* ; *ressembler à quelqu'un*, *se repentir de sa faute*, *commencer à boire*, *desirer d'être riche*, &c. quand on dit, *donner quelque chose à quelqu'un*, *recevoir un présent de son ami*, les verbes *donner* & *recevoir* ont chacun deux *complémens* qui tombent sur l'idée de la relation qu'ils expriment. [...] Quant aux prépositions, il est de leur essence d'exiger un complément, qui est un nom, un pronom ou un infinitive.] (Beauzée, entry "Régime", in *Encyclopedia*, vol. 14, p. 5, 1765)

Beauzée introduced the concept of *head word* of a complement (see Sweet 1891: sect. 40-41, Bloomfield 1933), pointing out that one word of the complement is more important than the others, which is called "the first word in the analytical order" (on analytical order, see section 2.3). The concept of head word of a complement entails the concept of *dependent*, which Beauzée called the *initial complement*. Beauzée also remarked that when the initial complement is an inflected word, it can be characterized in morphosyntactic terms. Such a *morphosyntactic head* of a complement (Zwicky 1985) is called a *grammatical complement* by Beauzée:

"If the first word is an adjective, or a noun, or the equivalent of a noun, it can be regarded as the *grammatical complement* because it is the only one which is subject to the laws of syntax of the languages which admit declension, to take such or such a form, as a *complement*: if the first word is on the contrary an adverb or a preposition, as these words are indeclinable and do not change form, we will only consider the first word as an *initial complement*."

[Si le premier mot est un adjectif, ou un nom, ou l'équivalent d'un nom, on peut le regarder comme le *Complément grammatical*; parce que c'est le seul qui soit assujetti par les lois de la syntaxe des langues qui admettent la déclinaison, à prendre telle ou telle forme, en qualité de *Complément* : si le premier est au contraire un adverbe ou une préposition, comme ces mots sont indéclinables & ne changent pas de forme, on regardera seulement le premier mot comme *complément initial*.] (*ibid.*, p. 5)

2.2. Beauzée's syntactic structures

We come now to Beauzée's main contribution to dependency syntax. Beauzée introduced two complementary structural notions: the complement as a phrase, which he proposed to call the *logical* or the *total complement*, and the complement as a word, the *initial* or the *grammatical complement*, which is the head word of the former. This is all the more remarkable as even Tesnière (1959), almost two centuries later, confused the two notions, using the term *node* (Fr. *nœud*) for both of them (Kahane & Osborne 2015). Tesnière (1959) first wrote: "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" (Ch. 3, §3), but later in the book he used the term *node* to mean just 'vertex' ("The *node* is nothing more than a geometric point." Ch. 22, §12) and vertices are labeled by words in his stemma.

The relations between the two notions of complement introduced by Beauzée were not formally stated until the French mathematician Yves Lecerf (1960) showed the equivalence between dependency trees and (headed) phrase structure trees by introducing the notion of *projection* (see also Kahane 1997, Kahane & Mazziotta 2015).

Without introducing the latter notion explicitly, Beauzée clearly explains how the dependency relation applied recursively gives the projection of a word:

“A word which serves as a *complement* to another, may itself require a second word, which, for the same reason, may be followed by a third, to which a fourth will also be subordinated, and so on; so that each *complement* being necessary to the fullness of the meaning of the word it modifies, the last two constitute the total *complement* of the preceding one; the last three make the total *complement* of the one that precedes the latter; and so on until the first *complement*, which fills all its destination [= position], only as long as it is accompanied by all those that are subordinate to it.”

[Un mot qui sert de complément à un autre, peut lui-même en exiger un second, qui, par la même raison, peut encore être suivi d'un troisième, auquel un quatrième sera pareillement subordonné, & ainsi de suite ; de sorte que chaque complément étant nécessaire à la plénitude du sens du mot qu'il modifie, les deux derniers constituent le complément total de l'antépénultième ; les trois derniers font la totalité du complément de celui qui précède l'antépénultième ; & ainsi de suite jusqu'au premier complément, qui ne remplit toute sa destination, qu'autant qu'il est accompagné de tous ceux qui lui sont subordonnés.] (*ibid.*, p. 5)

I will now analyze the main example in Beauzée's article, where he described simultaneously a dependency tree and another structure presented below:

“For instance, in the sentence *with the care required in circumstances of this nature*; the word *nature* is the grammatical *complement* of the preposition *of*; *this nature* is its logical *complement*; the preposition *of* is the initial *complement* of the appellative noun *circumstances*; and *of this nature* is its total *complement*; *circumstances* is the grammatical *complement* of the preposition *with*; and *circumstances of this nature* is its logical *complement*; *in* is the initial *complement* of the participle *required* and *in circumstances of this nature* is its total *complement*; the participle *required* is the grammatical *complement* of the appellative noun *the care* and *required in circumstances of this nature* is its logical *complement*; *the care* is the grammatical *complement* of the preposition *with* and *the care required in circumstances of this nature* is its logical *complement*.”

[Par exemple, dans cette phrase, *avec les soins requis dans les circonstances de cette nature* ; le mot *nature* est le *complément* grammatical de la préposition *de* : *cette nature* en est le *complément* logique : la préposition *de* est le *complément* initial du nom appellatif *les circonstances* ; et *de cette nature* en est le *complément* total : *les circonstances*, voilà le *complément* grammatical de la préposition *dans* ; et *les circonstances de cette nature* en est le *complément* logique : *dans* est le *complément* initial du participe *requis* ; & *dans les circonstances de cette nature* en est le *complément* total : le participe *requis* est le *complément* grammatical du nom appellatif *les soins* ; *requis dans les circonstances de cette nature*, en est le *complément* logique : *les soins*, c'est le *complément* grammatical de la préposition *avec* ; & *les soins requis dans les circonstances de cette nature*, en est le *complément* logique.] (*ibid.*, p. 5)

While Beauzée does not propose a graphical representation, his description contains all the elements necessary to do so, and is depicted in Figure 1: on the left are shown the relations between each word and its initial complement, that is, its dependent, and on

the right the relations between each word and its total complement.

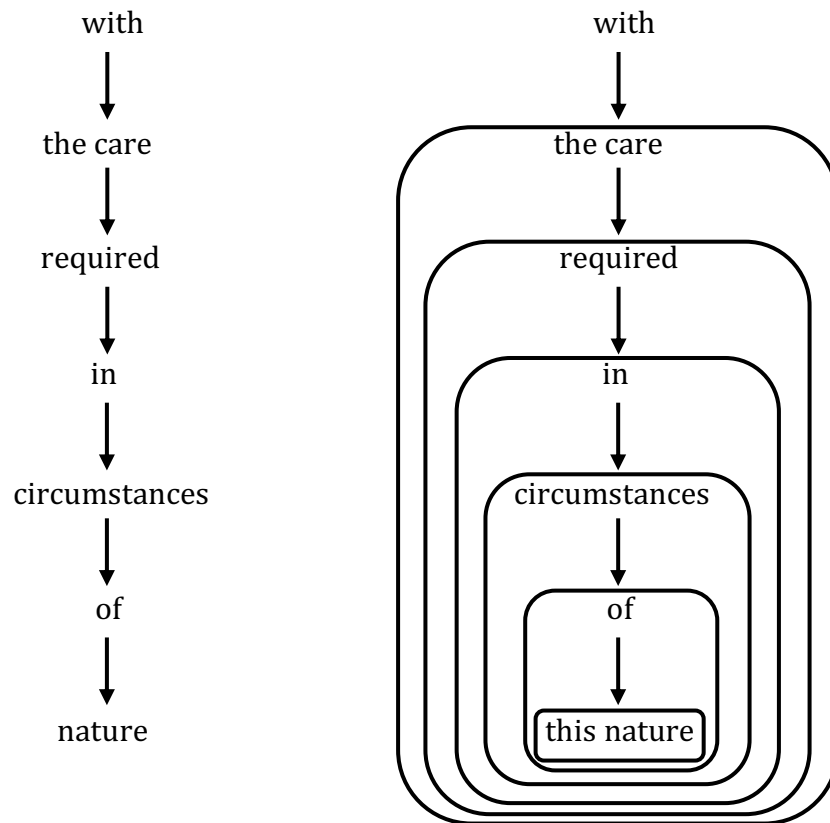


Figure 1. Beauzée’s grammatical/initial complements and logical/total complements

As we can see, the structure on the left of Figure 1 is a dependency tree. A structure such as the one on the right of Figure 1 was proposed by the Russian mathematician Aleksej Gladkij (1968) as an alternative to dependency trees. In Kahane (1997), I proposed to call such structures Gladkij trees, but it is now clear that they must be called Beauzée-Gladkij trees. The two structures are equivalent since the initial complement is the *head word* of the total complement and the total complement is the *projection* of the initial complement. The Beauzée-Gladkij tree contains constituents, but unlike a phrase structure tree, the structure is not described in terms of part-whole relations between constituents, but in terms of dependency relations between a constituent and its governor.

2.3. Analytical order

Since Port-Royal, there has been a lively debate to decide whether word order in French (and similar languages such as English) is the “natural order of thought” (Ricken 1978: 131). Beauzée took part in this debate by defining a linear order he called the *analytical order*. The analytical order is directly related to the dependency structure, because the head word of each complement is “the word that is the first in the analytical order” [le mot qui y est le premier selon l’ordre analytique] (*ibid.*, p. 5). In other words, the analytical order is a projective head-initial dependency tree, as remarked by Dominicy

(1982).⁵

If the analytical order is understood not as a linear order but as a structural order equivalent to its underlying dependency structure, most of the remarks that Beauzée made about the analytical order, such as the following one at the very beginning of the chapter on syntax in his grammar, where structural relationships are evoked in order-based terms, are valuable:

“The object of language is the utterance of the thought. In whatever language, words cannot excite any perfect meaning in the mind unless they are accompanied by a matter that captures their mutual relations, relations which are the image of the relationships that are found in the very ideas that words express. For, even though thought is indivisible, Logic analyzes it in some sounds, considering separately the different ideas that are its matter; and the relationships that unite them in the mind. Every relationship presupposes a first term, then a second; any idea which is the second term of a relationship is at the same time the first term of another relationship.”

[L'objet du langage est l'énonciation de la pensée. Or, en quelque langue que ce puisse, les mots ne peuvent exciter dans l'esprit aucun sens parfait, s'il ne sont assortis d'une matière qui rende sensibles leurs rapports mutuels, qui sont l'image des relations qui se trouvent dans les idées mêmes que les mots expriment. Car, quoique la pensée soit indivisible, la Logique vient à bout de l'analyser en quelques sons, en considérant séparément les idées différentes qui en sont comme la matière ; & les relations qui les unissent dans l'esprit. Toute relation suppose un premier terme, puis un second ; & telle idée qui est le second terme d'un rapport, est en même temps le premier terme d'un autre rapport.] (Beauzée1767: 1)

This passage evokes linguistic models such as Meaning-Text Theory (Mel'čuk 1988), where every language is modeled as a correspondence between abstract semantic representations and phonetic representations of texts.⁶ According to Meaning-Text Theory, the choice of a lexical unit expressing a given meaning is directly constrained by the syntactic position that this unit occupies in the dependency tree, as noticed by Beauzée:

“the accidental forms of words are decided only because of the rank occupied in the analytical order by the ideas of which they are the signs.”

[les formes accidentelles des mots ne se décident qu'à raison du rang qu'occupent dans l'ordre analytique les idées dont ils sont les signes.] (Beauzée 1767: 3)

Of course, Beauzée's analytical order must also be understood as a linear order and,

⁵ In fact, Dominicy (1982) discussed the structure considered by Condillac (1775), but I think that this grammar does not contain anything new concerning our purpose compared to Beauzée (1767).

⁶ The semantic representation of Meaning-Text Theory is not only not linearized but also not hierarchized. A Meaning-Text model proceeds from the meaning to the text, first hierarchizing the information and producing a dependency tree and then linearizing it to produce a (phonetic) text.

following Girard (1747), languages are classified into analogous languages, the order of which is “analogous to the order of thought”,⁷ and transpositive languages, which have a flexible word order, such as Latin or Ancient Greek. Consequently, every surface order that does not follow the analytical order is considered as an *inversion*, as developed in the entry *Inversion* of the *Encyclopedia*:⁸

“transpositive languages were only able to obtain the freedom not to follow [the analytical order] scrupulously by giving their words inflections which were relative to it; so that to be precise, they have abandoned it only in form, and have remained subject to it in fact; this necessary influence of the analytical order has not only regulated the syntax of all languages; it has also determined the language of Grammarians of all times: all their observations were related to this order alone when they considered speech simply as the enunciation of thought, that is, when they had in mind only the grammaticality of elocution; the analytical order is therefore, in relation to Grammar, the natural order.”

