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TRANSFORMATIONS AND DISCOURSE ANALYSIS PAPERS

74.   Transformational Analysis of French Verbal Constructions

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INTRODUCTION

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We present here the study of a fragment of a French grammar. The general method
used for finding and treating new problems is the transformational method as developed
mainly by Harris [3] [4] [6] [7], and Chomsky [1] [4]. However, for various reasons that
will appear throughout the study and in the conclusion, we will not make a full use of the
formal apparatus that has been defined by these authors.

The area that we investigated covers what Harris [6] calls operator verbs. They
correspond to complex constructions involving sentential and infinitive complements of
various sorts. In order to make precise the structure of these complements, we will have to
study first various syntactic properties (tenses, pronouns, in chapters I, II) that play
an important role in the description of operator verbs. We then give, first a definition
and a classification of operator verbs based on elementary criteria (chapter III), second
a more detailed description (chapter IV), based on the properties examined in chapters I
and II. Chapters V and VI deal with problems of structures and of rules, chapter VII with
imperative forms in relation with operator verbs.

We started with the assumption that operator structures could reasonably be
isolated from other structures superficially similar ; this assumption, as it will be seen
in the study, is not quite correct, but we indicate the places where the study has to be
complemented or generalized. Operator verbs are then studied in detail. The empirical
material that we used consists of a table of about 1,500 operator verbs which are
classified according to various syntactic properties. This list of verbs although not
exhaustive, includes to our feeling, the large majority of operator verbs in French. This
list has been compiled from the various grammars, linguistic studies, and dictionaries that
are given in the bibliography. We checked whether these verbs had, or did not have, certain
syntactic properties. We restricted ourselves to a number of clear cut properties, but the

study should be completed by including more such properties.

An other important gap is the question of operator nouns and operator adjectives. These constructions involve various types of transformations (nominalizations, adjectivalizations), and raise immediately the difficult problems of the nature and relations of the verbs être (to be) and avoir (to have). We avoided them, but our feeling is that many of the concepts we used here will be useful for these further studies.

Many of the analyses given here, and a good part of the linguistic material, have been adapted from Z.S.Harris'work on English. Without Z.S. Harris' help, through long conversations we had, where I had access to numerous unpublished things , this work would have never been possible. I also benefitted from many discussions with H. Hiz and A.K. Joshi during my stay at the University of Pennsylvania, and with E.S. Klima, and G.H. Matthews during the summers 1965 and 1966,when I participated in the seminar of the M.S. .S.B. of the N.S.F.

NOTATIONS

Our main notational device consists of : matching parentheses : (,) and the plus sign : +. Our use of these symbols departs from the way they are used in transformational grammars by Chomsky [1] and Harris [4] for example, where (,), and + are used in the following manner :

if X and Y stand for strings of symbols :

- $X(Y)$ represents both the string X and the string XY (i.e. parentheses surround an element which is optional in a structure) ;

- $X + Y$ means that a certain element (structure or morpheme) is analysed into the two components X and Y, (+ is a concatenation operator).

We use (,), + as in ordinary calculus, parentheses indicate groupings which are factors of a non-commutative product. The product is concatenation ; the plus-sign can be interpreted as the logical "OR". The neutral element with respect to concatenation is noted E and is used mostly for notational purposes :

the formula : (NV (E + (E + à + de) N + Adj)

stands for the polynomial :

NV + NVN + NVàN + NVdeN + NVAdj

which in turn stands for a disjunction of five structures or frames.

The symbol "=" means roughly : "is restricted to", and corresponds to the arrow : used in generative grammar ; we will restrict the use of ⟶ to transformations. When we use ± signs on each side of a transformation arrow, a "respectively" is always understood :

the expression : (A + B)C ⟶ (A + B)D   is to be interpreted as :

AC ⟶ AD, and BC ⟶ BD   is does not include :

AC ⟶ BD, nor BC ⟶ AD

Frames are sequences of symbols and morphemes presenting certain structural regularities. The main symbols used to describe them will be :

S   for sentence ;

N   is used in a somewhat ambiguous way :

- for noun phrase, including adjuncts (determiners, adjectives,..
..). We use numerical subscripts to distinguish the different
nominal positions of a frame, the numbering corresponds closely
to Culioli's notion of rank of a complement ;

- for the noun heading the noun phrase. In this case we will of-
ten use non-numerical subscripts which classify the various
nouns according to their lexical and structural properties. The
properties that correspond to these subcripts will be written
between slanted bars (/human/).

This ambiguity appeared to be useful for generalizing
several statements. In terms of generative grammar, it could be
expressed by means of complex non-terminal symbols of the type :

$$\begin{bmatrix} + P \\ + N \end{bmatrix}$$

where + P would mean **phrase**, and + N would mean **nominal** ;

$\underline{V}$ for verb ; it should be apparent from the context, and
whenever it is relevant to the understanding of the
descriptions, whether $\underline{V}$ stands for verbal root or complete
verb with affixes and auxiliaries. In a few places we use
r(V) for verbal root ;

$\underline{Adj}$ for adjective.

Several variables will also be used :

$\underline{\Omega}$ ranges over the string of complements that can be found in
a sentence ;

$\underline{X}$, $\underline{Y}$,.. range over sequences which complete partially specified
strings into whole sentences.

Frames indicate structural shapes like for example : S = NV + ... + NVAdj. We
will also meet frames of the type : S = NVqueS + NVNqueS (where S appears on both sides).
These two equations can be considered as a system of non-commutative algebraic equations,
they can be solved in S, yielding an infinite formal power series which enumerates all

frames obtainable by reinserting a frame into another frame when possible; this process is context-free (Chomsky [2], Schützenberger [2]). In general, our descriptions will include other types of constraints between elements of a frame, which makes this process insufficient for the descriptions we intend to make. A frame is very close to what is called an analysis of a structure in generative grammar.

We will make use of this notational device for the description of structures as well as for the condensation of long lists of examples : the formula :

(un + le) (garçon + monsieur) (est un + me traite de) (crétin + idiot).

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stands for 16 sentences. In certain cases obtaining the sentences from the formula does not only require the computation of the products, but also some minor morphological adjustments that the reader should be able to perform easily (for example in the formula above : de idiot ——> d'idiot).

In front of various frames and sequences of morphemes we will use the symbol : *
to indicate ungrammaticality, we will also use : ?* and : ? , to indicate intermediary degrees of acceptability. Names of transformations will appear between square brackets. The symbol ≡ will indicate an informal semantic equivalence or a paraphrase.

The structural nature of the frames is quite similar to the nature of the sequences of symbols used by Harris in [1] ;
it should not be incompatible with more formalized descriptions of the type given by Chomsky [1] [4]. In most cases, what we describe as a source sentence or structure, would be a base structure in Chomsky's terminology. Tree structures can be attributed in a straightforward manner to many of our analyses, but not in all cases. Transformations would be formulated in the same way (up to notational changes) in both styles of descriptions.

I - T E N S E S

0. Limits of the study

This study of the French tense system departs from the traditional analysis in various ways.

0.1 We do not try to assign any semantic value to the different tenses and moods, these values being usually defined in terms of processes on the time axis. To a certain extent there is a syntactic basis for the definition of these values which could perhaps be made in terms of aspectual features of verbs, and of adverbials constrained by the verb they modify. Tense agreement rules deal only with one side of these constraints. Since we have no intention to study the semantic values here, our use of traditional names for the various tenses and moods, refers only to their morphological properties. In fact we have no basis here to build for verbal forms a distinction between tenses and moods, and we will call them "tense-moods" or simply : tenses.

0.2 We emphasize syntactic properties. Morphological phenomena like changes occurring within roots of verbs and due to tense-moods and persons, are not touched upon here. These problems have been extensively studied in other places(de Félice ; Martinet [1] ; Schane).

0.3 We exclude the following tense-moods :

indicative :   preterite or past historic (passé simple)

                anterior past (passé antérieur)

conditional :   preterit (passé 2ème forme)

subjunctive :   imperfect (imparfait du subjonctif)

                     pluperfect (plus-que-parfait du subjonctif)

We considered that the study of these tenses belonged to historical syntax, this being mainly motivated by our inability to find reliable information about the use of these forms in contexts other than the ones indicated in traditional grammars, which are mostly based on 18th century written language, often considered as the canonical form of French ; for a discussion of such an exclusion, see, for example, Cohen [1].

1. Descriptions.

A verbal form will be decomposed into :

- a verbal root, noted $r(v)$, where v will be the infinitive form ;
- a tense noted T that we will analyze ;
- a person-number affix (noted pn) which, to a certain extent, is independent of T and $r(v)$: for example ons and ez are always 1st and 2nd persons of plural respectively, whatever the verb and its tense are, but T and $r(v)$ may change depending on this pn affix.

1.1 Elementary tenses.

We call elementary tenses : t_e , the present (noted pres.), and the imperfect (noted impf.) of the indicative :

$$t_e = \text{pres.} + \text{impf.}$$

we justify this appellation by the fact that one of the two t_e's is always a part of a finite tense.

1.1.1 Present.

In general this tense is not phonetically marked : for most of the verbs:
<u>pres.</u> = ∅, but two exceptions to this rule ought to be considered, see § 1.2.1 below.

1.1.2 Imperfect.

This tense is marked by a vowel, phonetically we have :

<u>impf</u> = <u>/i/</u> if <u>pn</u> = <u>1pl.</u> + <u>2pl.</u> (1st and 2nd persons of plural)   (fn.1)

<u>impf</u> = <u>/ɛ/</u> if <u>pn</u> = <u>1sg.</u> + <u>2sg.</u> + <u>3 sg.</u> + <u>3pl.</u>

Schane uses a single underlying vowel modified by the environment.

1.2 Simple tenses.

1.2.1 Simple future.

This tense is built on the infinitive form of the verb. We will note by :
<u>inf.</u> the infinitive affix ; the forms corresponding to :

$$\underline{v} = \underline{manger} + \underline{finir} + \underline{croire}$$

are :

(1)

mange(r)	(ai + as + a + ons + ez + ont)
fini (r)	(ai + as + a + ons + ez + ont)
croi(r)	(ai + as + a + ons + ez + ont)

Vocalic changes may occur within the root (voir, envoyer).

It has been observed (Darmesteter, Nyrop, Brunot), that the forms of the verb <u>avoir</u> in present have a close relation to the forms of all verbs in future; the ——
present forms of <u>avoir</u> are:

$$\underline{ai}, \ \underline{as}, \ \underline{a}, \ \underline{avons}, \ \underline{avez}, \ \underline{ont}$$

they can be grouped into forms having a zero or a non-zero root :

pn = 1sg. + 2sg. + 3sg. + 3pl. : r(avoir) = Ø , the corresponding endings are : ai, as, a, ont

pn = 1pl. + 2pl. : r(avoir) = av the corresponding endings are : ons, ez

These endings are precisely the ones occurring with the future tense ; there could be historical reasons for relating these two facts.