[les langues transpositives n'ont pu se procurer la liberté de ne pas suivre scrupuleusement [l'ordre analytique] qu'en donnant à leurs mots des inflexions qui y fussent relatives ; de maniere qu'à parler exactement, elles ne l'ont abandonné que dans la forme, & y sont restées assujetties dans le fait ; cette influence nécessaire de l'ordre analytique a non-seulement réglé la syntaxe de toutes les langues ; elle a encore déterminé le langage des Grammairiens de tous les tems : c'est uniquement à cet ordre qu'ils ont rapporté leurs observations, lorsqu'ils ont envisagé la parole simplement

⁷ Following his predecessors, Beauzée tried to defend the fact that the head-initial order is the order of thought:

“It is in fact the analytical order of thought that determines the succession of words in all analogous languages [...] It is usual in all these languages for the subject to precede the verb, because it is the natural order for the mind to first see a being before observing its way of being; for the verb to be followed by its complement, because any action must begin before reaching completion; and for the preposition to have its complement after it, because it expresses a meaning begun that the complement completes.”

[C'est en effet l'ordre analytique de la pensée qui fixe la succession des mots dans toutes les langues analogues [...] C'est l'ordinaire dans toutes ces langues que le sujet précède le verbe, parce qu'il est dans l'ordre que l'esprit voye d'abord un être avant qu'il en observe la maniere d'être ; que le verbe soit suivi de son complément, parce toute action doit commencer avant que d'arriver à son terme ; que la préposition ait de même son complément après elle, parce qu'elle exprime de même un sens commencé que le complément acheve.] (entry “Inversion”, in *Encyclopedia*, vol. 8, p. 853, 1765)

⁸ This point of view is strongly reminiscent of Chomsky's (1965) generative-transformational grammar, where the deep structure is ordered and every surface construction that does not conform to the deep linear order is considered as the result of a *movement*. Interestingly, Chomsky (1965: 7) discussed Diderot (1751), who was a defender of the natural order of thought. Note that some contemporaries of Diderot and Beauzée had a highly nuanced position (see Du Marsais's astute position in section 3.4 and D'Alembert 1767). But it was probably not until Tesnière (1959: ch. 6) that a theory was first proposed to explain the fact that the structural order need not be linearly ordered.

comme énonciative de la pensée, c'est-à-dire, lorsqu'ils n'ont eu en vûe que le grammatical de l'élocution ; l'ordre analytique est donc, par rapport à la Grammaire, l'ordre naturel ; & c'est par rapport à cet ordre que les langues ont admis ou proscrit l'inversion.] (entry "Inversion", in *Encyclopedia*, vol. 8, p. 857, 1765)

2.4. Syntactic constraints on word order

As mentioned above, Beauzée was particularly interested in the relation between syntactic structure and word order:

"Perhaps there is no more important point in syntax, especially to determine the analytical order, which is the compass of [languages] such as ours which have not admitted declension: there is, I say, no more important point than that concerning the arrangement of the various *Complements* of the same word."

[Il n'y a peut-être pas un point de syntaxe plus important, surtout pour bien fixer l'ordre analytique, qui est la boussole de[s langues] qui comme la nôtre, n'ont pas admis de déclinaison : il n'y a pas, dis-je, un point plus important que celui qui concerne l'arrangement des divers *Compléments* d'un même mot.] (Beauzée 1967: 77)

Beauzée actually made two important remarks about the relative order of codependents. The first concerns heavy shift (section 2.4.1), and the second projectivity (section 2.4.2).

2.4.1. Heavy shift

The first one concerns the so-called *heavy shift* (Ross 1967), which was introduced by Buffier (1709) (see section 3.2), for which Beauzée gives a rational explanation:⁹

"When several *complements* fall on the same word, it is necessary to put the shortest one first after the completed word; then the shortest of those that remain and so on until the longest of all, which must be the last. It is important for the clarity of the expression, *cujus summa laus perspicuitas*, to move what serves as the *complement* as little as possible away from a word. However, when several *complements* contribute to the determination of the same term, they cannot all follow it immediately; and all that remains is to bring the one that we are forced to keep away from it as close as possible to it: this is what we do by putting first the one which is the shortest, and keeping the longest for the end."

[De plusieurs *complémens* qui tombent sur le même mot, il faut mettre le plus court le

⁹ See Weil (1844: 97-102) for a criticism of Beauzée's explanation and the following remarkable reformulation: "When several complements fall on the same word, give the most concise form to the one immediately following the complete word and, as you go along, give the complements a more developed and extensive expression." [De plusieurs compléments qui tombent sur le même mot, donnez la forme la plus concise à celui qui suit immédiatement le mot completé et, à mesure que vous avancez, donnez aux compléments une expression plus développée et plus étendue.] In other words, it is not because a complement is heavy that it must be placed far from its governor, but it is because it is far from its governor that it must be heavy. Weil concludes with: "Speech is subservient to thought, not thought to speech." [La parole est au service de la pensée, et non pas la pensée au service de la parole.], which is an indirect reference to the *Port-Royal Grammar* (see section 3.1).

premier après le mot complété ; ensuite le plus court de ceux qui restent, & ainsi de suite jusqu'au plus long de tous qui doit être le dernier. [...] il importe à la netteté de l'expression, *cujus summa laus perspicuitas*, de n'éloigner d'un mot, que le moins qu'il est possible, ce qui lui sert de *complément*. Cependant quand plusieurs *compléments* concourent à la détermination d'un même terme, ils ne peuvent pas tous le suivre immédiatement ; & il ne reste plus qu'à en rapprocher le plus qu'il est possible celui qu'on est forcé d'en tenir éloigné : c'est ce que l'on fait en mettant d'abord le premier celui qui a le plus de brièveté, & réservant pour la fin celui qui a le plus d'étendue.] (Beauzée, entry "Régime", in *Encyclopedia*, vol. 14, p. 7, 1765)

2.4.2. Projectivity

The second remark concerns *projectivity* (Lecerf 1960) and the fact that discontinuous complements must be avoided:

"Let us add yet another, equally important, remark: it is that we must never break the unity of a total *complement*, by inserting another *complement* of the same word between its parts. The reason for this rule is obvious: speech must be a faithful image of thought; and each thought, or at least each idea, should, if possible, be expressed by a single word, in order to better depict its indivisibility; but as it is not always possible to reduce the expression to this simplicity, it is at least necessary not to separate the parts of an image whose original object is indivisible, so that the image is not in contradiction with the original, and that there is harmony between words and ideas."

[Ajoutons encore une autre remarque non moins importante à celles qui précèdent : c'est qu'il ne faut jamais rompre l'unité d'un *complément* total, pour jeter entre ses parties un autre *complément* du même mot. La raison de cette règle est évidente : la parole doit être une image fidèle de la pensée ; & il faudroit, s'il étoit possible, exprimer chaque pensée, ou du moins chaque idée, par un seul mot, afin d'en peindre mieux l'indivisibilité ; mais comme il n'est pas toujours possible de réduire l'expression à cette simplicité, il est du moins nécessaire de rendre inséparables les parties d'une image dont l'objet original est indivisible, afin que l'image ne soit point en contradiction avec l'original, & qu'il y ait harmonie entre les mots & les idées. [...] Les règles que je viens d'assigner sur l'arrangement de divers compléments, ne peuvent concerner que l'ordre analytique qu'il faut suivre quand on fait la construction d'une phrase, ou l'ordre usuel des langues analogues comme la nôtre. Car pour les langues transpositives, où la terminaison des mots sert à caractériser l'espèce de rapport auquel ils sont employés, la nécessité de marquer ce rapport par la place des mots n'existe plus au même degré.] (*ibid.*, p. 8)

Beauzée continues by remarking that the rules he had "just assigned to the arrangement of various *complements* can only concern the analytical order to be followed when constructing a sentence" in languages that are analogous to French, because in Latin and similar languages, "where the ending of words serves to characterize the type of relationship in which they are used, the need to mark this relationship by word order no longer exists to the same degree."

3. From Buffier to Beauzée

I hope that I have convinced the reader that, even if he never drew any syntactic structures, Beauzée had a very clear perception of syntax and what a dependency tree is.

We will now go back one century earlier to see how such an insight developed.

3.1. Port-Royal (1660, 1662)

The publication in 1660 of the *General and Rational Grammar* by Antoine Arnault (1612-1694) and Claude Lancelot (1615-1695), also called the *Port-Royal Grammar*, marks an epistemological break (Chevalier 1968, Dominicy 1984).¹⁰ It was followed two years later by *Logic or the Art of Thinking*, written by Antoine Arnault and Pierre Nicole (1625-1695). I will discuss two important contributions of the Port-Royal Grammar, the new definition of grammar (section 3.1.1) and the distinction between two functions of the verb (section 3.1.2), before seeing how it redefined the aim of syntax (section 3.1.3). Section 3.1.4 looks at a contribution of the *Port-Royal Logic*, which played a major role in characterizing the notions of complement and dependent.

3.1.1. The foundations of grammar

While previous grammars were organized as lists of grammatical prescriptions (cf. in particular the famous *Remarques* of Vaugelas (1647)), the aim of the *Port-Royal Grammar* was to understand how language works. This new grammar approached the topic on the semantic level as it presented grammar as “the Art of speaking” and defined it in terms that prefigure the theory of signs of Saussure (1916):

“To speak is to explain thoughts by signs, which men have invented for this purpose. [...] Two things can be considered in these signs. The first is what they do by their nature, i.e. as sounds and characters. The second is their meaning, that is, how men use them to make their thoughts known.”

[La Grammaire est l'Art de parler. Parler est expliquer les pensées par des signes, que les hommes ont inventés à ce dessein. [...] L'on peut considérer deux choses dans ces signes. La première ; ce qu'ils font par leur nature, c'est à dire en tant que sons & caractères. La seconde ; leur signification ; c'est à dire la manière dont les hommes s'en servent pour signifier leurs pensées.] (Arnault & Lancelot 1660: 5)

For instance, to understand why there are diverse parts of speech in languages, and in particular nouns and verbs, we need to start from the meaning we want to express:

“the knowledge of what happens in our mind is necessary to understand the foundations of Grammar; and on it depends the diversity of the words that make

¹⁰ Beauzée gave credit to four of his predecessors: Wallis, Buffier, Girard and Du Marsais. While the latter three are French grammarians, heirs of Port-Royal, John Wallis was an English grammarian and mathematician who published his grammar of English in 1753. Although the book does not contain a definition of syntax and syntactic structure, Wallis used a conceptual apparatus which appears to be largely dependency-based:

Adjectives are linked to their substantives without showing any indication of case, gender, or even number, in precisely the same way as adverbs are linked to verbs and other parts of speech. They are mostly put immediately before the substantive, if they are alone, and not accompanied by subordinate qualifiers which they govern. (Wallis 1653: ch. V, translated from Latin by Kemp 1972)

up the discourse.”

[la connoissance de qui se passe dans notre esprit est necessaire pour comprendre les fondemens de la Grammaire; & sur c'est de là que dépend la diversité des mots qui composent le discours.] (*ibid.*, p. 17)

3.1.2. *The functions of the verb and the subject-attribute relation*

Arnault and Nicole considered that the finite verb has two main functions. Although it is the second one, the relation of attribution, that is particularly relevant here, both will be presented, because they are often confused, and it is one of the great contributions of the *Port-Royal Grammar* to have separated them.

The first main function of the finite verb is to support the illocution and to mark the sentence as an assertion, called an *affirmation* in their terminology:

“Thus men did not have less need to invent words that mark *affirmation*, which is our main way of thinking, than to invent words that mark the objects of our thinking.”

[Ainsi les hommes n'ont pas eü moins de besoin d'inventer des mots qui marquassent l'*affirmation*, qui est la principale manière de notre pensée, que d'en inventer qui marquassent les objets de notre pensée.] (*ibid.*, p. 89)

Even if the notions of *speech act* and *illocution* (Gardiner 1932, Austin 1962) are not explicitly mentioned, it is quite clear that their *affirmation* corresponds to assertion. In particular, it is contrasted with the other illocutionary values that a sentence can have:

“I said that the main use of the Verb is to convey affirmation, because we will see below that it is also used to convey other movements of our soul; such as *to desire*, *to pray*, *to command*, etc.”

[J'ai dit que le *principal* usage du Verbe est de signifier l'affirmation, parce que nous ferons voir plus bas que l'on s'en sert encore pour signifier d'autres mouvements de notre ame ; comme de *desirer*, *prier*, *commander*, &c.] (*ibid.*, p. 90)

And when the verb is not finite, it loses its illocutionary force:

“And so the essential reason why a Participle is not a Verb, is that it does not convey *affirmation*.”

[Et ainsi la raison essentielle pourquoy un Participe n'est pas un Verbe, c'est qu'il ne signifie point l'*affirmation*.] (*ibid.*, p. 95)

The second main function of the finite verb is to support the predication and to form a *proposition* with its subject: ¹¹

¹¹ A parallel can be drawn between this quotation and the famous passage in Tesnière (1959: chap. 1): “a sentence of the type *Alfred speaks* is not composed of just the **two** elements, *Alfred* and *speaks*, but rather of **three** elements, the first being *Alfred*, the second *speaks*, and the third

“The knowledge of the nature of the Verb depends on what we said at the beginning of this discourse, that the judgment we make about things (as when I say, *the earth is round*) necessarily includes two terms: one called subject, which is what we affirm about, such as *earth*; and the other called attribute, which is what is affirmed, such as *round*. And moreover the connection between these two terms, which is strictly the action of our mind that affirms the attribute about the subject.”