However, we will give synchronic reasons for relating the future endings to another verb : aller, which is usually called an immediate future auxiliary, and which has similar morphological properties. We will give further justifications for the analysis :

$$\text{simple future} = \underline{\text{pres.}} \ \underline{\text{inf.}}$$

1.2.2 Conditional present.

This tense is analyzed in a way similar to the future. We have the forms :

$$(2) \quad \left\{ \frac{(\text{mange} + \text{fini} + \text{croi}) \ (r) \ (ais + ai + ait + ions + iez + aient)}{(\text{mange} + \text{fini} + \text{croi}) \ (r) \ (/\mathcal{E}/ + /\mathcal{E}/ + /\mathcal{E}/ + /i/ + /i/ + /\mathcal{E}/) \ (pn)} \right.$$

for which we write :

conditional present = $\underline{\text{impf.}}$ $\underline{\text{inf.}}$

1.3 Compound tenses.

1.3.1 The future tense : aller.

(a) Morphology.

The verb aller, in present tense, has the forms :

vais, vas, va, allons, allez, vont

We can group them in exactly the same way as we did for avoir :

pn = 1sg. + 2sg. + 3sg. + 3pl. : r(aller) = v   the corresponding endings are :

ais, as, a, ont

pn = 1pl. + 2pl. : r(aller) = all   the corresponding endings are :

ons, ez

We have the same present tense endings as for avoir with a discrepancy in the first person   singular of the written form : ais instead of ai.
It is possible to argue that these two forms are in fact the same, and that the difference is purely orthographic : ·

vais is pronounced either /ve/ or /vɛ/, but so is ai : /e/ or /ɛ/ ;
the segment ai occurring in future is always : /e/ (except in the interrogative form). · · It could . be argued that the s of vais has a grammatical origin, which would be shown by the fact that it appears in liaisons, in positions where it cannot appear with avoir (/ ža ve(ɛ + z) apari/, /žeafɛr/ but : */žezafɛr/), and where there is no possible liaison in the corresponding future form :

*/žala' donreza pol/

This fact becomes crucial only if it is made inside a general description of

liaisons that would explain for example the presence of /z/ in forms like :

/donmwazã/ , vs : */donmwãẽ/,

(where it is difficult to assert that /z/ has a grammatical origin).

(b) The verbs aller.

Sentences like :

    (3) Paul va travailler.

are usually described as containing the auxiliary of immediate future aller. We also find sentences like :

    (4) Paul va aller travailler.

but it is not possible to have more than two occurrences of the verb aller :

    (5) *Paul va aller aller travailler.

It is not possible to argue that (5) is unacceptable because of some phonological clash between the two occurrences of /ale/, since the sentence :

    Vous allez aller travailler.

is quite natural.

Sentences like (3) with auxiliary aller are always possible, sentences like (4) with two occurrences of aller are not always correct :

    (6) Paul va rester un an ici.

    (7) *Paul va aller rester un an ici.

We account for these facts by saying that there are two verbs aller, one is a future tense auxiliary that will be noted :

Fut. pres.
_____

the other belongs to a class of verbs noted :

V_{mt} (verb of "movement"), (Grévisse) :

V_{mt} = venir + monter + descendre + courir + foncer + ... + aller
_____

An immediate consequence of this analysis is that the sentence (3) is ambigous, its two interpretations are :

Paul   Fut. pres.   travailler.
_____

Paul V_{mt} pres.   travailler.
_____

Because of a similarity between the two meanings, the ambiguity of (3) is sometimes not very clearly perceived, but the phenomenon seems more clear in the interrogative form :

Va-t-il travailler ?
_____

Other facts provide further support for the existence of the two verbs :

- in a kernel sentence at most one V_{mt} may appear :

Il (vient + monte) travailler.
_____

but :   *Il (vient) (monter + descendre + ...) travailler.
_____

These examples answer a question raised by Benveniste [1].

Sentence (4), then, contains one occurrence of aller-future, and one of aller V_{mt}. To determine their order we can remark that :

Il va V_{mt} travailler.

is correct

but :   * Il V_{mt} aller travailler.

- V_{mt}'s cannot occur in front of certain other verbs :

                    * Il (vient + monte + ...) avoir (peur + fini).

while (8) :   Il va avoir (peur + fini)

which is correct,

and :   * Il va aller avoir (peur + fini)

confirms the future nature of aller in (8),

- V_{mt}'s have only animate subjects, while the subjects of aller - future are not restricted, (3) is ambiguous, but not :

                    Ce bois va travailler.

(c) The defective nature of aller - future.

We now show that aller - future is restricted to two tenses only : present and imperfect. We will use the sentence :

Il va avoir peur.

where aller - future occurs in present, and where V_{mt} cannot occur, we have :

(9)   :   Il allait avoir peur, mais il s'est dominé.

(9) shows that aller - future occurs in imperfect. We then have :

(10)   :   * Il (ira + irait + (est + était + sera + serait) allé) avoir peur..

the six sentences (10) show that future, conditional, and all compound tenses do
not occur, and this is true even when adverbials are added to render each of the
sentences (10) more natural.

(11)   :   * Il (veut + s'attend à ce) que Jean aille avoir peur.

(12)   :   * Il (veut + s'attend à) aller avoir peur.

(11) and (12) suggest that aller - future has no subjunctive and infinitive forms,
this fact can be checked thoroughly, by considering other structures involving
subjunctive and infinitive.

(13)   :   * (Allons + va + allez) avoir peur !

(13) shows that aller - future has no imperative forms, which is a consequence of
the fact it has no subjunctive, according to our analysis of the imperative
(chap. VII).

Simple future and aller - future are quite parallel, we will interpret the notation :

future tense = pres. Fut.   as follows :

pres. is the present affix, and Fut. is an element which has two morphemic realizations, and both impose an infinitive affix to the main verb, we write :

$$Fut = (E + r(aller))inf.$$

This element can also be compounded with imperfect, yielding :

- if Fut. = $\emptyset$, conditional present,

- if Fut. = r(aller), sentences of the type :

$$Jean \ allait \ avoir \ (peur + fini).$$

Fut. has to carry a morphological class marker also needed for avoir, the role of which is to select the special affixes needed in present. An alternative solution which would avoid the indexing of Fut, would be to consider : r(aller)inf. as the only basic form of future, and to derive from it the simple future by means of the rule : r(aller) $\longrightarrow \emptyset$, applied after the affixes have been selected.

1.3.2 Past tense auxiliaries

Compound tenses (having a "past" meaning) can be formed by means of an auxiliary noted Aux. .

Aux can be either avoir or être according to the verb :

$$\text{Il est tombé} \quad ; \quad \text{* il a tombé.}$$

$$\text{Il a dormi} \quad ; \quad \text{* il est dormi.}$$

For verbs, which in simple sentences, take the auxiliary avoir, we find être in the presence of a reflexive pronoun :

Il a amusé Jean ; * il est amusé Jean.

Il s'est amusé ; * il s'a amusé.

Intrinsically pronominal verbs always take the auxiliary être :

Il s'est évanoui ; *Il s'a évanoui.

These two auxiliaries impose on the main verb a past participle shape which is analyzed : r(V)pp., where pp. represents the past participle ending.

Aux. also includes the immediate past auxiliary : venir de, the reason being that none of the other past auxiliaries may occur in a sentence like :

Jean vient de manger.

namely : *Jean (a + est) venu de manger.

Since Aux. can also take any of the tenses that we already mentioned, we can now enumerate tenses by the formulas :

$$T = (\text{pres.} + \text{impf.}) (E + \text{Fut.}) (E + \text{Aux.})$$

(T) $$\text{Fut.} = (E + r(\text{aller})) \text{ inf.}$$

$$\text{Aux.} = (r(\text{avoir}) + r(\text{être})) \text{pp.} + r(\text{venir}) \text{ de inf.}$$

1.4 Remarks.

1.4.1 Deletion of future.

(a) Certain adverbials impose on the sentences (or verbs) they are attached to, a future meaning generally marked by a future tense :

(Il finira + il aura fini) dans cinq heures.

Ma voiture (sera + va être) réparée dans cinq heures.

However the same sentences in present are also accepted in colloquial speech with a clear future meaning :

(Il finit + il a fini + ma voiture est réparée) dans cinq heures.

We can describe these sentences as resulting from sentences where the future has been deleted by a rule of the sort :

pres. Fut. $\longrightarrow$ pres.   (fn.2)

the affix pres. has to appear in the rule, since no such relation holds between conditional and imperfect.

(b) In sentences of the forms :

$$\text{si } S_o, \text{ (alors + E) } S_1 \equiv S_1, \text{ si } S_o$$

the tense of S_o is restricted (Hall) :

(1)   Jean viendra, s'il a fini dans cinq heures.

(John will come, if he is through in five hours.)

but : (2)   * Jean viendra, s'il aura fini dans cinq heures.

(* John will come, if he will be through in five hours).

As we mentioned,   the sentence :

(3)   Il a fini dans cinq heures.

is substandard, while (1) is not, the standard form of (3) being :

Il aura fini dans cinq heures.

This fact suggests that (2) is the source for (1) where the future has been deleted, this is confirmed and made more precise by the fact that we have :

* Jean viendra, s'il va avoir fini dans cinq heures.

though :   Il va avoir fini dans cinq heures.   is acceptable.

There are parallel restrictions for imperfect and conditional :

Jean viendrait, s'il avait fini dans cinq heures.

but :   *Jean viendrait, s'il (aurait + allait avoir)fini dans cinq

heures.

The rule :

Fut $\longrightarrow$ Ø   for the main verb of a si-sentence

covers all cases : future or conditional, with auxiliaries or not. This rule also applies in subordinate clauses of the form : comme si S (as if S).

(c)   It could be argued that (a) and (b) are two cases of application of a single rule of future deletion, however other facts suggest that we have two independant such rules. The rule given in (a) is restricted to certain verbs (Vendler), i.e. the sentence :

(4)   Jean plait à Marie demain.

(John (pleases + is pleasing) to Mary tomorrow).

is entirely unacceptable, it cannot be interpreted with future meaning, even substandard. On the other hand, the sentence :

Tout sera parfait si Jean plait à Marie demain.

(Everything will be perfect if John pleases   Mary tomorrow).

where rule (b) has applied to (4), is entirely acceptable, which shows that to (4), rule (b) applies, but not rule (a).

1.4.2 The system (T) will allow sentences like :

Jean va venir d'accepter.

where immediate past and immediate future co-occur. Such sentences do not appear to be acceptable. The notion "immediate" is related to some notion of measure of time, this "measure" depends on the main V (Stefanini).
The system (T) does not account for the "overcompound" tenses (temps surcomposés). While we excluded various tenses on the grounds that they no longer belonged to standard spoken French, overcompound tenses seem to be employed by many speakers. However we were unable to obtain consistent data about their use, except for the fact that they are more natural when attached to finir (to stop), than to any other verb.

2.   Rules.

The tense element T is to be placed between subject and verb, in the basic structure

of the sentence for which we write :

$$N \ pn \ T \ V \Omega$$

this analysis has been justified for English in Chomsky [1] where, a mechanical device for affix permutation is described. It applies to our description of tenses under the following conditions :

- affixes (afx.) are : afx. = pn. + pres. + impf. + inf. + pp. ;
- in order to have only one rule for affix permutations :

$$\left[afx.p \right] : \quad afx. \ V \longrightarrow (V \ afx.) = V$$

where in the right member afx. is attached to V.

Various items like preverbal pronouns, negation particles, certain adverbs, have to be placed after the tense arrangements take place, otherwise much more complicated rules would be needed for obtaining the same effect.

For the same reason Aux. has to be specified at the same level by the rules :

$$(1) : \quad AuxV_{etr} \ = \ r(\text{être})pp. \ V_{etr}$$

then : $\quad$ (2) : $\quad$ Aux $\quad = \quad r(avoir)pp. + r(venir) \ de \ inf.$

/etr/ is a class marker shared by :

- verbs like : V_{etr} = venir + tomber + ...
- intrinsically reflexive verbs = s'en aller + s'esclaffer + ...
- verbs that become reflexive by transformation = se lever + se casser + ...

In the reflexive cases the basic representation of the verbs will be of the type :

enr(aller) reflx ; r(aller)reflx. en ; r(esclaffer) reflx. ; r(laver) reflx. ; r(casser) reflx. ;

where reflx. is the reflexive pronoun either basic or brought in by rules. The marker /etr/has then to be placed by the rule :

$$\text{V reflx.} \longrightarrow V_{etr} \text{ reflx.,}$$

and the already given rule for specification of Aux. will apply.

3. Tense agreement.

.3.1. The general problem.

Many complex sentences are built by adjoining to a main sentence with finite verb (matrix sentence), other sentences with finite verbs which complement the matrix sentence (or its verb) :

(1)   Jean boit, même quand il n'a pas soif.

Jean boit is the matrix sentence, boit is in present,
même .quand il n'a pas soif is an adverbial built by means of a conjunction and of the
sentence : il n'a pas soif where the verb a is in present. The building process is the
same as in relativization with zero antecedent.
These two tenses are, in general, dependent :
in (1) the pair (pres., pres.) corresponds to a correct sentence ; in :

(2) *Jean boit, même quand il n'avait pas soif.

the pair (pres., impf.) corresponds to an incorrect sentence. We will give examples of

this type of constraints, and we will call them tense agreement constraints.

Even though the problem is simple to state, traditional grammars never approached it systematically. One of the most obvious reasons being that, given (T) (1.3.2) which enumerates 24 tenses, in order to test the grammaticality of structures of the type of (1), the 24 possible tenses of the matrix sentence have to be confronted with the 24 possible tenses of the dependent sentence; this makes 576 cases to test (fn.3) for each type of structure which furthermore depends on :

-. the type of conjunction which introduces the dependent sentence, as in :

$$\underline{S_o} \text{ , (pendant + dès + aussitôt + parce) que } \underline{S_1}.$$

$$(\underline{S_o} \text{ , (while + as soon as + because) } \underline{S_1})$$

- the type of verb entering $\underline{S_o}$ and $\underline{S_1}$:

Pendant que Marie est sortie, Jean pleure.

but :   *Pendant que Marie a bu, Jean pleure.

3.2 Examples

3.2.0 Adverbs

In the following examples we restrict the tenses to :

$$\underline{T_a} = (\text{pres.} + \text{impf.}) (E + \text{inf.}) (E + r(\text{avoir}) \text{ pp} + r(\text{être}) \text{ pp})$$

Depending on the tenses, there are sentences which need to be complemented by an appropriate adverbial in order for them to be acceptable : sentences in conditional often require a si-sentence in imperfect or pluperfect, as a complement. Sentences in future may require adverbs of the type :

demain (to-morrow), pour quatre heures (by four o'clock), etc.

Tense agreement studies should in fact be generalized so as to include the study of non-sentential time adverbials like :

- hier (yesterday), récemment (recently) which are intrinsically past :

> Jean (a travaillé + travaillait) (hier + récemment).

> (John (worked + was working) (yesterday + recently).)

> * Jean travaille (E + ra + rait) (hier + récemment).

> (* John (works + is working + will work) (yesterday + recently).)

- demain (tomorrow), intrinsically future :

> Jean saura cela demain.

> (John will know it by tomorrow).

> * Jean (savait + a su + sait) cela demain.

> (* John (knew + knows) it by tomorrow).

- aujourd'hui (today) has no intrinsic tense property, all sentences :

> Jean T r (travailler) aujourd'hui.

> (John T work today).

are acceptable for any realization of the tense T.

3.2.1   In the sentences of the type :

> Jean dit que Marie boit beaucoup trop.

> (John (says + is saying) that Mary drinks too much.)

there are almost no tense constraints between V_0 = dit (say) and V_1 = boit, (drink). Most of the 64 sentences :

Jean T_a r(dire) que Marie T_a r(boire) beaucoup trop.

(John T say that Mary T drink too much).

are acceptable, with various degrees of comfort and provided that certain adverbial adjustments are made.

3.2.2 In sentences of the type :

S_0 aussitôt que S_1 = Jean pleure aussitôt que Marie boit.

The constraints between the tenses : T_0 of V_0 = pleure and T_1 of V_1 = boit, are indicated in the table below. An asterisk indicates that the corresponding combination of S_0 and S_1 is not grammatical, an interrogation mark indicates that it is dubious or colloquial (fn.4).

		aussitôt que Marie							
		boit	buvait	boira	boirait	a bu	avait bu	aura bu	aurait bu
Jean	pleura		*	*	*		*	*	*
	pleurait	*		*	*	*		*	*
	pleurera	*	*		*	*	*		*
	pleurerait	*	*	*		*	*	*	
	a pleuré	*	*?	*	*		*	*	*
	avait pleuré	*	?	*	*	*		*	*
	aura pleuré	*	*	*?	*	*	*		*
	aurait pleuré	*	?	*	*?	*	*	*	

3.2.3 In sentences of the type :

$$S_o \text{ pendant que } S_1 = \text{Jean pleure pendant que Marie boit.}$$

the constraints are :

| | | pendant que Marie | | | | | | | |
		boit	buvait	boira	boirait	a bu	avait bu	aura bu	aurait bu
Jean	pleure		*	*	*	*	*	*	*
	pleurait	*		*	*	*	*	*	*
	pleurera	*	*		*	*	*	*	*
	pleurerait	*	*?	*		*	*	*	*
	a pleuré	*		*	*	?	*	*	*
	avait pleuré	*		*	*	*	?	*	*
	aura pleuré	*		*	*	*	*	?	*?
	aurait pleuré	*		*	*	*	*	?*	?

That at least part of the agreement rules depend on the particular classes of verbs occurring in the subordinate sentence can be seen by studying the sentence :

Jean pleure, pendant que Marie sort.

where the constraints, different from the preceding ones, show the influence of aspectual features in connection with the nature of the verb and its past tense auxiliary.

		pendant que Marie							
		sort	sortait	sortira	sortirait	est sortie	était sortie	sera sortie	serait sortie
Jean	pleure		*	*	*		*	*	*
	pleurait	*		*	*	*		*	*
	pleurera	?	*		*	*	*		*
	pleurerait	*	*	*		*	*	*	
	a pleuré	*		*	*			*	*
	avait pleuré	*		*	*	*		*	*
	aura pleuré	*		*	*	*			*
	aurait pleuré	*		*	*	*		*	

3.3 Remarks on tense agreement rules

3.3.1 Tense constraints appear in sentences of the general type :

$$(3) : \underline{S_0, \text{ conjunction } S_1.}$$

From a transformational point of view, (3) is analyzed as a combination of two sentences by a "binary" or "generalized" rule. In order to respect the tense agreements, conditions have to be stated for $\underline{S_0}$ and $\underline{S_1}$ that relate their tenses. In terms of Chomsky's analysis ([4]) underlying (3), is a base structure, in which $\underline{S_0}$ and $\underline{S_1}$ do not have to be in agreement; this is an instance of "blocking". A possible device for the description of the transformable bases, could be the one described by Klima [2] for the blocking that occurs in the process of embedding a relative clause into a matrix sentence. In terms of Harris's "parallel structures" ([6]) these constraints are just a special case of his general notion.

3.3.2 The preceding descriptions dealt with finite forms of verbs. Infinitive and subjunctive forms will be considered as forms where the tense endings have been replaced, in certain positions, by the endings inf. and subj.. We will assume that, underlying these two endings, there are finite forms corresponding to the tenses : (pres. + impf.) (E + Fut.) and which are constrained by agreement rules ; this solution accounts simply for restrictions that certain time adverbials have, inside infinitive and subjunctive complements.

We will use such tense-time adverbial constraints in order to reconstruct finite forms.

We will see that :

> Jean décide de travailler.
>
> (John decides to work).

has to be derived from :

> Jean décide qu'il T r(travailler).
>
> (John decides that he T work).

by means of transformations that will change qu'il T(that he T) to de inf. (to) (il (he) referring to Jean (John)). The problem is to reconstruct the T occurring in the base form. If we consider :

> (4) *Jean décide de travailler hier.
>
> (*John decides to work yesterday).

(4) shows that T cannot be impf. or pres. Aux. pp. (past), otherwise from :

> Jean décide qu'il (impf. + pres.Aux.pp.)r(travailler) hier.
>
> (John decides that he past work yesterday).

one would derive (4) which is ungrammatical. By using other time adverbials
(demain (tomorrow), dans cinq heures (in five hours), etc.,.), since :

<div align="center">

Jean décide de travailler demain.

(John "decides" to "work" tomorrow).

</div>

is correct, we are left with T = pres. Fut.   (future).

This type of argument will be used in various areas of the study of complements.

Footnotes.

fn.1   Phonetic representations will be written between slanted bars. When we list a series
of 6 verbal forms or of 6 endings, their order corresponds to : 1st person of
singular, 2nd p. sing., 3rd p. sing. ; 1st p. plur., 2nd p. plur., 3rd p. plur.

fn.2   We have no reasons for choosing this rule rather than the rule :
pres. inf. $\rightarrow$ pres.

fn.3   Certain traditional grammars rightfully attribute tense properties to verbs like :
devoir, pouvoir, the introduction of these auxiliaries which constitutes a special
study in itself, increases the number of cases to be tested.

fn.4   In general the least reliable data grouped themselves in the right lower part of
the matrix. This area corresponds to the most complicated tenses (three levels of
affixes and auxiliaries) in agreement with equally complex tenses. An interpretation
of this fact could be proposed in terms of amounts of computation necessary for
checking the agreement : in the left upper part, the computation consists of
comparing two affixes; correlatively the acceptance of the corresponding sentences is
very easy to decide.

II - PREVERBAL PARTICLES

We describe a set of short monosyllabic morphemes, that appear in preverbal positions (fn 1). Most of them are traditionally called pronouns, we call them here preverbal particles (pvp's), and we will study some of their grammatical properties and the restrictions found on their left to right order.

Their list is the following. :

Je, tu, il, elle, nous, vous, ils, elles, on, ne, me, te, se, le, la, les, lui, leur, y, en, ce.