[La connoissance de la nature du Verbe dépend de ce que nous avons dit au commencement de ce discours, que le jugement que nous faisons des choses (comme quand je dis, *la terre est ronde*) enferme nécessairement deux termes; l'un appelé sujet, qui est ce dont on affirme, comme, *terre*; & l'autre appelé attribut, qui est ce qu'on affirme, comme *ronde* : Et de plus la liaison entre ces deux termes, qui est proprement l'action de notre esprit qui affirme l'attribut du sujet.] (*ibid.*, p. 89)

The definition of subject and attribute given by Arnault and Nicole, in terms of affirmation (what we affirm about vs. what is affirmed), corresponds today to the notions of topic and comment (Weil 1844:25), which are now distinguished from subject and predicate. Arnault and Nicole do not apply their definition coherently, because they consider that the subject-attribute relation can occur without affirmation (see below).¹²

Arnault and Nicole explain that, while the two functions, assertion/affirmation and predication, are merged in most finite verbs, they are separated in a predicative construction, such as *the earth is round*, the copula being the support of the affirmation and the adjective, the support of the predication. The notions of *subject*, *attribute*, and *proposition* are more semantic than syntactic and apply also when the attribute is a syntactic dependent of the subject:

“These kinds of propositions, in which the subject or the predicate is composed of several terms, contain, at least in our mind, several judgments, of which one can make as many propositions. Thus, for example, when I say, *Invisible God created the visible world*, three judgments pass through my mind which are included in this proposition. For I judge: (1) that *God is invisible*; (2) that *he created the world*; (3) that *the world is visible*. And of these three propositions, the second is the principal and essential one of the original proposition. But the first and the third propositions are only incidental, and are only parts of the main proposition —

the connection that unites them – without which there would be no sentence.” But contrary to Tesnière, Arnault and Nicole reified the connection by the copula and did not consider it as a purely structural object.

¹² Henri Weil (1818-1909), already mentioned in Note 9, deserves a few words. He was a reader of Beauzée, whom he quotes several times, and he is likely to have influenced Tesnière (1959), who cited very few of his sources. His thesis on word order is very innovative. Comparing French, English, German, Turkish, Chinese, Latin and Ancient Greek, Weil showed that word order depends on three factors: the topic-comment organization, which he was maybe the first to define, the syntactic structure, which follows Beauzée's and is dependency-based, and intonation. He distinguished between languages with free and fixed order and among languages with fixed order, between languages with ascending (= head-final) order and descending (= head-initial) order, a new classification which was wrongly attributed to Tesnière (1959) in (Kahane & Osborne 2015).

the former composing the subject of the principal proposition, and the latter composing its attribute.”

[Ces sortes de propositions dont le sujet ou l’attribut sont composés de plusieurs termes, enferment, au moins dans notre esprit, plusieurs jugements dont on peut faire autant de propositions. Comme quand je dis *Dieu invisible a créé le monde visible*, il se passe trois jugements dans mon esprit renfermé dans cette proposition. Car je juge premièrement que *Dieu est invisible*. 2. *Qu’il a créé le monde*. 3. *Que le monde est visible*. Et de ces trois propositions, la seconde est la principale et l’essentielle de la proposition. Mais la première et la troisième ne sont qu’incidentes, et ne font que partie de la principale, dont la première en compose le sujet, et la seconde l’attribut.] (*ibid.*, p. 68)

This very famous passage is sometimes understood as a discussion about subordination (cf. Rieux and Rollin (1975) who translate Fr. *incidente*, translated here by *incidental*, by *subordinate*), but I think that a semantic interpretation is more appropriate: while a sentence can contain several propositions, it contains only one affirmation and the main proposition is the one which realizes it. But of course, semantics and syntax are not perfectly separated and some remarks can be interpreted in both directions such as:

“the Relative [pronoun] has something more than the other pronouns in that it joins the proposition in which it occurs to another proposition; likewise, I believe that the Infinitive has over the affirmation of the Verb this power to join the proposition in which it occurs to another.”

[le Relatif a de plus que les autres pronoms qu’il joint la proposition dans laquelle il entre, à une autre proposition; je croy de mesme que l’Infinitif a pardessus l’affirmation du Verbe, ce pouvoir de joindre la proposition où il est à un autre.] (*ibid.*, p. 112)

(Like the participle, the infinitive has not the complete status of verb, because it cannot carry affirmation.)

3.1.3. *The syntactic program*

Arnault and Nicole were not really interested in describing the forms observed in languages. They acknowledged that these forms are partly arbitrary, as the comparison between Latin and French clearly shows, but that they are there on purpose, in order to express meanings. Cases or word order are means to express something and this is what must be discovered. Only a few pages are devoted to syntax, but they are enlightening:

“It remains to say a few words about the Syntax or Construction of words together, of which it will not be difficult to give general notions, according to the principles that we established. The construction of words can generally be separated into that of Convenience when the words must agree together, and that of regime, when one of the two causes a variation in the other.” (The term *regime* is used here in the sense acknowledged by Beauzée; see section 2.1.)

[Il reste à dire un mot de la Syntaxe ou Construction des mots ensemble, dont il ne sera pas difficile de donner des notions generales, suivant les principes que nous avons établis. La construction des mots se distingue generalement, en celle de Convenance quand les mots doivent convenir ensemble, & en celle de regime, quand l’un des deux cause une variation dans l’autre.] (*ibid.*, p. 140)

Each language has its own means of expression:

“Syntax of regime, on the contrary, is almost arbitrary, and for this reason is very different in all languages. For some make regimes by cases; others instead of cases merely use small particles in their place.”

[La Syntaxe de regime au contraire, est presque toute arbitraire, & par cette raison se trouve tres differente dans toutes les Langues. Car les unes font les regimes par les cas ; les autres au lieu de cas, ne se servent que de petites particules qui en tiennent lieu.]
(*ibid.*, p. 142)

With the *Port-Royal Grammar*, the program of linguistics changes: it is no longer the task of linguists to list all the possible forms allowed in a particular language; rather, it is to understand what a language is used for and what it expresses, which will be the program of pragmatics and semantics, and how it expresses it, which will be the program of syntax. This new program for syntax is only sketched out by Arnault and Nicole, but it paves the way for their successors and it is what explains the incredible progress that was made in syntax during the following century.

3.1.4. Determination

In *Logic or the Art of Thinking*, Arnault and Nicole introduced the notion of *determination*, opposed to the notion of *explanation* and which had been of great use in syntax, in the definition of syntactic dependency (Auroux & Rosier 1987, Bouard 2007: 194):

What is most remarkable about these complex terms is that the addition to a term is of two kinds: one that can be called *explanation*, and the other *determination*. This addition can be called *explanation* when it just develops [...], for example if I say: *Man, who is an animal endowed with reason*, or *Man, who naturally desires to be happy*, or *Man, who is mortal*. These additions are only explanations, because they do not change the idea of the word man at all, and do not restrict it to mean only part of humanity, but mark only what concerns all men. [...] The other kind of addition, that we can call *determination*, is when what we add to a general word restricts its meaning [...], for example if I say: *transparent bodies, learned men, a reasonable animal*. These additions are not simple explanations, but determinations, because they restrict the scope of the first term, so that the word *body* means only some bodies, the word *man*, only some men, the word *animal*, only some animals.

[Ce qu'il y a de plus remarquable dans ces termes complexes, est que l'addition que l'on fait à un terme est de deux sortes : l'une qu'on peut appeler *explication*, et l'autre *détermination*. Cette addition peut s'appeler seulement *explication* quand elle ne fait que développer [...]; comme si je dis : *L'homme, qui est un animal doué de raison*, ou *l'homme qui désire naturellement d'être heureux*, ou *l'homme, qui est mortel*. Ces additions ne sont que des explications, parce qu'elles ne changent point du tout l'idée du mot d'homme, et ne la restreignent point à ne signifier qu'une partie des hommes, mais marquent seulement ce qui convient à tous les hommes. [...] L'autre sorte d'addition, qu'on peut appeler *détermination*, est quand ce qu'on ajoute à un mot général en restreint la signification, et fait qu'il ne se prend plus pour ce mot général dans toute son étendue, mais seulement pour une partie de cette étendue; comme si je dis : *Les corps transparents*,

les hommes savants, un animal raisonnable. Ces additions ne sont point de simples explications, mais des déterminations, parce qu'elles restreignent l'étendue du premier terme, en faisant que le mot de *corps* ne signifie plus qu'une partie des corps, le mot d'*homme*, qu'une partie des hommes, le mot d'*animal*, qu'une partie des animaux.] (Arnault & Nicole 1662: chap. VII)

3.2 Buffier (1709)

Claude Buffier (1661-1737) put the syntactic program of Arnault and Lancelot into action in his *French Grammar* of 1709. The legacy of Buffier to syntax is generally not recognized at its true value, including by direct heirs such as Beauzée. This misappreciation may be due to Buffier's awkward terminology, directly borrowed from morphology or semantics. From our perspective, Buffier (1709) made a fundamental contribution to dependency syntax. Cf. also Chevalier (1968: 610), who acknowledged his exceptional contribution to the construction of the notion of *complement*.

This section presents the dependency-oriented definition of syntax given by Buffier, (section 3.2.1), his dependency-based definition of parts of speech (section 3.2.2), an example of the dependency structure he proposed (section 3.2.3), and some considerations about word order (section 3.2.4).

3.2.1. The definition of syntax

Buffier (1709) viewed syntax in terms of relations between words:¹³

“The way of constructing one word with another word, in relation to its various endings according to the rules of Grammar, is called syntax.”

[La manière de construire un mot avec un autre mot, par rapport à ses diverses terminaisons selon les règles de la Grammaire, s'appelle *syntaxe*.] (Buffier 1709: 47)

The chapter on syntax is called “About syntax or the way to join the parts of speech together, according to their various regimes” and it opens with the following metaphor:

“These various parts do, so to speak, in relation to a language, what materials do in relation to a building. No matter how well they are prepared, they will never make a palace, or a house, if they are not placed according to the rules of architecture.”

[De la syntaxe ou de la manière de joindre ensemble les parties d'oraison, selon leurs divers régimes – Les diverses parties font, pour ainsi dire, par rapport à une langue, ce que font les matériaux par rapport à un édifice. Quelque bien préparés qu'ils soient, ils ne feront jamais un palais, ou une maison, si on ne les place conformément aux règles de l'architecture.] (*ibid.*, p. 275)

¹³ This may be another reason why Buffier's contribution has been underestimated until now, since studies on the history of syntax began at the time when constituency-based syntax was predominant. Cf. Swiggers (1983a, 2006: 870), who denies Chevalier's claim that Buffier (1709) made a contribution to the theory of complementation.

In a section called “About words united together through syntax and style, to explore the nature of the one and the other” [Des mots unis ensemble par le moyen de la syntaxe & du stile, pour explorer la nature de l’un & de l’autre.] (*ibid.*, p. 86), Buffier quite explicitly distinguishes syntax proper, comparable to the *structural order* of Tesnière (1959), from *style*, which includes the *linear order* of Tesnière (1959). *Syntax* is defined as:

“the way to join the words of a language with one another, in relation to the various endings prescribed by the Grammar. Syntax thus focuses particularly on the construction and the natural suitability of each word with others; to make them agree in genre, in number, person, mode and case.”

[la manière de joindre chaque mot d’une langue l’un avec l’autre, par rapport aux diverses terminaisons que prescrit la Grammaire. La syntaxe donc regarde particulièrement la construction & la convenance naturelle de chaque mot avec un autre ; pour les faire accorder en genre, en nombre, en persone, en mode & en cas.] (*ibid.*, p. 87)

While *style* is defined as:

“the way in which the words, constructed according to the laws of Syntax, are arranged according to the taste of the language. We see by this definition 1° that the style assumes or contains Syntax, for if there were no Syntactic construction, what style could it have? 2° that Syntax does not extend as far as style, for the syntax of a discourse can be perfectly correct while its style may be very bad.”

[la manière dont les mots construits selon les loix de la Sintaxe, sont arangez entre eux dans le gout de la langue. On voit par cette définition, 1°. que le stile suppose ou renferme la Sintaxe ; car s’il n’y avoit aucune construction de Sintaxe, quel stile pouroit-il avoir ? 2°. que la Sintaxe ne s’étend pas aussi loin que le stile ; car la sintaxe peut se trouver très-juste dans un discours dont le stile sera très-mauvais.] (*ibid.*, p. 88)

Some examples follow, with the same words in different orders. They are contrasted with the following comment:

“The regimes and endings of each word are, in these sentences, fully in conformity with the rules of Syntax; there is no error of Syntax. However considering the arrangement of these same words to speak in the taste of the language, there is some error of style.”

[Les régimes & les terminaisons de chaque mot se trouvent dans ces phrases entièrement conformes aux règles de la Sintaxe ; il n’y a aucun faute de Sintaxe : cependant à l’arangement de ces mêmes mots pour parler dans le goût de la langue, & il y a quelque faute de stile.] (*ibid.*, p. 89)

The main notion of Buffier’s grammar is the notion he calls *régime*, which is without any doubt our modern notion of *syntactic dependent*, even if it is defined using the notion of determination introduced by Arnault and Nicole (1662), called here *particularization*:

“All the nouns or even all the words, which thus serve to particularize the meaning of another word, are the regime of this word; as if I say *a friend of pleasure*, the meaning of *a friend* is particularized by the word *of pleasure*; that is why *of pleasure* is the regime of *a friend*.”

[Tous les noms ou même tous les mots qui servent ainsi à particulariser la signification d'un autre mot, sont le régime de ce mot : comme si je dis *un ami de plaisir*, la signification d'*un ami* est particularisée par le mot *de plaisir* ; c'est pourquoi *de plaisir* est le régime d'*un ami*.] (*ibid.*, p. 57)

In the same way, every preposition has a syntactic dependent: in the sentence *God acts with justice*,

“*with* is a word which has no determined and complete meaning by itself, but by the word *justice* by which it is here followed and which is its regime.”

[*Dieu agit avec justice*. [...] *Avec* est un mot qui n'a point de sens déterminé & complet par lui-même ; mais par le mot *justice* dont il est ici suivi & qui en est le régime.] (p. 73)

More precisely the notion of *regime* corresponds to Beauzée's *initial complement* and is contrasted with the subject, called the *nominative* by Buffier, probably to avoid confusion with the semantic notion of *subject* considered by Arnault and Lancelot (1660):

“If the noun is currently used to express the subject about which one makes an affirmation, then it is properly called the *noun* or *nominative of the verb*: It is the main part and similar to the foundation of all that one utters. If the noun is only used to express the object that particularizes the meaning of the verb, then the noun is called the *regime of the verb*. When I say *The Shepherd knows his sheep*, the *Shepherd* is the nominative of the verb, because it is the subject about which something is actually being affirmed: the *sheep* is the *regime of the verb*, because it is the object that distinguishes the meaning of the verb *knows*, marking in particular what the Shepherd knows; likewise if I say *You are learned*: *you* will be the nominative, and *learned* will be the regime: because *learned* here particularizes the verb *are*, marking in particular what you are.”

[Si le nom est employé actuellement pour exprimer le sujet dont on affirme, alors il est appelé proprement le *nom* ou le *nominatif du verbe* : c'est la principale partie, & comme le fondement de tout ce qu'on énonce. Si le nom est seulement employé, pour exprimer l'objet qui particularise la signification du verbe alors le nom est appelé *régime du verbe*. Quand je dis *Le Pasteur connoît ses brebis*, le *Pasteur* est nominatif du verbe ; parce qu'il est le sujet dont on affirme actuellement quelque chose : les *brebis* est le *régime du verbe*, parce que c'est l'objet qui particularise la signification du verbe *connoît*, marquant en particulier ce que le Pasteur connoît : de même si je dis, *Vous êtes savant* ; *vous* sera le nominatif, & *savant* sera le régime : parce que *savant* particularise ici le verbe *êtes*, marquant en particulier ce que *vous êtes*.] (*ibid.*, p. 57)

But even if the subject is assigned a special status and is not considered as a dependent, unlike the other elements in the sentence, Buffier recognizes a certain centrality of the verb, by defining the subject as “the nominative of the verb”, while the verb was the “attribute of the subject” in Port-Royal.

3.3.2. *Parts of speech*

I will spend some time on the definition of parts of speech given by Buffier, because, maybe for the first time, their definition is truly syntactic and given in distributional

terms. Buffier asserts that there are three main parts of speech, which he calls *noun*, *verb* and *modificative*, a tripartite classification (cf. for instance Croft (1991, 2003: 184) who advocates a universal tripartite classification based on “the propositional acts of reference, predication, and modification”):¹⁴

“I call *noun* the word that is used to express the subject we are talking about; the word that is used to express what we attribute to the subject, or what we say (because these expressions here only mean the same thing) is called the *verb*. Both (i.e. the noun and the verb) are subject to various circumstances or modifications. If I say *Zeal acts*, here is a noun and a verb without any modification; but if I say *Zeal without prudence acts recklessly*, here is a noun and a verb each with a modification or circumstance. The latter kind of word, which only serves to modify the noun and the verb, has no general name in ordinary grammars. We will call them *modificatives* here: they will comprise what is commonly called, in grammars, *Adverbs, Prepositions, Conjunctions*, because they are only various kinds of modificatives.”

[Le mot qui sert à exprimer le sujet dont on parle; je l'appelle *nom*; le mot qui sert à exprimer ce que l'on attribue au sujet, ou ce qu'on en affirme (car ces expressions ne signifient ici que la même chose) je l'appelle *verbe*. [...] L'un & l'autre (c'est-à-dire le nom & le verbe) sont susceptibles de diverses circonstances ou modifications. Si je dis, *Le zele agit*, voilà un nom & un verbe sans aucune modification; mais si je dis, *Le zele sans prudence agit témérairement*. Voilà le nom & le verbe chacun avec une modification ou circonstance. Cette dernière sorte de mots, qui ne servent qu'à modifier le nom & le verbe, n'a point de nom général dans les grammaires ordinaires. On nous permettra de les appeler ici modificatifs: ils comprendront ce qu'on appelle communément dans les grammaires, *Adverbe, Préposition, Conjonction*; car ce ne sont que diverses sortes de modificatifs.] (*ibid.*, p. 45)

It is interesting to note that it is the predication, now considered as a fundamental property of language after Port-Royal, that serves to define the notions of noun and verb. More generally, the parts of speech are characterized by their distributional properties. To characterize the modificative, Buffier lists the different categories of words it can depend on:

“We have observed that modificatives combine with nouns; we can add that they combine with each other, or rather that they combine with various parts of language, to express the various modifications. For example: 1° *bien méchant* ‘very nasty’, 2° *aimer bien* ‘to like well’, 3° *bien mal-à-propos* ‘very inappropriately’; here is the adverb *bien* ‘well, very’ which combines with 1° an [adjectival] noun, 2° a verb, and 3° another adverb. But usage does not allow it to be so for all modificatives.”

[Nous avons observé que les modificatifs se joignent avec les noms; nous pouvons ajouter qu'ils se joignent les uns aux autres, ou plutôt qu'ils se joignent avec diverses parties du langage, pour en exprimer les diverses modifications; par exemple: 1 *bien*

¹⁴ Even if it seems quite clear in Buffier's text that the term *modificative* corresponds to a part of speech, some authors have interpreted it as a relational term, like *modifier* (Roelandt & Swiggers 1990, Bouard 2007: 220).

méchant : 2 *aimer bien* : 3 *bien mal-à-propos* ; voilà l'adverbe *bien* joint , 1 à un nom, 2 à un verbe, 3 à un autre adverbe : mais l'usage ne permet pas qu'il en soit ainsi de tous les modificatifs.] (*ibid.*, p. 75)

And when Buffier wants to prove that infinitives are kinds of nouns, he justifies this by showing that they can occupy the same syntactic positions as nouns:

“What Grammars commonly call verbs, such as *to love, to read, to sleep*, make real nouns, although they have particular properties. Because in fact they mean a subject we can talk about, they are often the nominative of verbs and even their regime; they are therefore real nouns. When one says *To confess one's fault is to repair it, to confess* is here the subject one is talking about and is the nominative of the verb *is*. And when one says *I want to confess my fault, to confess* is the true regime of the verb *I want*, as *my fault* is the regime of *to confess*.”

[Ce que les Grammaires appellent communément des verbes, comme *aimer, lire, dormir*, font de véritables noms substantifs ; bien qu'ils ayent des propriétés particulières. Car enfin ils signifient un sujet dont on peut parler ; ils sont souvent le *nominatif* des verbes & même leur *régime* ; ils sont par conséquent de vrais noms. En effet quand on dit, *Avouer sa faute est la réparer* ; *avouer* est ici le sujet dont on parle, & se trouve le nominatif du verbe *est*. Et quand on dit *je veux avouer ma faute* : *avouer* est le véritable régime du verbe *je veux* ; comme *ma faute* est le régime de *avouer*.] (*ibid.*, p. 59)

And he also notes that they nevertheless have a different combinatory:

“The infinitive expresses the very action of the verb and it retains its regime, but without marking any affirmation, which we believe is essential to the verb. Infinitives, as I have already insinuated, are real nouns, to which usage did not want to attach definite articles, or adjectives, and to which it did not give a plural form.”

[L'infinitif exprime l'action même du verbe, & il en conserve le régime, mais sans marquer d'affirmation, ce qui selon nous est essentiel au verbe. Les infinitifs comme je l'ai déjà insinué, sont de vrais noms substantifs, auxquels l'usage n'a point voulu qu'on joignit d'articles définis, ni d'adjectifs, & auxquels il n'a point donné de pluriel.] (*ibid.*, p. 70)

And when he discusses the fact that there are two kinds of participles, he does not classify them in semantic terms (as is commonly done nowadays when we call them *present vs. past participles*), but in syntactic terms, according to their diathesis:

“What Grammarians commonly call participles of verbs are real adjectives. [...] There are two kinds of participles, one called active, because it expresses the subject that accomplishes the action of the verb; such as *teaching, reading*; the other called *passive*, because it expresses the subject that receives the action of the verb, such as *taught, read*.”

[Ce que les Grammairiens appellent communément participes des verbes sont de véritables noms adjectifs. [...] Il y a deux sortes de participes, l'un nommé actif, parce qu'il exprime le sujet qui fait l'action du verbe ; comme *enseignant, lisant* ; l'autre nommé *passif*, parce qu'il exprime le sujet qui reçoit l'action du verbe, comme *enseigné, lu*.] (*ibid.*, p. 59 and 71)

Buffier explicitly notes that nouns (called *substantive nouns* by him) cannot be defined in semantic terms:

“We will mention here in passing a considerable misunderstanding by several Grammarians. They commonly say that the substantive noun is the one that designates a substance. They are mistaken. It is because, seeing substances being expressed by substantive nouns, they called all sorts of nouns *substantives*: but it by no means follows that all substantive nouns designate *substances*: witness the nouns *accident, lightness, etc.*, which do not mean substances and which are nonetheless real substantive nouns. Perhaps the Grammarians meant here by *substance* only the subject we talk about; and if that is the case, we praise their intention.”

[Nous remarquerons ici en passant une méprise considérable de plusieurs Grammairiens. Ils disent communément, que le nom substantif est celui qui désigne une substance. Ils ont pris le change. C'est que voyant les substances s'exprimer par les noms substantif, ils ont apelé *substantifs* toutes sortes de noms : mais il ne s'ensuit nullement que tous les noms substantifs désignent des *substances* : témoins les noms, *accident, légéreté, &c.* qui ne signifient rien moins que des substances, & qui sont de vrais noms substantifs. Peut-être les Grammairiens n'ont-ils voulu dire ici par *substance*, que le sujet dont on parle ; & si cela est, nous louons leur intention.] (*ibid.*, p. 52)

Buffier notes that there are three kinds of modificatives: 1° words, such as adjectives or adverbs, 2° prepositional phrases, and 3° subordinate clauses:

“These modifications are expressed in three remarkable ways: 1° by an expression which itself has a complete meaning and without any regime; 2° by an expression which has a complete meaning only with the help of another word which is its regime; 3° by an expression which serves to mark the relationship of words or clauses, between which it forms and indicates a kind of junction. If I say: 1° *God acts justly*; 2° *God acts with justice*; 3° *God acts in such a way that He does justice*, in these three sentences are the three kinds of expression that I want to explain here.”

[Ces modificatifs s'expriment en trois manières plus remarquables, 1°. par une expression qui a elle-même un sens complet & sans aucun régime : 2°. par une expression qui n'a un sens complet qu'avec le secours d'un autre mot qui en est le régime : 3° par une expression qui sert à marquer le raport des mots ou des phrases, entre lesquelles elle forme & indique une sorte de jonction. Si je dis : 1°. *Dieu agit justement* ; 2°. *Dieu agit avec justice* ; 3° *Dieu agit de manière qu'il fait justice* ; dans ces trois phrases se trouvent les trois sortes d'expression que je veux expliquer ici.] (*ibid.*, p. 73)

We have seen that Buffier considers the preposition as the head of the prepositional phrase. In the same way, he considers that the relative pronoun or the subordinating conjunction is the head of the subordinate clause:

“The pronoun *qui* ‘that’ or *lequel* ‘which’ in all cases is therefore only a sign of the modification that we will add to the noun or the object we are talking about. It is about the same as the *que* ‘that’ after verbs, as in *je veux que l'on soit équitable* ‘I want us to be fair’, lit. ‘I want that we be fair’ or *vous aimez que l'on vous loue* ‘you

like people to praise you', lit. 'you like that people praise you'. The *que* in these sentences is only a sign of the modification that we will add to the verb; I do not *want* in general, but with this modification *that we be fair*, etc. [...] The pronouns *qui, que, lequel* or *laquelle* in all cases serve only as a clue to the rest following this pronoun and without which it would make no sense."