First and second persons will be called/dialogue/pvp's ; the fact that they have been called pronouns has been criticized on the grounds that there are no nouns that they could replace. To a certain extent third person pronouns can be considered as replacing nouns, with various exceptions, and under special conditions and adjustments. The notion of replacement is still waiting for a detailed study. In fact "direct speech" :

Jean dit à Pierre : je te propose de partir.

where je refers to Jean, and te to Pierre, suggests some device of replacement.

1. Sources.

The main operations that lead to pvp's are :

1.0.1. Pronominalization

In a discourse, very often a given noun cannot be repeated. Usually, and depending on the grammatical positions, repeated nouns are replaced by pronouns of the third person or are simply erased without replacement ; certain pronouns are reduced to pvp's. Sentences as sources of pronouns, and their relations to nominals, will be discussed in Chapter V § 3.2.

We have for example :

> * Jean a demandé à Pierre de remplacer Jean.
> _____

> *(John asked Peter to replace John).
> _____

where the two Jean's (John's) refer to the same person

The second Jean (John) is pronominalized and reduced to le, (him) yielding :

> Jean a demandé à Pierre de le remplacer.
> _____

> (John asked Peter to replace him).
> _____

where the pvp le (pronoun him) is understood as referring to Jean (John)

> ?*Jean a regardé des livres et a acheté un livre.
> _____

> (?*John looked at some books and bought a book).
> _____

is reduced to :

> Jean a regardé des livres et en a acheté un.
> _____

> (John looked at some books, and bought one).
> _____

where the pvp en (pronoun one) is understood as replacing livre (book).

As we mentioned, pronominalization is limited to 3rd persons, dialogue pronouns cannot result from such operations of redundancy removal.

1.0.2. Detachment

      We will call definite, a noun phrase preceded by one of the determiners, demonstrative, definite, or possessive :

$$(ce + le + son) \quad (vin + garçon)$$

$$((this + the + his) \quad (wine + boy))$$

      Proper names, and certain pronouns will also be considered as definite noun phrases; we will write :

$$Def\ N = (ce + le + poss.)\ g\ n\ N + N\ proper + Pron.$$

$$Pron = moi + toi + nous + vous + lui + elle + eux + elles + soi$$

(g (for gender) = E + fem (for feminine), n (for number) = E + plur (for plural)).

A definite noun phrase in subject or complement position may undergo the following operation, called detachment, which brings some redundancy into a sentence :

      a pvp referring to the phrase, and playing the same grammatical role is introduced, the resulting sentence has a special intonation pattern where the phrase is separated from the sentence with pvp, by a discontinuity of intonation marked : $\#$; in certain positions, the "detached" phrase becomes permutable with the remaining sentence :

$$Pierre\ remplace\ Jean.$$

[detach] $\longrightarrow$ Pierre $\#$ il remplace Jean.

[detach p] $\longrightarrow$ Il remplace Jean $\#$ Pierre.

Pierre mange (le + ce + son) gâteau.

[detach] ⟶ Pierre le mange ≠ (le + ce + son) gâteau.

[detach p] ⟶ (le + ce + son) gâteau ≠ Pierre le mange. (fn 2)

1.1. Subject

The pvp's :

Je (1st), tu (2nd), il (3rd), elle (3rd, fem.), on (3rd), nous (1st, plur.), vous (2nd, plur.), ils (3rd, plur.), elles (3rd, fem., plur.) (fn 3)

can all be found in subject positions : verbs agree with them in person and number. Il can be either masculine singular or impersonal, on is indefinite but is often used in a somewhat colloquial way with the meaning of nous, and vous can be the polite form of 2nd person of singular ; ce in certain constructions has pvp properties.

1.1.1. Pronominalization of the subject

Il, elle, ils, elles (he, she, they, them) result from pronominalization in discourses like :

J'ai téléphoné (à un + au) plombier, il viendra demain.

(I telephoned to (a + the) plumber, he will come tomorrow).

where il (he) refers to the plumber mentioned in the first sentence.

The source for il (he) is a definite noun phrase :

J'ai téléphoné (à un + au) plombier, (le + ce) plombier viendra demain.

(I telephoned to (a + the) plumber, (the + this) plumber will come

tomorrow.)

That an indefinite noun phrase cannot be a source, can be seen from :

J'ai téléphoné (à un + au) plombier, un plombier viendra demain.

(I telephoned to (a + the) plumber, a plumber will come tomorrow).

where the two occurrences of plombier (plumber) refer to two different plumbers.

We will use here demonstrative noun phrase as sources for certain
pronouns and pvp's ; proper names will also be sources, they share more
properties with demonstrative noun phrases than with noun phrases with
definite articles (behaviour with respect to restrictive relative clauses,
genitive complements).

1.1.2. Pronominalization of nouns complements of subjects.

Discourses like :

Je vois (la + une) maison, le toit en est rouge.

have among their possible interpretations :

Je vois (la + une) maison, le toit de cette maison est rouge.

(I see (the + a) house, the roof of this house is red).

the source of en is a demonstrative noun phrase complement of a noun,
(i)   this source is not restricted to "complement of the subject" but is
the last noun phrase of a series of unbounded length (fn 4) :

L'extrémité du pied en est usée.

can mean :   L'extrémité du pied de cette table est usée.

(ii) the subject may be definite or indefinite :

Une cheminée de cette maison est penchée.

Une cheminée en est penchée.

(iii) this transformation is restricted :

  - to certain verbs :

Une cheminée de cette maison fume.   *Une cheminée en fume.

  - to certain types of noun complements :

Le verre de vin est servi.   *Le verre en est servi.

in this case we could argue that the absence of demonstrative determiner from the source prevents the derivation of the incorrect form; however we will see that this is not the case in other positions, sequences de N where N has no determiner can be sources for en.

The fact that we have :

Le frère de Jean est gentil.

but :   *Le frère en est gentil,

is another such case of restriction.

1.1.3. Detachment

Only definite noun phrases can be detached, with introduction of a subject pvp.

$$(Ce + le + son) \text{ vin est bon.}$$

$$(ce + le + son) \text{ vin} \neq \text{il est bon.}$$

Jean vient.	→	Jean $\neq$ il vient.
Je vais à Paris.	→	Moi $\neq$ je vais à Paris.
Nous allons à Paris.	→	Nous $\neq$ nous allons à Paris.
Nous allons à Paris.	→	Nous $\neq$ on va à Paris.

and detached elements can be permuted with the rest of the sentence. Indefinite noun phrases cannot be detached :

$$\text{Un plombier est venu.} \to \text{*Un plombier} \neq \text{il est venu.}$$

1.1.4. Inversions

There are certain constructions where the pvp subject (pvp_{Σ}) and its verb have to be permuted, the rule :

$$pvp_{\Sigma} \text{ V} \longrightarrow \text{V } pvp_{\Sigma} \qquad \text{applies}$$

to questions : Il vient. → Vient-il ?

— in relation with certain conjunctions : A peine vient-il que S.

while : ?*A peine il vient que S.

also : Reviendrait-il, que Pierre ne le recevrait pas.

When the subject is not a pvp, but a noun, then the corresponding pvp appears and the permutation rule applies :

Jean vient-il ?

A peine Jean vient-il que S.

Jean reviendrait-il que S.

That the apparition of the pvp is not due to detachment, can be seen from the following facts :

- it applies to indefinite nouns :

(un homme + quelqu'un) vient-il ?

A peine (un homme + quelqu'un) vient-il que S.

Un homme reviendrait-il que S.

- the characteristic intonation is not present,

- the noun subject cannot be permuted.

This permutation appears with other conjunctions (aussi, ainsi) and with sentences containing the adverb peut-être (perhaps).

1.2. Negation

The morpheme ne, part of negation, appears at the right of the subject (pvp or not) :

(Jean + il) ne mange (pas + rien).

1.3. Direct complements

We will study pvp's, the source of which is a set of non-prepositional
complements of the verb which includes direct objects, sentential complements, and
certain adjectivals.

1.3.1. Pronominalization of direct object complements.

Direct object complements appear in the non-prepositional position N_1 of :

$$N_o \ V \ N_1 \ X$$

where V is a "transitive" verb and X other possible complements. The notions
"object" and "transitive" are not used with their traditional sense; they are
best characterized by the syntactic notion:verb with a complement source
of the pvp's : le + la + les.

A. Different referents for subject and direct object.

(i) N_1 =/dialogue/pronoun : moi (1st), toi (2nd), nous (1st, plur.),
vous (2nd, plur.).

this is possible only if V is such that it admits human direct object
complements, in this case we have :

* Jean déteste (moi + toi + nous + vous).

(John dislikes (me + you + us)).

* Tu détestes(moi + nous).

(You dislike (me + us)).

although these forms are not grammatical (3.1) they will be taken as
sources for the corresponding correct sentences with the pvp's : me, te, nous
vous :

Jean (me + te + nous + vous) déteste.

Tu (me + nous) détestes.

(ii) N_1 = definite noun phrase, with no restriction on the class,
corresponding pvp's are : le, la (fem.), les (plur.) - (fn 5) (fn 6).
The pronominalization has the restrictions described in § 1.1.1, examples
are :

Jean déteste (Pierre + ce gâteau). ⟶ Jean le déteste.

Jean déteste (Jeanne + cette tarte). ⟶ Jean la déteste.

Jean déteste (ces personnes + ces gâteaux + ces tartes).

⟶ Jean les déteste.

In such examples N_1 can be preceded by the predeterminer tout in agreement
with N_1.

(iii) the position of N_1 is occupied by a sentential complement :
que S which can be "pronominalized" into the neutral pvp le.

In the context :   Pierre viendra ....   we have :

... Jean sait que Pierre viendra. ⟶   ....Jean le sait.

... Jean veut que Pierre vienne. ⟶   ....Jean le veut.

... Jean dit à Paul que Pierre viendra. ⟶ ....Jean le dit à Paul.

(iv) the position of N_1 is occupied by an adjectival, (Adj) the class
of V is restricted, the adjectival drops and the neutral pvp : le appears

- adjectives :

Jean (est + devient + reste) intéressant.

⟶ Jean le (est + devient + reste).

but :   Jean mourra jeune. ⟶ * Jean le mourra.

- past participles in passive sentences :

Jean a été battu par Pierre.

Jean l'a été par Pierre.

- past participles of verbs with auxiliary être also seem to have
this property :

Jean est arrivé et Pierre est arrivé aussi.

?Jean est arrivé et Pierre l'est aussi.

- other adjectivals : Jean est de (haute taille + bonne compagnie)

    —> Jean l'est. (and not : Jean en est).

In all cases (i) to (iv) pvp's were obtained by a redundancy removal operation in an appropriate context, the same pvp's can be obtained in the same positions through detachment.

Examples :

Tu nous détestes   ———>   Tu nous détestes ≠ nous.

Jean déteste (Jeanne + cette tarte + son attitude + la maison).

——> Jean la déteste≠(Jeanne + cette tarte + son attitude + la maison).

but indefinite nouns cannot be datached this way :

Jean déteste une fille. ——> * Jean la déteste ≠une fille.