[Le pronom *qui* ou *lequel* dans tous les cas n'est donc qu'un signe de la modification, qu'on va ajouter au nom ou à l'objet dont on parle. Il est en est de même à peu près du *que* après les verbes ; comme *je veux que l'on soit équitable*, ou *vous aimez que l'on vous loue*. Le *que* dans ces phrases n'est qu'un signe de la modification qu'on va ajouter au verbe ; je *veux* non pas en général, mais avec cette modification que *l'on soit équitable*, &c. [...] Les pronoms *qui, que, lequel* ou *laquelle* dans tous les cas, ne sont que pour servir d'indice à la suite de ce pronom, & sans laquelle il ne feroit aucun sens.] (*ibid.*, p. 78 and 79)

About the subcategorization of verbs, Buffier introduces two syntactic functions for what are now called *direct* and *indirect objects*:

"A word can have two different regimes, which happens especially to verbs that signify some action, such as *We must sacrifice vanity to rest*. Of these two regimes we will call one *absolute regime*, the other *respective regime*: the absolute one is the one that particularizes the action of the verb; the respective one is the one with respect to which the particularized action of the verb is made. In the previous sentence, *vanity* is the absolute regime and *to rest* is the respective regime; because it is with respect to rest that the particular action of *sacrificing vanity* is made."

[Un mot peut avoir deux régimes divers ; ce qui arrive sur-tout aux verbes qui signifient quelque action ; comme *Il faut sacrifier la vanité au repos*. De ces deux régimes nous appellerons l'un *régime absolu*, l'autre *régime respectif*: l'absolu est celui qui particularise l'action du verbe ; le respectif est celui à l'égard duquel se fait l'action particularisée du verbe. Dans la phrase rapportée, *la vanité* est le régime absolu, & *au repos* est le régime respectif ; parce que c'est à l'égard du repos que se fait l'action particulière de *sacrifier la vanité*.] (*ibid.*, p. 58)

3.2.3. Buffier's syntactic structure

Let us move on to syntactic structure and dependency syntax. For Buffier, the sentence has a complete syntactic structure and every word is the dependent of another word except the main verb and its subject:

"It may perhaps be said that, if it is so, all verb regimes and even most words are modificative, to which I answer that we would tell the truth. Indeed, all parts of speech, with respect to each other, are all modificative, falling either on the verb or on the noun of the verb, the two essential parts of language."

[On dira peut-être que s'il en est ainsi, tous les régimes des verbes, & même la plupart des mots seroient modificatifs : à quoi je répons qu'on dira vrai. En effet toutes les parties d'oraison les unes à l'égard des autres, sont toutes des modificatifs, qui retombent ou sur le verbe ou sur le nominatif du verbe, les deux parties essentielles du langage.] (*ibid.*, p. 79)

Then comes the most impressive part of Buffier's book, the following analysis of a sentence:

"A man who overwhelms people he meets with frivolous talk is wont to cause a lot of boredom to everyone. I say that in this discourse, all the words serve to modify the noun a man and the verb is wont, and that it is in this that all the mystery and all the essence of the syntax of languages consists: 1° the noun a man is modified first of all by the determinative who, because we are not considering a man in general, but a man marked and determined in particular by the action he makes to overwhelm; [2°] likewise he is not a man who overwhelms in general, but who overwhelms in particular people, and [3°] not people in general, but people he meets. [4°] Now this man who overwhelms those he meets, is in turn particularized by with talk, and [5°] talk is in turn particularized by frivolous. We can see the same in the following part of the sentence: [6°] is wont is particularized by to cause, [7°] to cause is particularized by its two regimes, by its absolute regime, namely, a lot of boredom, and [8°] by its respective regime, to everyone. This is how all the words in a sentence, no matter how long it is, serve only to modify the noun and the verb."

[Un homme qui étourdit les gens qu'il rencontre avec de frivoles discours, a coutume de causer beaucoup d'ennui à tout le monde. Je dis que dans ce discours, tous les mots sont pour modifier le nom un homme, & le verbe a coutume, & que c'est en cela que consiste tout le mystère & toute l'essence de la syntaxe des langues : 1° le nom un homme, est modifié d'abord par le qui déterminatif : car il ne s'agit pas ici d'un homme en général, mais d'un homme marqué & déterminé en particulier par l'action qu'il fait d'étourdir ; de même il ne s'agit pas d'un homme qui étourdit en général, mais qui étourdit en particulier les gens, & non pas les gens en général, mais en particulier les gens qu'il rencontre. Or cet homme qui étourdit ceux qu'il rencontre, est encore particularisé par avec des discours, & discours est encore particularisé par frivoles. On peut voir le même dans la suite de la phrase : a coutume est particularisé par de causer, de causer est particularisé par ses deux régimes, par son régime absolu, savoir, beaucoup d'ennui, & par son régime respectif, à tout le monde. Voilà donc comment tous les mots d'une phrase quelque longue qu'elle soit, ne sont que pour modifier le nom & le verbe.] (ibid., p. 79)

This analysis deserves to be studied in detail. Figure 2 proposes a graphical representation of the different relations considered by Buffier. The only relation which is unclear concerns the governor of *with talk* and is represented here by a dotted line. As we can see, the result is a dependency-based structure. The analysis is coarse-grained, favoring relations between chunks rather than words, but we know from the rest of the book that Buffier also had a dependency analysis for each of these chunks, except the clause *he meets*, for which it is unlikely that he would have proposed a head.

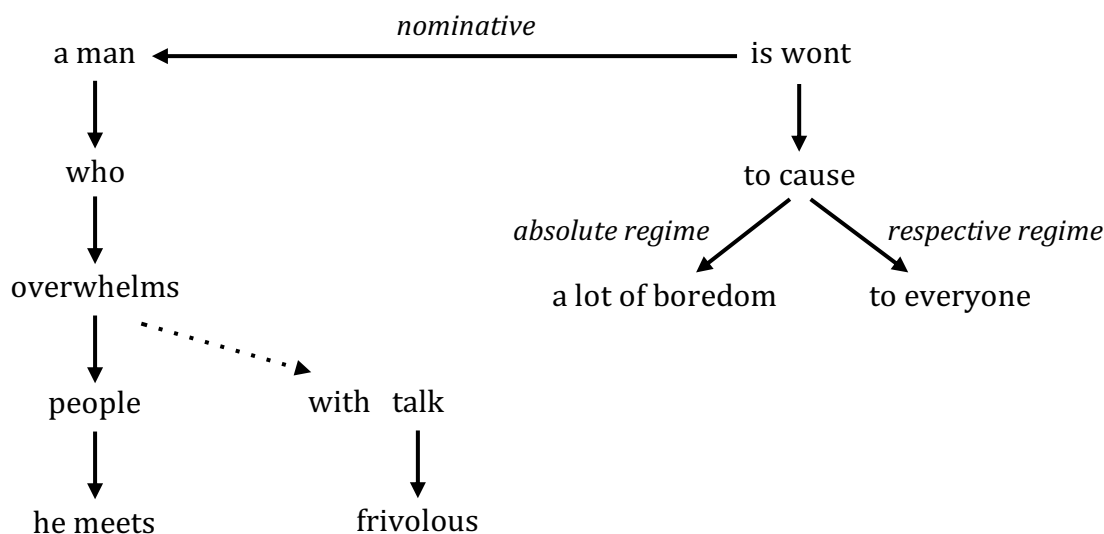


Figure 2. Buffier's relations of regime

3.2.4 Word order

Buffier's grammar also contains several interesting pages on word order. The section entitled "Ease of style" starts by

"This quality of style presupposes clarity; but it also consists in arranging the words, one after the other, in the way the most likely to present them naturally to the imagination."

[De la facilité du stile. — Cette qualité du stile suppose la clarté ; mais de plus elle consiste à aranger les mots, les uns après les autres, de la manière la plus propre pour se présenter naturellement à l'imagination.] (*ibid.*, p. 311)

Buffier remarks that French is mainly head-initial:

"Nouns, verbs, and modificatives can each have their own regime, and these regimes must immediately follow the word by which they are governed, as in *la lecture de l'Évangile inspire la piété* 'the reading of the Gospel inspires piety': we see that *de l'Évangile* 'of the Gospel' here immediately follows *la lecture* 'the reading', because it is its regime; likewise *la piété* 'piety' immediately follows *inspire* 'inspires', etc."

[Les noms, les verbes & les modificatifs peuvent avoir chacun leur régime, & ces régimes doivent être immédiatement à la suite du mot dont ils sont régis : comme *la lecture de l'Évangile inspire la piété* : on voit que *de l'Évangile* suit ici immédiatement *la lecture*, parce qu'il est son régime ; de même *la piété* suit immédiatement *inspire*, etc.] (*ibid.*, p. 312)

He has a rather long passage on the place of heavy phrases, later summed up by Beauzée, as shown in section 2.4.2:

“The regimes must be as close as possible to the governing word, which would not be the case if one were to put the longest [regime] first, which would move the shortest one too far away.”

[Les régimes doivent être le plus près qu’il se peut du mot régissant ; ce qui feroit pas si l’on mettoit d’abord le plus long qui éloigneroit trop le plus court.] (*ibid.*, p. 313)

He also remarks that some word orders cause syntactic ambiguity and should be avoided, for instance by placing the indirect object before the direct object as here:

“We will say *l’Evangile inspire aux personnes qui veulent être sincèrement à Dieu, une piété qui n’a rien de suspect* ‘the Gospel inspires in people who want to be sincerely devoted to God, a piety that has nothing suspect about it’ in order to avoid the ambiguity that could arise in the word *aux personnes* ‘in people’, because we would not know whether this word is governed by the verb *inspire* ‘inspires’, or by the adjective *suspect*.”

[On diroit, *l’Evangile inspire aux personnes qui veulent être sincèrement à Dieu, une piété qui n’a rien de suspect* ; & cela afin d’éviter l’équivoque qui pourroit se trouver dans le mot *aux personnes* ; car on ne verroit point si ce mot est régi par le verbe *inspire*, ou par l’adjectif *suspect*.] (*ibid.*, p. 314)

As we can see, the contribution of Claude Buffier to dependency syntax is enormous and most of Beauzée’s article on *Complement* is a formalization of Buffier’s (1709) ideas. There are nevertheless two other linguists who developed Buffier’s ideas before Beauzée and contributed to Beauzée’s clear view.

3.3 Girard (1747)

Gabriel Girard (1677-1748), who had already published a treatise on spelling in 1716 and one on synonyms in 1736, published his grammar in 1747. Buffier’s grammar was not dependency-oriented, but there were three important advances in Girard, compared to Buffier, that deserve to be presented: first, the distinction between the complement and the regime imposed on it, even if Girard does not introduce a clear term to designate the complement (section 3.3.1); second, the notion of syntactic function (section 3.3.2), which will become central in dependency syntax; third, a sketch of formal grammar with a list of word order rules, which prefigures the separation between structural order and linear order made by Tesnière (1959) (section 3.3.3).

3.3.1 *The notion of government*

While integrating the syntactic dimension promoted by Buffier, Girard (1747) changed the meaning of the term *regime*, of which he also made great use. The notion *regime* is defined in terms of:

“the grammatical union of words. This kind of union establishes between them a Regime [...] consisting in relationships of dependence subject to the rules for the construction of the sentence.”

[l'union grammaticale des mots. Cette sorte d'union établit entre eux un Régime [...] consistant dans des rapports de dépendance soumis aux règles pour la construction de la phrase.] (Girard 1747: 48)

It is no longer a question of designating the dependent or the complement, but of designating the constraints imposed on this element. Semantic or lexical selection constraints are not considered. Girard is only interested in grammatical constraints, what a researcher such as Igor Mel'čuk (1988) calls the surface syntax module, i.e. the choice of grammatical markers and word order:

“The Regime considered in relation to the means [the speaker] implements in order to achieve the structure of the sentence or his enunciation also has two purposes. Because words are the only and necessary means, he must use them in a way suitable to his purpose. This use depends on the respective arrangement in which one can place them and on the diversity of forms one can give them, since these are the only variations they can undergo. Thus in the discourse they must respond, by rank and by form, to the functions which are allocated to them. I name DISPOSITIVE REGIME the one which orders the places or the arrangement and CONCORDANCE REGIME the one which decides on the ornament or the form.”

[Le Régime considéré par rapport aux moyens qu'il met en œuvre, pour parvenir à la structure de la phrase ou à l'énonciation a également deux objets. Car les mots étant les seuls & nécessaires moyens, il les doit employer d'une façon convenable à son projet. Cet emploi dépend de l'arrangement respectif dans lequel on peut les placer & de la diversité des formes qu'on peut leur donner ; puisque c'est tout ce dont ils sont susceptibles. Ainsi doivent-ils dans le discours répondre, par le rang & par l'habillement, aux fonctions qui leur sont distribuées. Je nomme REGIME DISPOSITIF celui qui ordonne des places ou de l'arrangement, & REGIME DE CONCORDANCE celui qui décide de la parure ou de la forme.] (*ibid.*, p. 68)

We are no longer in a dependency analysis like Buffier's, for at least two reasons. First, the elements that undergo constraints are not words but rather constituents, which Girard calls *members* (p. 55) or *constructive parts* (p. 58) of the sentence. As he says, the regime:

“arranges and unites all these words in such a way that they converge only to one point, the Subjective containing only a subject, the Attributive only an attribution, and so on of the other members.”