We also have :

Ce livre vaut ses deux cents francs.

——> Ce livre les vaut ≠ ses deux cents francs.

Jean sait que Pierre viendra.

——> Jean le sait≠ que Pierre viendra.

Jean est intéressant.

——> Jean l'est ≠ intéressant.

Jean est de bonne compagnie.

⟶ Jean l'est ≠ de bonne compagnie.

The resulting sentences all have the characteristic pattern of pause-intonation, the detached element can be moved in front of the sentence.

(v) N_1 is an indefinite noun phrase ; there are various cases, and some depend on the class of the noun, they all correspond to the pvp en.

I Countable nouns.

I.I. singular :

Il regarde (un camarade + un gâteau).

⟶ Il en regarde un.

I.II. plural :

I.II.I. numerals :

Il regarde (deux camarades + trois gâteaux).

⟶ Il en regarde (deux + trois).

In these cases I.I, I.II.I, modifiers (adjectives, relative clauses) are not erased by pronominalization.

Il regarde un gros gâteau.

$\longrightarrow$ Il en regarde un gros.

Il regarde deux camarades qui partent.

$\longrightarrow$ Il en regarde deux qui partent.

I.II.II. adjectival determiners (they agree in gender and number
(plural) with the noun, they cannot permute as the adverbials
determiners do (§ 3.3.2.D.).

Il voit (certains + plusieurs) camarades.

$\longrightarrow$ Il en voit (certains + plusieurs).

In this case there are restrictions on the nature of modifiers

Il en voit plusieurs qui partent.

but : ? *Il en voit plusieurs bons.

while we have :

? Il en voit plusieurs de bons. (possibly substandard).

Negative adjective :

Il ne voit aucune tarte.

$\longrightarrow$ Il n'en voit aucune.

Chaque is not a member of this class.

II Non countable nouns (partitive) and indefinite plural.

In sentences like :

Il achète (du pain + de la viande + des fonctionnaires).

the definite articles le, la, les are considered as "generic" articles.

These noun phrases pronominalize :

⟶ Il en achète.

when adjective modifiers are present we have :

Il en achète (du frais + de la bonne + des bien placés).

III Adverbial determiners : they are not restricted to particular classes of nouns. If they do not determine a noun, they are simply adverbs modifying a verb which does not have to be transitive :

Jean a mangé beaucoup de fruits.

Jean a mangé beaucoup.

Jean a dormi beaucoup.

these adverbials can be permuted :

Jean a beaucoup mangé de fruits.

Jean a beaucoup (mangé + dormi).
_____

III.I positive

Jean voit (beaucoup + peu + trop + assez + plus + moins +
_____

énormément + ...) de (camarades + misère)..
_____

⟶ Jean en voit (beaucoup + peu + trop + assez + plus + moins +
_____

énormément + ...).
_____

III.II negative

Jean ne voit (pas + plus + jamais) de camarades.
_____

Jean n'en voit (pas + plus + jamais).
_____

III.III restrictive

A noun phrase can be "restricted" by the device :
pvp ne and que preceding the noun phrase :

Il ne voit que (une fille + deux gâteaux).
_____

⟶ Il n'en voit que (une + deux).
_____

III.IV comparative

Jean voit (tant + tellement) de gâteaux que S.
_____

⟶ Jean en voit (tant + tellement) que S.
_____

Jean voit autant de filles que de garçons.
_____

$\longrightarrow$ Jean en voit autant que de garçons.

III.V. combinations.

Some of the preceding adverbials can be combined :

beaucoup trop	but :	* trop (assez + beaucoup)
jamais plus	but :	* pas jamais, * jamais pas
pas trop	but :	* pas peu
ne V (pas + plus + jamais) que,	but :	* ne V que (pas + plus + jamais)

etc...

In all cases and subcases of § (v), instead of obtaining en by pronominalization, it is possible to obtain it by detachment.

Corresponding to examples I we have :

Il en regarde un $\#$ (de camarade + de gâteau).

Il en regarde deux $\#$ de gâteaux.

Il en regarde trois $\#$ de camarades.

Il en voit (certains + plusieurs) $\#$ de camarades.

where the preposition de appears in front of all detached forms. In examples II and III de is already present, but in the detached element an article (definite generic) appears :

Il en achète $\#$ (du pain + de la viande + des fonctionnaires).

Il en voit (positive adverbial determiner) $\#$ (des camarades + de la misère).

Il n'en voit (negative adverbial determiner)≠(des camarades +

de la misère).

Detached elements without the generic article are also allowed.

B   Identical referents for subject and direct object.

   (i) dialogue persons.

      We find the pvp's : me (1st), te (2nd), nous (1st, plur.), vous
(2nd, plur.) :

            Je me (regarde + saoule).

            Vous vous (écoutez + trompez).   etc...

   (ii) 3rd persons.

      We find the pvp se, singular or plural.:

            Il s'amuse.

            Ils s'autorisent à le faire.

The reason   such   constructions are so described, is that all
their verbs can also take a direct object complement with a referent
different from the referent of the subject as in :

      Il (me + te + nous + vous + le + les) (regarde + saoule

      + écoute + trompe + amuse + autorise à le faire).

A possible way to obtain these pvp's is by using a noun identical
to the subject in post verbal position, as a source. However in
certain cases, like tromper, amuser, the meaning does not appear
to involve a direct complement which would be reflexivized :

Jean s'amuse.

is in fact ambiguous and means :

Jean has fun.

which does not seem to involve an object, and :

Jean amuses himself.

where Jean performs a voluntary activity on himself. Also the
nature of the determiner of the underlying object raises a problem.
The distribution criterion is unsufficient, it would relate : Jean
bat N and Jean se bat by reflexivization. (Jean = N),

but we have :   Jean se bat contre N_1.

while :   *Jean bat N contre N_1.

1.3.2. Nouns complements.

Certain indefinite determiners can occur in front of a prepositional
phrase de N where N is a definite noun phrase which roughly speaking indicates
"inclusion".

Il voit (un + deux + plusieurs + certains + quelques uns) de ces hommes.

Il ne voit rien de tout cela.

This de N phrase can be a source for en.

As a consequence a sentence like :

Il a consulté des médecins, j'en connais plusieurs.

is ambiguous, the sources being :

... je connais plusieurs médecins.

... je connais plusieurs de ces médecins.

In subject position, similar reductions take place, but there is no apparition of en, as in :

Il a consulté des médecins, plusieurs connaissent le problème.

Nominal determiners :

Certain nouns (N_1) play, at least semantically, the role of determiners :

$$N_1 \text{ de } N_2 = \text{une bande (d'oiseaux + des oiseaux que tu connais)} + \text{un morceau (de gâteau + de ce gâteau)}$$

In object positions, de N_2 can be pronominalized, with apparition of en

Various class constraints may hold, between N_1 and N_2 depending on N_1 :

after :	bande,....,	N_2 is a plural/animate/noun ;
after :	équipe,....,	N_2 is a plural/human/noun ;
after :	tas, montagne,....,	N_2 is a plural/inanimate/noun, or a/concrete//mass/ noun ;
after :	tranche, morceau, part,....,	N_2 is a /mass/noun ;
after :	un (certain + grand) nombre,....,	N_2 is a plural/countable/noun.

More restricted phrases of this type occur : verre de vin, boîte de gâteaux ...

They all pronominalize with apparition of en, and also can be detached:

Il en voit une bande #d'oiseaux.

Il en boit un verre # de vin.

C   Pronominalization of noun complements (/non-human/)

This type of pronominalization is quite similar to the one described for subjects (1.1.2.) :

a definite,/non-human/noun, last complement of a series of noun complements of the direct object, pronominalizes, and en appears (fn 4) :

Il examine l'extrémité du pied de cette table.

Il en examine l'extrémité du pied.

The main differences between § B and § C lie in the relations between consecutive nouns separated by de. The cases of § A are analyzable in the same way.

D   Pronominalization of noun complements (human).

This question is similar to the one described in 1.1.2. and 1.4, but the pronominalized nominal can vary in person and number; accordingly the following pvp's occur :

dialogue : me (1st), te(2nd), nous (1st, plur.), vous (2nd, plur.)

3rd persons different from the subject of the verb : lui, leur (plur.)

3rd persons identical with the subject of the verb : se.

The phenomenon depends on the relation between N_1 and N_2 :

(i) "possession" relation :

We have the following pair :

(1) Il répare la voiture de Jean.

(2) Il lui répare sa voiture.

while :   Il répare la voiture à Jean.   is substandard.

If acceptable : Il lui répare la voiture.   is quite substandard (fn.7).

We will use the following operations in order to relate (1) and (2) :

- detachment of N_2 with respect to N_1 :

in all positions definite noun complements can be detached :

La bague de Jeanne est en or.
_____
$\longrightarrow$ Sa bague $\#$ à Jeanne $\#$ est en or.
_____
Jean pense à la robe de Jeanne.
_____
$\longrightarrow$ Jean pense à sa robe $\#$ à Jeanne. etc...
_____

These detached forms are not permutable.

In our case we would have :

(1) Il répare la voiture de Jean.
_____
(3) $\longrightarrow$ Il répare sa voiture $\#$ à Jean.
_____

then in (3), à Jean is analyzed as a verb complement like in (1.4.) and can be :

- pronominalized :

(2) Il lui répare sa voiture.
_____

- detached with respect to the verb :

Il lui répare sa voiture $\neq$ à Jean.
_____

(ii) "part of" relation :

We have the following pair :

(1) Il répare la voiture de Jean.
_____
(2) Il lui répare sa voiture.
_____

while : (6)   Il examine les cheveux à Jeanne.

is rather substandard.

The preceding solution for relating (4) and (5) would yield :

Il lui examine ses cheveux.   which is substandard.

A solution would consist of a modification of the rules, taking into account the particular class : nouns/inalienable parts of human beings/and attributing to them a possessive cross reference element.
This solution would have the advantage of relating two other facts :

The sentence :   Jean mange son repas.   (with son referring to Jean) has no passive, and the sentence : Jean remue les lèvres. (where lèvres has to be understood as belonging to Jean)

has no passive either ; we could relate this interdiction to the presence of the cross reference link.

(iii)   extension to/non-human/nouns.

The process of § A extended to/non-human/nouns does not yield completely incorrect sentences, but only dubious or substandard ones :

Il répare le dessus de la table.

?   Il lui répare son dessus ≠ à la table.

The detached forms issued from noun complements are not permutable.

1.3.3. Reciprocals

A solution for the description of the plural reciprocal pvp's : nous, vous, se could consist in using two source sentences of the type :

$N_0 \ V \ N_1$, where N_0 and N_1 can be of the same class, and the transformations

Jean insulte Pierre ≠ Pierre insulte Jean.

⟶ Jean et Pierre s'insultent.

This transformation raises various problems about :

- the source for/dialogue/persons :

Nous nous insultons.

Vous vous insultez.

- the nature of certain accompanying forms :

Ils s'insultent (mutuellement + l'un l'autre + les uns les autres + entre eux).