[[le régime] dispose & unit tous ces mots de façon qu'ils ne concourent qu'à un seul point : le Subjectif ne renfermant qu'un sujet, l'Attributif qu'une attribution, & ainsi des autres membres.](*ibid.*, p. 59)

The fact that relations must be considered between phrases is justified, as in the following analysis of an example that is, indeed, problematic for dependency grammar (it is an answer to Buffier and his use of the term *nominative* to denote the head word of the subject):

“Was it not this abuse that made one of our finest minds see illusory difficulties in our language? He did not hesitate to say that in this sentence, *an infinity of people have resolved to join together*, the regime was contrary to the ordinary rule of

Grammar, in that the verb was not governed by the nominative *infinity* which is in the singular but by the genitive *people* which is in the plural. The term *nominative* made him confuse here the idea of sentence member with the idea of a declension case. He would not have made this mistake if, instead of the term *nominative*, the term *subjective* had been used in the structure of the sentence. He would have seen, in this example, that this member did not consist only in the word *infinity* but in these four words together *an infinity of people*; and that consequently the Attributive or the verb was and should, according to the ordinary syntax, be governed by the collection of all these words and not by one of them separately from the others.”

[N'est-ce pas cet abus qui a fait voir à un de nos meilleurs esprits des chimères de difficultés dans nôtre Langue ? Il n'a pas hésité à dire que dans cette phrase, *une infinité de personne ont résolu de se liquer*, le régime étoit contraire à la règle ordinaire de la Grammaire, en ce que le verbe n'étoit pas régi par le nominatif *infinité* qui est au singulier mais par le génitif *personnes* qui est au pluriel. Le terme de *nominatif* lui a fait confondre ici l'idée d'un membre de phrase avec l'idée d'un cas de déclinaison. Ce qu'il n'auroit pas fait si au lieu du terme de *nominatif* dans la structure de la phrase celui de *subjectif* avoit été en usage. Il auroit vû, dans cet exemple, que ce membre ne consistoit pas seulement dans le mot *infinité* mais dans ces quatre ensemble *une infinité de personnes* : que par conséquent l'Attributif ou le verbe étoit & devoit, selon la syntaxe ordinaire, être régi par la collection de tous ces mots & non par un d'eux séparément des autres.] (*ibid.*, p. 56)

Second, Girard does not seek to produce an analysis of a sentence in which all words are assigned a syntactic position. Only the construction of the verb is analyzed: Girard speaks of a *constructive regime* for the relations between the subject, the verb, and the complements. There is no internal analysis of these phrases: the elements that compose them form a whole and are said to be in an *enunciative regime*. Only embeddings of clauses are considered.

“If one says, for example, *a beautiful woman easily triumphs over the wisest man*, then the first three words [= *a beautiful woman*] and the last four [= *over the wisest man*] are in a constructive regime with the other two; because they contribute with them to form the sentence as being two of its members. The first three words appear there as Subjective and the last four as Terminative: but the words of each of these members are between them in an enunciative regime; because they simply contribute to enunciate together this part, which, being enunciated, then contributes to the structure of the sentence.

[Si l'on dit, par exemple, *une belle femme triomphe aisément de l'homme le plus sage* ; alors les trois premiers mots [= *une belle femme*] & les six derniers [= *de l'homme le plus sage*] sont en régime constructif avec les deux autres ; parcequ'ils concourent avec eux à former la phrase comme étant deux de ses membres. Les trois premiers mots y figurent en qualité de Subjectif & les six derniers en qualité de Terminatif : mais les mots de chacun de ces membres sont entre eux en régime énonciatif; parcequ'ils concourent simplement à énoncer ensemble cette partie, qui, étant énoncée, concourt ensuite à la structure de la phrase.] (*ibid.*, p. 68)

3.3.2. The notion of function

The second main contribution of Girard is a typology of the different types of *regimes* and thus the different types of dependencies. Girard considers seven functions that a phrase can fulfill:

“Since the Regime tends to form a meaning by bringing the words together through a mutual contribution of each of them and this contribution is only the mutual relation of their particular functions, it is necessary to know the number and the quality of these different functions. They certify the parts which can be admitted in the structure of the sentence to picture the thought. I think we first need [1°] a subject and [2°] an attribution; without that we say nothing. Then I see that attribution can have, besides its subject, [3°] an object, [4°] a term, [5°] a modificative circumstance, [6°] a link with another [attribution], and moreover [7°] a foreign accompaniment added as an *hors d’œuvre*, simply to support one of these things or to express a movement of sensitivity caused in the soul of the speaker. So here are seven constructive parts or seven different functions that words must fulfill in the harmony of the sentence.”

[Puisque le Régime tend à former un sens en réunissant les mots par un concours réciproque de chacun d’eux, & que ce concours n’est que le rapport mutuel de leurs fonctions particulières ; il faut bien connaître le nombre & la qualité de ces différentes fonctions. Elles constatent les parties qui peuvent être admises dans la structure de la phrase, pour en faire le tableau de la pensée. Je trouve qu’il faut d’abord un sujet & une attribution ; sans cela on ne dit rien. Je vois ensuite que l’attribution peut avoir, outre son sujet un objet, un terme, une circonstance modificative, une liaison avec une autre [attribution], & de plus un accompagnement étranger ajouté comme un *hors d’œuvre*, simplement pour servir d’appui à quelqueune de ces choses ou pour exprimer un mouvement de sensibilité occasionné dans l’ame de celui qui parle. Voilà donc sept parties constructives ou sept différentes fonctions que les mots doivent remplir dans l’harmonie de la phrase.] (*ibid.*, p. 49)

The seventh kind of function that Girard introduces is particularly original and interesting. He names them *adjunctives* and he claims that they are in a *free regime* and contrasts them with the other regimes, which fall more clearly within the domain of government and dependency:

“The Regime is nothing other than the contribution of words to express a meaning or a thought. In this contribution, there are some words which have the upper hand; they govern others, that is, they subject them to certain laws: there are some which present themselves with a submissive air; they are governed or required to conform to the state and laws of others; and there are some which, without being subjected or subjecting others, have no other laws to observe than their position in the general arrangement. This means that, even though all the words in the sentence are in regime, all contributing to the expression of meaning, they are nevertheless not doing it in the same way, some being in a dominant regime, others in a subjected regime, and yet others in a free regime, depending on the function they fill in it.”

[Le Régime n’est autre chose que le concours des mots pour l’expression d’un sens ou d’une pensée. Dans ce concours de mots il y en a qui tiennent le haut bout ; ils en régissent d’autres, c’est-à-dire qu’ils les assujettissent à certaines lois : il y en a qui se présentent d’un air soumis ; ils sont régis ou tenus de se conformer à l’état & aux lois des

autres ; & il y en a qui sans être assujettis ni assujettir d'autres, n'ont de lois à observer que celle de la place dans l'arrangement général. Ce qui fait que quoique tous les mots de la phrase soient en régime, concourant tous à l'expression du sens, ils ne le sont pas néanmoins de la même manière, les uns étant en régime dominant, les autres en régime assujetti, & des troisièmes en régime libre, selon la fonction qu'ils y font.] (*ibid.*, p. 49)

The introduction of the notion of *free regime* was not at all to Beauzée's taste: he considered the term an oxymoron, since we cannot be simultaneously free and within "relations of dependence". However, we find here the first signs of the fundamental distinction that will later be made between micro and macrosyntax through studies of the syntax of spoken French (Blanche-Benveniste 1990, Berrendonner 1990): Microsyntax corresponds to the syntax of government (Fr. *rection*; the term is explicitly taken up by these authors), i.e. constructions where one element is imposed its form or its place by another element; Macrosyntax refers to elements that are more floating and without government markers, such as detached constituents, sentence adverbs, or discourse markers, and that are attached to the rest of the sentence by being part of a single speech act (Deulofeu et al. 2010).

Girard illustrates the seven functions he introduced by the following example:

"Monsieur, quoique le mérite ait ordinairement un avantage solide sur la fortune ; cependant, chose étrange ! nous donnons toujours la préférence à celle-ci.

'Sir, although merit usually has a solid advantage over fortune; however, strangely! we always give preference to the latter.'

This period is composed of two sentences, each of which contains the seven members mentioned. It is now a question of showing by which word each member is expressed."

[Cette période est composée de deux phrases, dans chacune desquelles se trouvent les sept membres mentionnés. Il est maintenant question de montrer par quel mot chacun y figure.] (*ibid.*, p. 52)

The analysis proposed by Girard is given in words, like those of Buffier and Beauzée. Figure 3 proposes a diagram summarizing it. The function that each constituent of the sentence fills is a function in the whole construction rather than vis-à-vis a governor and it is not very clear whether there are dependencies between constituents. As Girard says, the Subjective "represents a subject" to which the Attributive "attributes an action", while the Attributive "follows the regime to which it is subjected" by the Subjective. The Objective is expressed by words that "fix the attribution to a given object among all those it might have" and the Terminative "must represent the term where the attribution is made, either general or specified by some object". In other words, Girard rather seems to consider that the verb depends on its subject, while the object and the oblique complements depend on the verb. The Circumstantial "states a circumstance which modifies the attribution". The Conjunctives *quoique* 'although' and *cependant* 'however' "link the two meanings expressed by the two sentences; so that one relates to the other and, from that, a complete meaning results, which is that of the period." The Adjunctives "are not essential to the proposal, they are there only as a form of accompaniment: one [*monsieur* 'sir'] to support an apostrophe, the other [*chose étrange !* 'strangely!'] to add surprise and blame to the expression of the thought."

[Le Subjectif [...] représente un sujet à qui [l'Attributif] attribue une action. [...] L'Attributif [suit] le régime auquel l'assujettit son Subjectif. L'Objectif est exprimé dans l'une de ces phrases par ces mots *un avantage solide*, & dans l'autre par ceux-ci *la préférence* : car ils y fixent l'attribution à un objet déterminé entre tous ceux qu'elle pourroit avoir [...]. Le Terminatif [doit] représenter le terme où se porte l'attribution, soit générale soit spécifiée par quelque objet. [...] Le[s] Circonstanciel[s] n'ont là d'autre service que d'énoncer une circonstance qui modifie l'attribution en forme d'habitude. Le[s] Conjonctif[s] y lient les deux sens exprimés par les deux phrases ; de manière qu' l'un a rapport à l'autre, & qu'il en résulte un sens complet, qui fait celui de la période. L[es] Adjonctif[s] [sont] peu essentiels à la proposition, ils ne sont là que par forme d'accompagnement : l'un pour appuyer un tour d'apostrophe : l'autre pour joindre à l'expression de la pensée celle d'un mouvement de surprise & de blâme.] (*ibid.*, p. 52)

Sentence 1						
Adjunctive	Conjunctive	Subjective	Attributive	Circumstantial	Objective	Terminative
<i>Monsieur</i>	<i>quoique</i>	<i>le mérite</i>	<i>ait</i>	<i>ordinairement</i>	<i>un avantage solide</i>	<i>sur la fortune</i>
Sir	although	merit	has	usually	a solid advantage	over fortune

Sentence 2						
Conjunctive	Adjunctive	Subjective	Attributive	Circumstantial	Objective	Terminative
<i>cependant</i>	<i>chose étrange !</i>	<i>nous</i>	<i>donnons</i>	<i>toujours</i>	<i>la préférence</i>	<i>à celle-ci</i>
however	strangely!	we	give	always	preference	to the latter

Figure 3. Girard's functions

3.3.3. Girard's rules of grammar

The third step forward is that Girard is not so much interested in describing the syntactic structure as in describing the rules that constrain that structure. What was Buffier's *style* becomes Girard's *art of construction*:

“the art of Construction consists in knowing what arrangement and form to give both to the members that form the structure of the sentence and to the words that serve to enunciate those members”

[l'art de la Construction consiste à savoir quel arrangement & quelle forme il faut donner tant aux membres qui forment la structure de la phrase qu'aux mots qui servent à énoncer ces membres.] (*ibid.*, p. 70)

Girard notes that there are two types of languages: those which are *analogous* to French and where the order is determined by the functions, and those, such as Latin or Ancient Greek, which he called *transpositive languages*, where the order is determined by what we today call *prominence* (Li & Thompson 1976):

“In Transpositive Languages, the arrangement of the members of the sentence seems almost arbitrary: it follows the force of imagination. What we usually make precede is what we are most impressed with and therefore what we first want to imprint in the listener's mind. [...] In analogous Languages, such as ours, the

ending is not used to distinguish sentence members: it remains the same for an Objective as for a Subjective or a Terminative. Thus the constructive regime has little recourse to the concordance regime, having no different forms to give [to the words], except in the Attributive and only to the verb used for this function.”

[Dans les Langues Transpositives l'arrangement des membres de la phrase semble presque arbitraire : il suit la force de l'imagination. On y fait ordinairement précéder ce dont on est le plus frappé, & dont par conséquent on veut d'abord porter l'image dans l'esprit de l'auditeur. [...] Dans les Langues analogues, telle qu'est la nôtre, la terminaison ne sert point à distinguer les membres de phrase : elle reste la même pour un Objectif comme pour un Subjectif ou un Terminatif. Ainsi le régime constructif n'a guère recours à celui de concordance n'y ayant point de différentes formes à donner, sinon dans l'Attributif & uniquement au verbe qui sert à cette fonction.] (*ibid.*, p. 72 and 74)

He then gives ten word order rules for French, which are remarkably formalized. For instance:

“FIRST RULE. In the expositive form [= declarative construction], the Subjective usually stands before the Attributive; the latter in turn precedes the Objective & the Terminative, when they are stated by formal expressions and not simply designated by personal or relative pronouns.”

[PREMIERE REGLE. – Dans la forme expositive le Subjectif marche ordinairement devant l'Attributif : celui-ci y précède à son tour l'Objectif & le terminatif, lorsqu'ils sont énoncés par des expressions formelles & non simplement désignés par des pronoms personnels ou relatifs.] (*ibid.*, p. 75)

The following rules indicate that the subjective comes after the attributive in quotation inserts (Rule II), the subjective may come after the attributive in the absence of an objective or when the objective is a pronoun (Rule III), etc.

Buffier (1709) and Girard (1747) propose two different views of syntactic structure: the term *regime* can designate the dependent or the constraints on it, the dependent can be a word or a whole phrase, and the function can come from a governor or from the whole construction. One is clearly dependency-oriented and the other is much more constituency-oriented.

3.4 Du Marsais (1754)

César Chesneau Du Marsais (1676-1756) published a rational method for learning Latin in 1722 and a treatise on rhetoric in 1730, *Des Tropes*, as well as clandestine tracts in favor of free thought. He was already 75 years old when he was entrusted with the articles on grammar in the *Encyclopedia*. He wrote about 150 articles until his death.

In this section, the main focus will be on the entry *Construction*, a very long article published in volume 4 in 1754. I will discuss four contributions made by this article: first, a distinction between construction and syntax, which is new step in the distinction between Tesnière's linear and structural order (section 3.4.1); second, the two notions of complements, in terms of word or phrases (section 3.4.2); third, a hybrid syntactic structure combining dependency and constituency (section 3.4.3); fourth, the distinction between government and complement (section 3.4.4).

3.4.1 Construction vs. syntax

Du Marsais's article starts by making a clear distinction between *construction* and *syntax*, which clarifies Buffier's distinction between *style* and *syntax*:

"I do not think we should confuse *construction* with *syntax*. Construction presents only the idea of combination and arrangement. Cicero said in three different combinations: *accepi litteras tuas*, *tuas accepi litteras*, and *litteras accepi tuas*. There are three *constructions* here, since there are three different word arrangements; however there is only one syntax; because in each of these constructions there are the same signs of the relationships that the words have between one another, so these relationships are the same in each of these sentences."

[Je crois qu'on ne doit pas confondre *construction* avec *syntaxe*. Construction ne présente que l'idée de combinaison & d'arrangement. Cicéron a dit selon trois combinaisons différentes, *accepi litteras tuas*, *tuas accepi litteras*, & *litteras accepi tuas* : il y a là trois *constructions*, puisqu'il y a trois différens arrangemens de mots ; cependant il n'y a qu'une syntaxe ; car dans chacune de ces constructions il y a les mêmes signes des rapports que les mots ont entr'eux, ainsi ces rapports sont les mêmes dans chacune de ces phrases.] (Du Marsais, entry "Construction", in *Encyclopediæ*, vol. 4, p. 72, 1754)

Du Marsais's syntax is mainly dependency-based. The dependency relation is called *determination* or *modification* and, like his predecessors, he defines it in rather semantic terms:

"Thus I find that in all the languages of the world, there is only one way necessary to form a meaning with words: it is the successive order of the relationships that are found between the words, some of which are stated as to be modified or determined, and others as modifier or determiner; the former excite attention and curiosity, the latter successively satisfy it."

[Ainsi je trouve que dans toutes les langues du monde, il n'y a qu'une même maniere nécessaire pour former un sens avec les mots : c'est l'ordre successif des relations qui se trouvent entre les mots, dont les uns sont énoncés comme devant être modifiés ou déterminés, & les autres comme modifiant ou déterminant : les premiers excitent l'attention & la curiosité, ceux qui suivent la satisfont successivement.] (*ibid.*, p. 74)

In the article *Construction*, Du Marsais even wonders how syntax is acquired and why different languages can have different word orders and different ways to mark the relations between words:

"As we got older and as experience taught us the meaning and use of prepositions, adverbs, conjunctions, and especially the different endings of verbs to mark number, person, and tense, we became more adept at disentangling the relationships of words and seeing the successive order, which forms the total meaning of sentences and which others were very careful to follow by talking to us. This way of uttering the words successively according to the order of the modification or determination that the following word gives to the one that precedes it, established a rule in our mind."

[A mesure que nous avançons en âge, & que l'expérience nous apprend le sens & l'usage des prépositions, des adverbes, des conjonctions, & surtout des différentes terminaisons des verbes destinées à marquer le nombre, les personnes, & les tems, nous devenons plus habiles à démêler les rapports des mots & à en appercevoir l'ordre successif, qui forme le sens total des phrases, & qu'on avoit grande attention de suivre en nous parlant. Cette maniere d'énoncer les mots successivement selon l'ordre de la modification ou détermination que le mot qui suit donne à celui qui le précède, a fait regle dans notre esprit.] (*ibid.*, p. 74)

He continues by giving a clever answer to the debate about the “natural order of thought” (see our discussion on Beauzée’s analytical order in section 2.3):

“Simple construction [= the basic order of French] is also called natural construction, because it is the one we have learned without a master, by the mere mechanical constitution of our organs, by our attention and inclination to imitation. [...] Such is the relationship established between thought and words, that is, between the thing and the signs that make it known: knowledge acquired from the first years of life, by acts so often repeated, that it becomes a habit that we regard as a natural effect.”

[La construction simple est aussi appelée construction naturelle, parce que c'est celle que nous avons apprise sans maître, par la seule constitution mécanique de nos organes, par notre attention & notre penchant à l'imitation. [...] Telle est la relation établie entre la pensée & les mots, c'est-à-dire, entre la chose & les signes qui la font connoître : connaissance acquise dès les premières années de la vie, par des actes si souvent répétés, qu'il en résulte une habitude que nous regardons comme un effet naturel.] (*ibid.*, p. 74)

In a previous article, *Concordance* (cf. Buffier’s *concordance regime*, section 3.2.1), Dumarsais also introduced the idea, taken up by Tesnière at the very beginning of his *Elements*, that “the mind perceives connections between a word and its neighbors”, showing that syntax and construction are above all ways of expressing meaning:

“It must first be established as a certain principle, that words only have a grammatical relationship between one another in order to contribute to form a meaning in the same proposition, and according to the full construction; because finally the endings of the words and the other signs that the Grammar has found established in each language are only signs of the relationship that the mind conceives between the words, according to the particular meaning that one wants it to express. But as soon as all the words state a meaning, they form a proposition or an enunciation. So whoever wants to make the grammatical reason of any sentence be heard, must begin by arranging the words according to the successive order of their relationships, as this is the only way in which one perceives, once the sentence is finished, how each word contributes to form the total meaning.”

[Il faut d'abord établir comme un principe certain, que les mots n'ont entre eux de rapport grammatical, que pour concourir à former un sens dans la même proposition, et selon la construction pleine ; car enfin les terminaisons des mots et les autres signes que la Grammaire a trouvés établis en chaque langue, ne sont que des signes du rapport que l'esprit conçoit entre les mots, selon le sens particulier qu'on veut lui faire exprimer. Or

dès que l'ensemble des mots énonce un sens, il fait une proposition ou une énonciation. Ainsi celui qui veut faire entendre la raison grammaticale de quelque phrase, doit commencer par ranger les mots selon l'ordre successif de leurs rapports, par lesquels seuls on aperçoit, après que la phrase est finie, comment chaque mot concourt à former le sens total.] (Du Marsais , entry "Concordance", in *Encyclopédie*, vol. 3, p. 821, 1753)

3.4.2. *The two notions of complements*

Du Marsais synthesizes the ideas of Buffier and Girard and contrasts two notions of *complement*, which were summed up by Beauzée, as seen in section 2.2. For Du Marsais, the relations in the sentence can be considered both in terms of words and in terms of phrases, the former being more syntactic and the latter more semantic:

"We can consider a proposition either grammatically or logically: when we consider a proposition grammatically, we consider only the reciprocal relationships between words; whereas in the logical proposal, we consider only the total meaning that results from the assembly of words."

[On peut considérer une proposition ou grammaticalement ou logiquement : quand on considère une proposition grammaticalement, on n'a égard qu'aux rapports réciproques qui sont entre les mots ; au lieu que dans la proposition logique, on n'a égard qu'au sens total qui résulte de l'assemblage des mots.] (Du Marsais , entry "Construction", in *Encyclopédie*, vol. 4, p. 84, 1754)

The link between the relationships involving words and the relationships involving phrases is explained. In the following extract concerning the subject, Du Marsais gives in fact an interesting (and colorful) definition of the concept of *head*:

"A subject is complex, when accompanied by some adjective or another modifier: *Alexander defeated Darius*, *Alexander* is a simple subject; but if I say *Alexander son of Philip* or *Alexander king of Macedonia*, here is a complex subject. It is necessary to distinguish, in the complex subject, the personal or individual subject, and the words which make it a complex subject. In the example above, *Alexander* is the personal subject; *son of Philip* or *king of Macedonia* are words that, being not separated from *Alexander*, make this word a complex subject. The complex subject can be compared to a person with his clothes on: the word that states the subject is, so to speak, the person, and the words that make the subject complex are like the person's clothes."

[Un sujet est complexe, lorsqu'il est accompagné de quelque adjectif ou de quelqu'autre modificatif : *Alexandre vainquit Darius*, *Alexandre* est un sujet simple ; mais si je dis *Alexandre fils de Philippe*, ou *Alexandre roi de Macédoine*, voilà un sujet complexe. Il faut bien distinguer, dans le sujet complexe, le sujet personnel ou individuel, & les mots qui le rendent sujet complexe. Dans l'exemple ci-dessus, *Alexandre* est le sujet personnel ; *fils de Philippe* ou *roi de Macedoine*, ce sont les mots qui n'étant point séparés d'*Alexandre*, rendent ce mot sujet complexe. On peut comparer le sujet complexe à une personne habillée. Le mot qui énonce le sujet est pour ainsi dire la personne, & les mots qui rendent le sujet complexe, ce sont comme les habits de la personne.] (*ibid.*, p. 82)

3.4.3. *Du Marsais's syntactic structure*

Du Marsais gives a dozen analyses of sentences. Only the first one, which is also the most detailed, will be examined here. Figure 4 proposes a diagram summarizing it. As we can see, Du Marsais mixes ideas from Buffier (1709) and from Girard (1747), proposing a hybrid description between dependency and constituency:

“*Celui qui me suit, dit Jesus-Christ, ne marche point dans les ténèbres* ‘He who follows me, Jesus Christ says, does not walk in darkness’: let us first consider this sentence or this assembly of words grammatically, that is to say, according to the relations that the words have between one another; relations from which the meaning results: I find that this sentence, instead of only one proposition, contains three.

1°. *Celui* ‘he’ is the subject of *ne marche point dans les ténèbres* ‘does not walk in darkness’; and here is the main proposition; *celui*, being the subject, is what the Grammarians call *the nominative of the verb*. *Ne marche point dans les ténèbres*, that is the attribute; [...] *ne point* is the negation, which denies the subject's action of walking in darkness.

Dans les ténèbres ‘in darkness’ is a modification of the action of the one who walks, ‘he walks in darkness’; *dans* is a preposition that first marks only an incomplete modification, that is to say, that, being a preposition, first indicates only a kind of modification, which must then be singularized, applied, determined by another word, which is called for this reason *the complement* of the preposition: thus *les ténèbres* is the complement of *dans* and then these words, *dans les ténèbres*, form a particular meaning which modifies *marche* ‘walk’, that is to say, which states a particular way of walking.

2°. *Qui me suit* ‘who follows me’: these three words make an incidental proposition that determines *celui* ‘he’, and restricts him to signifying only the disciple of Jesus Christ, that is, the one who regulates his conduct and his morals on the maxims of the Gospel; such incidental propositions stated by *qui*, are equivalent to an adjective.

Qui ‘who’ is the subject of this incidental proposition; *me suit* ‘follows me’ is the attribute; *suit* is the verb; *me* is the determiner or term of the action of *suit*: [...]

3°. *Dit Jesus-Christ* ‘Jesus-Christ says’ is a third proposition that makes an inserted or detached sense; it is an adjunct: on such occasions, the usual construction puts the subject of the proposition after the verb: *Jesus-Christ* is the subject, and *dit* is the attribute.”