- the nature of certain intrinsically reciprocal verbs :

Ils s'entretuent.

1.4. à N complements

Certain prepositional à -noun phrases are sources of pvp's ; the sources N_1 below will be demonstrative noun phrases. These prepositional phrases occur within various frames.

A Different referents for subject and complement.

(i)/Human/nouns (fn 8) :

I./Dialogue/persons : me, te, nous, vous.

We have : Jean succède à N_1.

⟶ Jean (me + te + nous + vous) succède.

Jean donne un livre à N_1.

⟶ Jean (me + te + nous + vous) donne un livre.

II 3rd persons : lui, leur (plur.).

Jean succède à (Pierre + ces personnes).

⟶ Jean (lui + leur) succède.

Jean donne un livre à (Pierre + ces personnes).

⟶ Jean (lui + leur) donne un livre.

Not all à-complements generate pvp's :

Jean pense à Marie.

⟶ * Jean lui pense.

instead we have : Jean pense à elle.

while we had : * Jean succède à (elle + moi + ...).

(ii) /Non-human/nouns : y

           Jean pense à (cet événement + ces événements).

———>   Jean y pense.

           Jean attache de l'importance à ce poteau.

———>   Jean y attache de l'importance.

Not all à N/non-human/complements generate y :

           Jean compare son travail à celui de Pierre.

———> * Jean y compare son travail.

(iii)/Place/nouns : y

           Jean va à Paris.

———>   Jean y va.

However this type of à-complements should rather be considered as a case of/place/complement, not limited to the preposition à :

           Jean mange dans ce restaurant.

———>   Jean y mange.

Pairs like :

           Il fait un voyage à la mer.

≡   Il y fait un voyage.

might suggest that _y_ originates from an N_2 complement of an N_1 since :

Un voyage à la mer.

may constitute a whole noun phrase ; however while we have :

Il raconte un voyage à la mer.

the sentence :

Il y raconte un voyage.

is not acceptable with the same meaning. As a consequence the sentence:

Il fait un voyage à la mer.

is structurally ambiguous, one structure with à la mer complement
of _fait_, the other with un voyage à la mer complement of _fait_.
The following peculiar phenomenon occurs with aller, we have :

Jean ira à Paris.

but :   *Jean y ira.

An argument involving assimilation of one of the two _i_'s seems
difficult to support since the sentence :

Il y idéalise la femme.

(with _y_ referring to dans ce livre for example)
is quite correct. Moreover the sentence :

Jean aimera Paris,il ira souvent.

is understood with the/place/adverbial à Paris attached to ira, while the parallel sentence :

Jean aime Paris, il va souvent.

is completely unacceptable.

The phenomenon is restricted to simple future and to conditional :

Jean y sera allé.

* Jean sera allé.

and the zeroing of y which seems to be related to the presence of subject pvp's is optional :

Jean aimera Paris et il y ira souvent.   is acceptable.

These facts show that the roots of aller : v and all on the one hand and ir on the other, are not only morphologically different but syntactically as well.

More generally the presence of such adverbials seems to be restricted :

Je rêve de ce repas dans cette chambre.

does not pronominalize twice into :

* J'y en rêve.

(iv) Sentential complements : y.

Sentential complements of the form à ce que S reduce to y :

Pierre viendra, Jean tient à ce que Pierre vienne.

⟶   Pierre viendra, Jean y tient.

Not all à ce que S complements reduce this way :

Je reconnais Jean à ce qu'il viendra demain.

⟶   * J'y reconnais Jean.

In cases(i) to (iv) detachment applies, yielding the same pvp as with pronominalization.

B   Identical referents for subject and complement.

(i)/Dialogue/: me, te, nous, vous.

Je donne à N dix minutes pour faire cela.

⟶   Je me donne dix minutes pour faire cela.

(ii) 3rd persons : singular or plural se.

Ils disent à N que Jean viendra.

⟶   Ils se disent que Jean viendra.

Problems of ambiguities and sources arise, that are similar to the ones mentioned for direct object (1.3.1.B).

C   Reciprocals : plural : nous, vous, se.

Parallel to :   Jean ressemble à Pierre.

---

we find :   Jean et Pierre se ressemblent.

---

and without pvp :   Jean et Pierre ressemblent l'un à l'autre.

D Remark.

We gave a number of properties of pvp's with respect to proper

verbs (i.e. one morpheme V); all these facts are extendable to various

verbal expressions, as for example in :

            Jean est fidèle à (Jeanne + ce principe)

⟶   Jean (lui + y) est fidèle.

            Jean fait attention à Jeanne.

⟶   * Jean lui fait attention.

            Jean fait attention à ce principe.

⟶   Jean y fait attention.

            Jean a intérêt à venir.

⟶   Jean y a intérêt.

1.5. de N complements.

A large variety of such complements is associated the pvp en.

Normally/human/N's cannot be sources for en.

1.5.1. /Non-human/nouns.

de-complements in various structures can be sources for en :

A. Definite complements in demonstrative form (fn.9) :

N_o V de N_1 =   Jean rêve de cela.

$$\longrightarrow \quad \text{Jean en rêve.}$$

$N_o \ V \ N_1 \ \text{de} \ N_2 \ = \ $ Il entoure sa maison de cette grille.

$$\longrightarrow \quad \text{Il en entoure sa maison.}$$

$N_o \ V \ \text{à} \ N_1 \ \text{de} \ N_2 \ = \ $ Il parle à Jean de ce travail.

$$\longrightarrow \quad \text{Il en parle à Jean.}$$

Il V de N que S = Il résulte de cette décision que Jean viendra.

$$\longrightarrow \quad \text{Il en résulte que Jean viendra.}$$

V is not restricted to verbs but includes all sorts of verbal expressions :

V = être (adjectives + past participles + ...):

Il est (content + effrayé) de cela.

$$\longrightarrow \quad \text{Il en est (content + effrayé).}$$

Il a (E + très) peur de cela.

$$\longrightarrow \quad \text{Il en a (E + très) peur.}$$

B. Partitive, indefinite plural.

As we mentioned,   (I.3.1. II) partitive and indefinite plural determiners have the form :

Detp = de   definite generic article≠de (le + la + les).

If after de, we admit that this determiner may occur, then we must assume that Detp reduces to $\emptyset$, as in :

Il entoure sa maison de (grilles + grillage).

Il parle à Jean de travail.

In this case de N is difficult to detach, while in the cases of definite N's the detachment is quite natural :

> Il en parle à Jean ⫢ de ce travail.
>
> ? * Il en parle à Jean ⫢ de travail.

We find this reduction phenomenon in other positions where de can be followed by partitive noun phrases, for example in passive constructions where the preposition of the "agent" is de and the subject is Detp N :

> Tout le monde adore Jeanne.
>
> Jeanne est adorée de tout le monde.   (fn 10)

while :   Des personnes que nous avons rencontrées adorent Jeanne.

⟶   Jeanne est adorée de personnes que nous avons rencontrées.

in various nominalizations :

> N construit ces maisons.

⟶   la construction de ces maisons.

> N construit des maisons.

⟶   la construction de maisons.

The "cacophony" rule (Arnaud) : de de Artg ⟶ de, is a natural way to account for these various apparent exceptions. (Gross [2])

1.5.2. Sentential complements.

In the left context : Pierre viendra, ⸺ , we have :

> Jean persuade Paul de ce que Pierre viendra.

$\longrightarrow$ Jean en persuade Pierre.

Jean a peur de ce que Pierre vienne.

$\longrightarrow$ Jean en a peur.

1.5.3. Adverbial of "consequence"

Certain adverbials having a meaning that can be paraphrased by : de ce fait, du fait que S, are also a source for en.

De ce fait, Pierre dort. $\longrightarrow$ Pierre en dort.

Manner adverbial like : de cette manière cannot be sources for en.

1.6. Other sources.

1.6.1. Transformational sources.

me, te, nous, vous, se are found in connection with various transformational relations. The following constructions all require identity of person and number between subject and pvp :

- for certain verbs we have the pair type :

$$\left\{ \begin{array}{l} \text{Jean est évanoui.} \\ \text{Jean s'évanouit.} \end{array} \right.$$

but the verb évanouir alone does not exist ;

- we find pairs of constructions like :

$$\left\{ \begin{array}{l} \text{Il essaye de faire cela.} \\ \text{Il s'essaye à faire cela.} \end{array} \right.$$

- certain redundancy removal operations might link pairs like :

$$
\left\{
\begin{array}{l}
\text{Je déclare (ma flamme + mes intentions).} \\[4pt]
\rule{6cm}{0.4pt} \\[2pt]
\text{(I declare (my flame + my intentions)).} \\[4pt]
\rule{6cm}{0.4pt} \\[2pt]
\text{Je me déclare.,} \\[4pt]
\rule{3cm}{0.4pt} \\[2pt]
\text{(I declare myself).}
\end{array}
\right.
$$

$$
\left\{
\begin{array}{l}
\text{Jean veut du mal à Pierre.} \\[4pt]
\rule{5cm}{0.4pt} \\[2pt]
\text{Jean en veut à Pierre.} \\[4pt]
\rule{5cm}{0.4pt}
\end{array}
\right.
$$

and could be a source for "intrinsic" pvp's (1.6.2) ;

-"middle" transformations :

N nettoie ces verres facilement.

$\longrightarrow$ Ces verres se nettoient facilement.

1.6.2. Verbs with intrinsic pvp's.

These are verbs which do not occur (at least with the same meaning) without a pvp.

- Reflexive verbs.

Certain verbs do not have any forms without pvp, they must present of person and number between subject and pvp :

Jean se moque de Pierre.

- en.

In the sentence :   C'en est fait de notre projet.

it is not possible to find a complement that could be a source for en
(at least in modern French).

- y.

In :   Il y a du monde qui vient.

y has no source. Martinet [2] has remarked that such constructions can
be reduced in :

Y a du monde qui vient.   (substandard)

while when y has a source as in § 1.4., this reduction cannot occur
at all.

- In :

Il s'en va.

two intrinsic pvp's are combined.

The basic representation of verbs with intrinsic pvp's that we
will use, was given in Chapt. I. § 2.

1.6.3. Expletive particles

The pvp's : me, te, nous, vous, se, lui, leur, occurring in
certain substandard sentences are called "expletive". They do not seem to

be related to the pvp's that originated from the previously described sources. Examples are :

Je (te + vous) le lui ai renvoyé !

Regardez (moi + nous) cela !

Je te la leur y ai apporté !

All these sentences have some exclamation intonation. They constitute a marginal phenomenon that we will not try to describe more formally.

2. Properties of pvp's.

2.1. Relations to the verb.

The structure of the sequence of pvp's that precedes the verb and its tense has special properties with respect to the following transformations and structures.

2.1.1 Conjunctions.

(i) Conjunctions of several subject pvp's, or of subject pvp's and nouns or pronouns, are ungrammatical althought subject pvp's appear in a position which when filled by a nominal, allows conjunction :

* (Je et Pierre + Pierre et je + il et Pierre + ils et je + ...)

---

mangent.

---

while : (Jean et son frère + lui et Pierre + Pierre et lui) boivent.