[*Celui qui me suit, dit Jesus-Christ, ne marche point dans les ténèbres* : considérons d’abord cette phrase ou cet assemblage de mots grammaticalement, c’est-à-dire selon les rapports que les mots ont entr’eux ; rapports d’où résulte le sens : je trouve que cette phrase, au lieu d’une seule proposition, en contient trois.

1°. *Celui* est le sujet de *ne marche point dans les ténèbres* ; & voilà une proposition principale ; *celui* étant le sujet, est ce que les Grammairiens appellent *le nominatif du verbe*. *Ne marche point dans les ténèbres*, c’est l’attribut ; [...] *ne point* est la négation, qui nie du sujet l’action de marcher dans les ténèbres.

Dans les ténèbres, est une modification de l’action de celui qui marche, *il marche dans les ténèbres* ; *dans* est une préposition qui ne marque d’abord qu’une modification ou maniere incomplete ; c’est-à-dire que *dans* étant une préposition, n’indique d’abord qu’une espece, une sorte de modification, qui doit être ensuite singularisée, appliquée, déterminée par un autre mot, qu’on appelle par cette raison *le complément* de la

préposition : ainsi *les ténèbres* est le complément de *dans* ; & alors ces mots, *dans les ténèbres*, forment un sens particulier qui modifie *marche*, c'est-à-dire qui énonce une manière particulière de marcher.

2°. *Qui me suit*, ces trois mots font une proposition incidente qui détermine *celui*, & le restreint à ne signifier que le disciple de Jésus-Christ, c'est-à-dire celui qui règle sa conduite & ses mœurs sur les maximes de l'Évangile : ces propositions incidentes énoncées par *qui*, sont équivalentes à un adjectif.

Qui est le sujet de cette proposition incidente ; *me suit* est l'attribut ; *suit* est le verbe ; *me* est le déterminant ou terme de l'action de *suit* : [...]

3°. *Dit Jésus-Christ*, c'est une troisième proposition qui fait une incise ou sens détaché ; c'est un adjectif : en ces occasions la construction usuelle met le sujet de la proposition après le verbe : *Jésus-Christ* est le sujet, & *dit* est l'attribut.] (*ibid.*, p. 84)

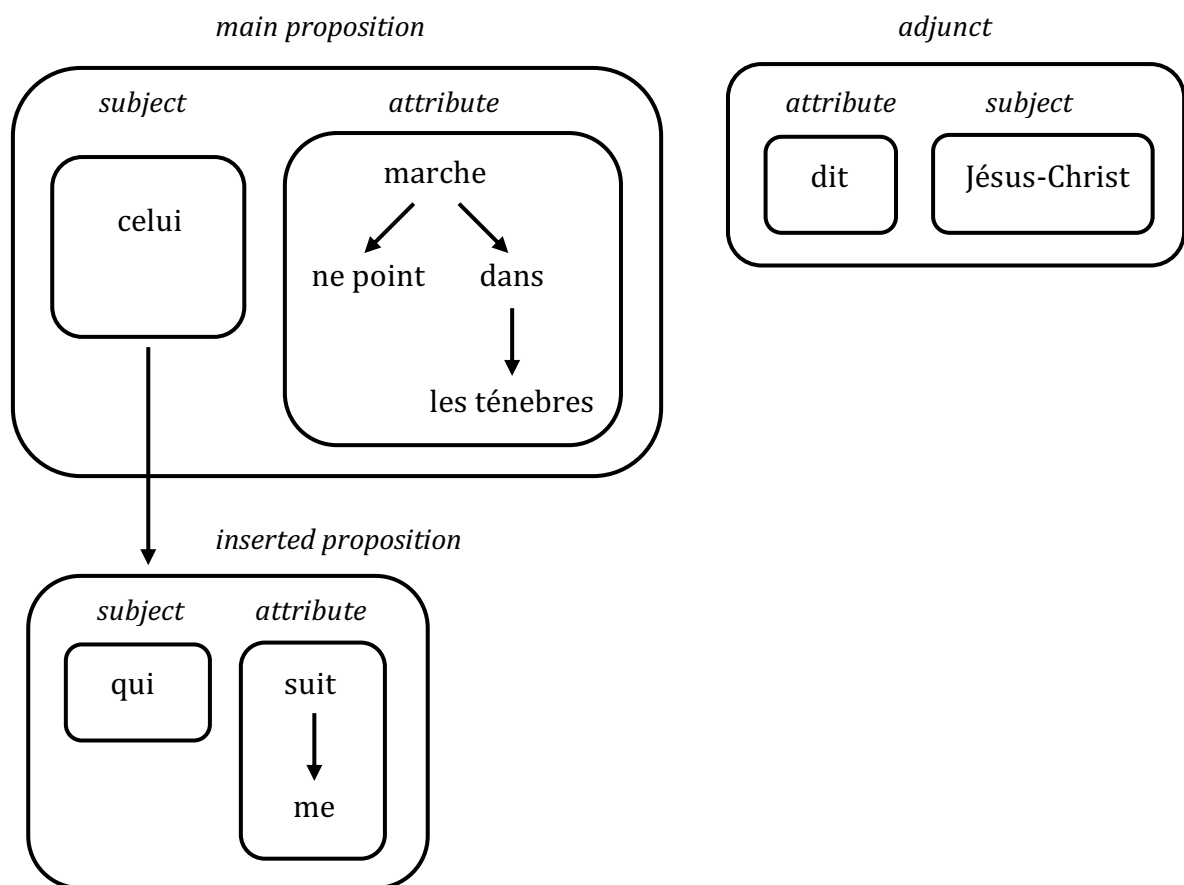


Figure 4. Du Marsais's determination

Just after that, Du Marsais contrasts his grammatical notion of *subject* with the logical or total subject, a terminology that will be used and clarified by Beauzée:

“Let us now consider this proposal in the manner of the Logicians [...] *celui qui me suit* ‘he who follows me’: these words only form a total meaning, which is the subject of the logical proposal [...]; because one only judges ‘he’ as ‘he who follows me’: here is the logical subject or comprehension subject. It is this subject that one thinks of and of whom one says that ‘he does not walk in darkness’.”

[Considérons maintenant cette proposition à la manière des Logiciens [...] *celui qui me suit* : ces mots ne forment qu'un sens total ; *qui* est le sujet de la proposition logique [...] ; car on ne juge de *celui*, qu'entant qu'il est *celui qui me suit* : voilà le sujet logique ou de l'entendement. C'est de ce sujet que l'on pense & que l'on dit qu'*il ne marche point dans les ténèbres.*] (*ibid.*, p. 84)

3.4.4. *The distinction between government and complement*

As pointed out above, Buffier (1709) and Girard (1747) used the term *regime* in two different senses. Du Marsais makes a clear distinction between the two notions. He uses the term *complement* or *determiner* for Buffier's regime:

"A word must be followed by one or more other determining words, whenever by itself it is only part of the analysis of a particular meaning; the mind then finds itself under the necessity of waiting and asking for the determiner word, in order to have all the particular meaning that the first word announces only in part. [...] Then the word which completes the meaning, of which the preposition has stated only part, is the complement of the preposition; [...] The same is true of active verbs: someone tells me that *the King gave*; this word *gave* fills only a part of the particular meaning, the mind is not satisfied, it is only moved, we expect, or ask, 1° *what the King gave*, 2° *to whom he gave*. The person answers the first question with, for example *the King gave a regiment*: here the mind is satisfied with regard to the given thing; *regiment* is therefore in this respect the determiner of *gave*, it determines *gave*. Then we ask *to whom did the King give this regiment?* The person answers *to mister N*. Thus the preposition *to*, followed by the noun which determines it, makes a partial meaning which is the determiner of *gave* with respect *to the person, to whom.*"

[Un mot doit être suivi d'un ou de plusieurs autres mots déterminants, toutes les fois que par lui-même il ne fait qu'une partie de l'analyse d'un sens particulier ; l'esprit se trouve alors dans la nécessité d'attendre et de demander le mot déterminant, pour avoir tout le sens particulier que le premier mot ne lui annonce qu'en partie. [...] Alors le mot qui achève le sens, dont la préposition n'a énoncé qu'une partie, est le complément de la préposition ; [...] Il en est de même des verbes actifs : quelqu'un me dit que *le Roi a donné* ; ces mots *a donné* ne font qu'une partie du sens particulier, l'esprit n'est pas satisfait, il n'est qu'ému, on attend, ou l'on demande, 1° *ce que le Roi a donné*, 2° *à qui il a donné*. On répond, par exemple, à la première question, que *le Roi a donné un régiment* : voilà l'esprit satisfait par rapport à la chose donnée ; *régiment* est donc à cet égard le déterminant de *a donné*, il détermine *a donné*. On demande ensuite, *à qui le Roi a-t-il donné ce régiment ?* on répond *à monsieur N*. ainsi la préposition *à*, suivie du nom qui la détermine, fait un sens partiel qui est le déterminant de *a donné* par rapport à la *personne, à qui.*] (*ibid.*, p. 86)

And Du Marsais uses the term *determination* for Girard's regime:

"If I want to speak of sunlight, I would say, in Latin, *lumen solis* and, in French, *de le soleil* and, by contraction, *du soleil*, according to the usual construction: thus in Latin, the ending of *solis* determines *lumen* by restricting it to mean only sunlight. This determination is marked in French by the preposition *de* [...] The determination that is made in Latin by the termination of the accusative, *diligent Dominum Deum tuum* or *Dominum Deum tuum diliges*; this determination, I say, is

marked in French by the place or position of the word, which according to the ordinary construction is put after the verb, *tu aimeras le Seigneur ton Dieu* 'you will love the Lord your God'. [...] The syntax of a language consists only in the signs of these different determinations."

[Si je veux parler de la lumière du soleil, je dirai en latin, *lumen solis*, & en français *de le soleil*, & par contraction, *du soleil*, selon la construction usuelle : ainsi en latin, la terminaison de *solis* détermine *lumen* à ne signifier alors que la lumière du soleil. Cette détermination se marque en français par la préposition *de* [...] La détermination qui se fait en latin par la terminaison de l'accusatif, *diliges Dominum Deum tuum*, ou *Dominum Deum tuum diliges* ; cette détermination, dis-je, se marque en français par la place ou position du mot, qui selon la construction ordinaire se met après le verbe, *tu aimeras le Seigneur ton Dieu*. [...] La syntaxe d'une langue ne consiste que dans les signes de ces différentes déterminations.] (*ibid.*, p. 86)

A further point is that Du Marsais was particularly interested in the semantic contrasts between different constructions. For instance, he clearly states the distinction between defining/restrictive and non-defining/non-restrictive relative clauses, reusing the terms *determinative* and *explicative* relative clause (p. 83) introduced by Arnault and Nicole (1662) and still used in French grammar. He also evokes the distinction between necessary complements and adjuncts:

"It is therefore necessary to distinguish the necessary determinations from those which do not influence in any way the essence of the grammatical proposition, so that without these adjuncts some circumstances of meaning would indeed be lost; but the proposition would still be a proposition."

[Il faut donc bien distinguer les déterminations nécessaires d'avec celles qui n'influent en rien à l'essence de la proposition grammaticale, en sorte que sans ces adjoints on perdrait à la vérité quelques circonstances de sens ; mais la proposition n'en seroit pas moins telle proposition.] (*ibid.*, p. 86)

4. Conclusion

Chevalier (1968) decided to limit his monumental studies on the emergence of the concept of *complement* to the period 1530-1750, considering that the notion was already mature with Du Marsais and Beauzée. I have extended Chevalier's analysis by arguing that the idea of a complete syntactic structure of the sentence was also there and that this syntactic structure was mainly expressed in terms of dependency, even if the authors preferred the terms *regime*, *determiner*, or (*initial/grammatical*) *complement* to the term *dependent*. Following the path opened up by the *Port-Royal Grammar* (1600), Buffier (1709) seems to have been the first to propose a complete syntactic structure for sentences, though unfortunately using a confusing terminology. While Buffier's analysis was clearly dependency-oriented, Girard (1747) proposed another analysis, more constituency-oriented, introducing the notions of government and grammatical function. These two approaches were merged by Du Marsais (1754) but in a rather convoluted style. It would be no exaggeration to say that Beauzée (1765) was the first linguist to give a real description of a dependency tree, as well as the syntactic structure I have called a Beauzée-Gladkij tree.

It is noticeable that all the syntactic analyses of the 18th century were done in words,

without any diagrams. It was not until two centuries later, with Tesnière (1934), that syntactic diagrams made their appearance in the French school, even if diagrams had appeared one century earlier, with Billroth (1832) and Barnard (1836). This question is not specific to formal linguistics, since the same thing happened in mathematics: While Leonhard Euler (1736) introduced the mathematical concept of *graph* in his solution to the problem of the Seven Bridges of Königsberg, diagrams representing graphs only appeared more than one century later (Cayley 1857, Kempe 1886, Sainte-Laguë 1926) and started to be regularly used only in the second half of the 20th century (Biggs et al. 1976), exactly like syntactic diagrams.

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