(Pierre et moi + moi et Pierre) buvons.

(ii) Conjunctions of complement pvp's are not allowed either : there are no conjunctions of several pvp's; this is a consequence of the fact that a sequence of conjoined noun phrases is regarded as a single noun phrase which can then be the source of a single pvp :

(1)   Il mange ce fromage et cette tarte.

⟶   Il les mange.

and not :⟶ *Il le et la mange.

- there are no conjunctions of pvp's and nominals : (1) cannot be a source for :

(2)   * Il le mange et cette tarte.

this restriction is a consequence of the nature of conjunction rules that operate on items in identical positions : in case (2) we have a mixture of preverbal and post-verbal positions.

- conjunctions may occur between nouns and pronouns, but the pronouns are not pvp's :

Il obéit à Jean et à moi.

Toi et lui irez à Paris.

2.1.2. Adverbs

While many adverbs may be, or have to be inserted between subject and verb or between verb and complements, the same adverbs cannot be inserted into the sequence of pvp's or between a pvp and the verb (with the exception dealt with in 3.3.2.D) :

Jean, souvent, boit de la bière.   is correct,

but :   *Il, souvent, boit de la bière.

*(Je + tu) souvent bois de la bière.

* Je ne souvent en parle pas.

* Je le lui souvent dis.

Sentential inserts have the same type of restrictions :

Pierre, je vous l'ai dit, viendra.

but :   *Il, je vous l'ai dit, viendra.

2.1.3. Auxiliaries : avoir, être

2.1.1. and 2.1.2. show that pvp's have a tendency to agglutinate to the verb ; more precisely, it is to the part of the verb that carries the tense that pvp's agglutinate. In the preceding examples the tense carrier was the verb itself; in sentences where the tense is carried by an auxiliary, adverbs may occur between auxiliary and verb but not between pvp's or between a pvp and the auxiliary.

tense auxiliary être :	Il y est souvent allé.
tense auxiliary avoir :	Il le lui a souvent dit.
passive auxiliary être :	Ceci lui est souvent dit par Jean.
but :	* Il souvent y est allé.
	* Il le lui souvent a dit.
	* Ceci lui souvent est dit.

2.1.4. "Causative" constructions.

The main example that justifies the appellation causative involves the verb faire :

the sentences :   Pierre fait dormir Jean.

Pierre faire lire un roman à Jean.

Pierre fait construire sa maison par Jean.

will be analyzed into two parts (Kuroda [1]) :

- a causative operator : Pierre fait

- sentences : Jean (dort + lit un roman + construit sa maison).

which are combined by a transformation that modifies the subject of the simple sentence into a complement, and that combines this verb with the auxiliary faire ; the subject becomes :

- direct complement, if the verb did not have any direct complement,

- prepositional complement introduced by à or par, if the verb already had a direct complement.

Complements are ordered in the natural way (2.2.1).

There are several facts that suggest that faire V is a single verbal unit, different from the various infinitive complements that will be described in Chapters IV - VI :

- V in infinitive form has no underlying tense independent of the tense carried by faire; in particular it cannot include any tense auxiliary ;

- V cannot carry a negation independently of faire :

*Pierre fait ne pas boire Jean.

· faire V acts as a single verb with respect to negations :

<div style="margin-left:2em">

Pierre fait boire quelqu'un.

⟶   Pierre ne fait boire personne.

</div>

_ faire V acts as a single verb with respect to pvp's :

<div style="margin-left:2em">

Pierre fait dormir Jean.

⟶   Pierre le fait dormir.

Pierre fait lire un roman à Jean.

⟶   Pierre lui en fait lire un.

</div>

The causative operator cannot act on sentences that already contain these pvp's :

<div style="margin-left:2em">

Pierre fait ≠ Jean en lit un.

⟶   * Pierre fait en lire un à Jean.

or :   ⟶   * Pierre lui fait en lire un.

</div>

The situation is different in the great majority of infinitive constructions :

<div style="margin-left:2em">

· Jean croit lire un roman.

⟶   Jean croit en lire un.

but :   * Jean en croit lire un. (fn 11)

</div>

A few other verbs also have these properties of faire :

we have :   Pierre (voit + entend + laisse) Jean lire un roman.

and also :   Pierre (voit + entend + laisse) lire un roman à Jean.

$\longrightarrow$ Pierre lui en (voit + entend + laisse) lire un.

The various reflexive pvp's behave differently. The causative
operator does apply to sentences that already contain such pvp's :

intrinsic pvp's :   Pierre fait s'en aller Jean.

on this sentence, pronominalization applies to Jean yielding :

Pierre le fait s'en aller.

the two intrinsic pvp's cannot appear to the left of faire :

*Pierre s'en fait aller Jean.

- reflexive verbs :

Pierre fait $\#$ Jean se bat.

$\longrightarrow$ Pierre fait se battre Jean.

$\longrightarrow$ Pierre le fait se battre.

- reciprocals :

Pierre fait $\#$ Jean et Paul se battent.

$\longrightarrow$ Pierre fait se battre Jean et Paul.

$\longrightarrow$ Pierre les fait se battre.

- middle transformations :

the same phenomenon appears with the other structures described in
1.6.1.; however the causative operator does not apply to "middle"
transforms :

Pierre fait $\#$ le vin s'achète ici.

⟶   * Pierre fait s'acheter le vin ici.

this might be related to the fact that causative operators do not apply to passive transforms either.

Instead, we have :

Pierre fait acheter le vin ici.

"Middle" sentences have the base structure :

Δ achète le vin.

where $\underline{\Delta}$ is a dummy subject. The middle transformation puts le vin in subject position, and introduces the corresponding reflexive pvp (fn 12).

Here we could say that the causative operation consists in the introduction of a subject in the position of $\underline{\Delta}$, and of the auxiliary faire; this could also apply to verbs like taire which do not exist without a reflexive pvp in sentences like :

Jean se tait.

but have a causative form :

Pierre fait taire Jean.   without pvp.

Reflexive constructions are also found in causative sentences :

Pierre fait tuer N par Jean.   N = Pierre

⟶   Pierre se fait tuer par Jean.

One of the meanings of this last sentence is very close to the meaning of corresponding passive :

Pierre est tué par Jean.

The only difference seems to be an aspectural feature ("terminative" vs "non-terminative").

The problems mentioned for reflexive verbs in (1.3.1.B) also arise here. We find the same ambiguities, in this respect faire and amuser have the same types of subject.

In :   Jean se fait tuer.   no object is felt in one of the interpretations,

while in :   Jean se fait rire.   it is clearly perceived.

Also certain reflexivizations do not seem possible at all :

Jean se fait s'en aller.

Causative constructions can be sources for reciprocal constructions

Jean fait rire Pierre $\neq$ Pierre fait rire Jean.

$\longrightarrow$ Jean et Pierre se font rire (E + mutuellement + l'un et l'autre).

2.2. Constraints on pvp sequences.

We indicate certain constraints that appear on sequences of pvp's, together with some of their transformational sources.

2.2.1. Order

The left to right order of the pvp's in declarative sentences is the

following :

(i)   subject pvp's,

(ii) ne,

(iii)/dialogue/or reflexive pvp's,

(iv) le, la, or les,

(v)   lui, or leur,

(vi) y,

(vii) en.

This order is independent of the nature of the source, it cannot be violated ; to a certain extent it reflects the basic order of the complements :

- We have :   Il achète un livre à Pierre.

rather than :   ? Il achète à Pierre un livre.

the post-verbal basic order will be : N complement, before à N complement :
$N \langle$ à N .

A related phenomenon was found with faire.

- We have :   Il dégoute Jean du vin.

rather than :   ? Il dégoute du vin Jean.

the basic order is N $\langle$ de N.

- The two sentences :

    Jean parle (de Pierre à Paul + à Paul de Pierre).

are equally acceptable, but we will assume the basic order : à N $\langle$ de N

so that we can use the linear order :

$$\underline{N} < \underline{\text{à N}} < \underline{\text{de N}} \quad \text{also written :} \quad \underline{E} < \underline{\text{à}} < \underline{\text{de}}$$

Part of the ordering : (iv) $<$ (v), (vi) $<$ (vii) is a consequence of our basic order, as can be seen from the examples :

$\underline{N}_o$	$\underline{N}$	$\underline{\text{à N}}$	$\underline{\text{de N}}$	$\underline{V}_o$
Je	le	lui		donne
Je	l!		en	dégoute
Je		lui	en	parle

$\underline{N_o}\ \underline{V_o}\ \underline{N_1}\ \underline{\text{à}\ N_2} \longrightarrow$ (first row)

$\underline{N_o}\ \underline{V_o}\ \underline{N_1}\ \underline{\text{de}\ N_2} \longrightarrow$ (second row)

$\underline{N_o}\ \underline{V_o}\ \underline{\text{à}\ N_1}\ \underline{\text{de}\ N_2} \longrightarrow$ (third row)

2.2.2. Number of pvp's.

The presence of a subject pvp and of ne is not restricted in a kernel sentence; problems of restriction arise with complement pvp's. Practically one rarely finds more than two complement pvp's, although a sentence like :

Pierre la leur y apporte.

with three complement pvp's is not unnatural.

From the list of positions we gave : (i) to (vii), it appears that more than three complement pvp's (or more than five pvp's altogether, as in : Je ne la leur y apporte pas.) may occur, but some of the positions exclude each other. We will study now the restrictions that limit

the number of possible complement pvp's.

2.2.3. Number of complements.

The number of complements (adverbials included) that can be found in a sentence is finite (an unbounded sequence of conjoined complements is to be considered as one complement). The number of types of complements that can be sources of pvp's is rather small as can be seen from § 1. This fact gives an upper bound on the number of pvp's; further facts sharpen this bound.

There are no repetitions of pvp's; one of the reasons is that, in French, no verbs can have two verb complements of the same type. The following structures are not exceptions to this general constraint :

$$- N_0 \ V \ N_1 \ N_2 \qquad V = \text{élire} + \text{nommer} + \text{appeler} + \text{payer}$$

N_1 is a direct object but N_2 cannot be considered as such, none of the syntactic criteria that could be used for defining the notion "direct" (or "direct object") applies to this position.

$$- N_0 \ V \ \text{à} \ N_1 \ \text{à} \ N_2 \qquad V = \text{succéder} \quad \text{Jean succède à Pierre à ce poste.}$$

N_0 and N_1 have to be in the same class, and à N_2 is a place adverbial ; both complements can be sources of pvp's, but they would be different as in :

$$\text{Jean leur y succède.}$$

$$- N_0 \ V \ \text{à} \ N_1 \ \text{à} \ V\Omega \qquad V = \text{apprendre}, \ \text{à} \ V\Omega \ \text{is a direct object, and}$$

à N_1 can be a source of pvp (lui, leur) ;

$$- N_0 \ V \ \text{de} \ N_1 \ \text{de} \ N_2 \qquad \text{are not cases of double de N verb complements,}$$

they are like in :

Il a décoré des gens de la médaille militaire.

where des gens is a direct object and de la médaille militaire is a de N verb complement.

These situations, where the direct object is indefinite and where there is a verb de N complement, present the following peculiarity :

in a sentence like :

(1)   Il remplit un verre de ce vin.

the two complements can be sources for en :

Il en remplit un verre.

Il en remplit un de ce vin.

if both pronominalizations occur, en cannot be repeated :

(2)   * Il en en remplit un.

instead we have :

(3)   Il en remplit un.

which is ambiguous and means either (1) or :

Il remplit un verre.

Since a double pronominalization acting on (1) yields (2), a way to obtain (3) is by assuming that the rule which forms en applies only

once (a rule like en en ──→ en could not be used since there are correct forms like the phrase : on en parlent, the sentence : Jean en ennuye un).

If (1) is interpreted with de ce vin noun complement of verre as in :

Il boit un verre de ce vin.

only one pronominalization may occur :

either :   de ce vin ──→ en   :   Il en boit un verre.

or :   verre de ce vin ──→ en   :   Il en boit un.

Similarly, in :   Jean boit ce verre de ce vin.

we have either :   de ce vin ──→ en   :   Il en boit ce verre.

or :   ce verre de ce vin ──→ le :   Il le boit.

which excludes :

* Il l'en boit.

Adverbials of "consequence" (§ 1.5.3) are also sources for en, and may occur with many verbs, in particular together with verb complements that are also sources for en, but only one en is permitted in such sentences.

- Although an à-complement and a/place/adverbial may occur simultaneously, the repetition of y is not allowed :

Jean réfléchit, dans cette chambre. ──→ Jean y réfléchit.

Jean réfléchit à cet événement. ──→ Jean y réfléchit.

Jean réfléchit à cet événement, dans cette chambre.

──→ *Jean y y réfléchit.

2.2.4 Interdependence of complements with respect to their reduction.

In certain sentences, some of the five positions (iii) to (vii) of 2.2.1. exclude each other. For example/dialogue/and reflexive pvp's that have for sources N or à N complements cannot occur simultaneously with either (v) or (iv) respectively. Also (v) and (vi) exclude each other when the source is an à N_{-hum} complement. Other constraints arise from à N complements.

As we mentioned in 1.4.1., there are verbs, with à N complements that have some of the following properties :

$$à \; N_{hum} \; reduces \; to \; a \; pvp, \; or \; does \; not \; reduce \; to \; a \; pvp \; ;$$

$$à \; N_{-hum} \; reduces \; to \; a \; pvp, \; or \; does \; not \; reduce \; to \; a \; pvp.$$

From the examples we gave, it is clear that these four properties are independent, they classify the corresponding verbs.

The following examples show a dependence between some of these properties, and the presence of other pvp's :

- in the sentences :

Jean montre (ce problème + ce garçon) à Jeanne.

the two types of complements : N and à N are sources for pvp's :

Jean le lui montre.

but if N is source of one of the pvp's : me, te, nous, vous, se then à N is no longer a source of pvp :

(1)   * Jean (me + te + nous + vous + se) (lui + leur) montre.

instead we have :

Jean (me + te + nous + vous + se) montre à (lui + elle + eux + elles)

where the pronouns originating from à N do not reduce. The same is true
if à N is to be the source of one of the pvp's : me, te, nous, vous, se :

* Jean (me + te + nous + vous + se) (me + te + nous + vous + se)

montre.

instead we have sentences where the pronoun of à N is not reduced.

- in the sentence :

Jean rattache N_{hum} à ce département.

N_{hum} can be the source of one of the pvp's : me, te, nous, vous, se :

Jean (me + te + nous + vous + se) rattache à ce département.

in this case, à N_{-human} may be the source of the pvp y :

Jean (me + te + nous + vous + se) y rattache.

Some of the pairs of pvp's given in (1) are found with the
interpretation that the first pvp is expletive :

Jean vous lui montre une de ces filles ...[

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but no repetition of pvp's may occur even if one of them is expletive.

2.2.5 Incompatibility of singular and plural dialogue pvp's.

Sentences like :

     (1)   Je nous (vois + amuse).
               ―――――――――――――――――――――

     (2)   Nous me (voyons + amusons).
               ――――――――――――――――――――――――

are either acceptable or dubious.

Sentences like :

     (3)   Tu vous (vois + amuses).
               ――――――――――――――――――――――

     (4)   Vous te (voyez + amusez).
               ――――――――――――――――――――――

are not acceptable.

One could attribute them the following relative values of acceptability :

          (1) ; ? (2) ; ? * (3) ; * (4)

The incompatibility of 2nd persons found in (3) and (4) is not limited to pvp's. It may occur in many positions of a complex sentence that is not built by using the operation of conjunction :

    ? Tu penses à vous.
       ―――――――――――――

    * Vous pensez à toi.
       ―――――――――――――――

  * Vous dites que l'homme que tu as vu hier est arrivé.
     ――

  ? Tu dis que l'homme que vous avez vu hier est arrivé.
     ―――

2.2.6. Incompatibility of simultaneous reductions of complements.

We saw in 1.1.2. that en may originate from a noun complement of the subject; this en is not independant of the other pvp's :

we have :   La solution de ce problème est simple.

⟶   La solution en est simple.

and :   La solution est simple.

⟶   La solution l'est.

but :   La solution de ce problème est simple.

⟶   * La solution l'en est.

This type of dependence between pvp's is different from the type met in 2.2.4. as can be seen from the example :

La solution de ce problème est acceptable à N   N = nous

⟶ ? * La solution nous en est acceptable.

or : ⟶ ? * La solution en est acceptable à nous.

In this section 2, we described various restrictions on co-occurrence of pvp's. Still, in certain other cases, sequences of complement pvp's are theoretically possible but lead to sentences difficult to accept. A restriction (Benveniste [2]) of a more general kind that can be considered as a consequence of a general principle proposed by Chomsky [4], could explain some of these cases :

"Transformations leading to sentences which are too ambiguous cannot apply".

This principle might be an answer to the difficulty of accepting sentences like :

Je leur y en ai parlé.

Je la leur y attribue.

3. Rules

We discuss and make more precise some of the operations needed for characterizing sentences containing pvp's. In particular we describe pronominalization and reduction, which have been used in e looser way in § 1. and § 2.

3.1. Pronominalization.

3.1.1. Basic pronouns.

Pronominalization will be here the operation that places certain morphemes called basic pronouns in noun positions.

Basic pronouns are :

- /dialogue/ pronouns = moi + toi + nous + vous

- 3rd p. reflexive pronoun = soi

- 3rd p. pronouns = lui + elle + eux + elles, that we will also write :

    = lui (E + fem.) (E + plur.)

3rd p. pronouns are found either isolated or in combination with ce in various positions.

In a structure, by pronominalization we mean certain substitutions for a nominal   N :

- of a /dialogue/ pronoun ;

- of the 3rd p. reflexive pronoun, which implies reference to the subject.

Both substitutions are restricted by the fact that the position must allow definite/human/nouns to appear. They lead to strings like :

Il voit (moi + toi + nous + vous + soi)

which can undergo reduction;

- of a 3rd p. pronoun. For this type of pronoun other conditions are required :
a pronoun can be substituted for a noun into a noun phrase if this noun has already been mentioned in the context (fn.13), and if the determiner is either demonstrative (fn.14), or indefinite (then it involves the preposition de).

We indicated in 1.1. that demonstrative noun phrases were sources of pvp's; the above condition also covers the case of the so-called demonstrative pronouns :

celui + celle + ceux + celles

where the basic 3rd p. pronouns appear in combination with ce.

We will use the following rules that apply to the string :

X N Y

where N is a noun, and X the left context including the determiner,

- substitution : N = lui + elle + eux + elles

- if the determiner is ce, and if no Modifier is attached to N, then we have zeroing of ce :

[ce z.] :   ce ——→ Ø

- if the determiner is indefinite, or definite with Modifier attached to N, this ce zeroing rule does not apply. (Modifier is restricted to relative clauses and certain noun complements : Chapter V, § 2.2., § 3.1.)

These rules will have the following actions :

		Il pense à ce N.
[substitution]	: ——→	Il pense à celui.
[ce z.]	: ——→	Il pense à lui.
or	:	Il pense à ce N (que j'ai vu + de Jean).
[substitution]	: ——→	Il pense à celui (que j'ai vu + de Jean).

		Il voit ce N.	;	Il voit un de N.
[substitution]	: ——→	Il voit ce lui.	; ——→	Il voit un de lui.
[ce z.]	: ——→	Il voit lui.		

the last two lui's are in a position (direct object) where they can undergo [reduction], yielding (after permutation) :

Il le voit.   ;   Il en voit un.

3.1.2. Intermediary forms.

The preceding rules lead to non-existing forms like :

(1) Moi viens.   instead of (1') : Je viens.

(2) Jean voit toi.   instead of (2') : Jean te voit.

(3) Jean donne le livre   instead of (3') : Jean lui donne

     à elle.   le livre.

However, such intermediary forms are needed in other places of the grammar where various transformations operate on them (fn.15) :

A. Extractions :

From a sentence : c'est que S. where S is a sentence, one can derive sentences of the general form :

C'est Phrase que R.

where R recombined with Phrase is S; for example :

C'est que Jean viendra demain...

C'est Jean qui viendra demain.

or :   C'est demain que Jean viendra.   ... etc ...

The general rules of extraction apply to (1), (2), and (3) yielding:

C'est moi qui viens.

C'est toi que Jean voit.

C'est à elle que Jean donne le livre.

If extraction were to apply to the sentences (1'), (2'), (3')
special rules would be needed to modify the pronouns.

B. Restriction.

A complement phrase can be restricted by the device :

- ne is placed in front of the verb,
- the phrase is preceded by que :

Il ne viendra que demain.

Restriction applied to (2) and (3) yields :

Jean ne voit que toi.

Jean ne donne le livre qu'à elle.

Here also, [restriction] applied to (2') and (3') would request
modification rules for the corresponding pronouns.

C. Redundancy removal in operator structures.

We will study in Chapter V the following type of redundancy
removal operation :

Tu dis à Jean qu'il vienne.   (where il refers to Jean)

——→ Tu dis à Jean de venir.

The statement of the corresponding redundancy removal rule
involves the prepositional phrase : à Jean and : qu'il.

For the similar sentence :

<div align="center">

Tu me dis de venir.
_____

</div>

if the transformation is :

<div align="center">

Tu me dis que je vienne.
_____

</div>

—→ Tu me dis de venir.
_____

the statement of the rule has to be different from the preceding one,
since it involves the pvp me instead of a prepositional phrase. If
we use the intermediary form :

<div align="center">

* Tu dis à moi que je vienne.   as a source for :
_____

* Tu dis à moi de venir.
_____

</div>

then only a single redundancy removal rule needs to be stated, and
this, independently of the person of the nouns and pronouns involved.
On the new intermediary form, a general reduction rule will operate,
yielding :

<div align="center">

Tu me dis de venir.
_____

</div>

D. Causatives.

The same argument involves the use of (1) and not of (1') as
a source for :

<div align="center">

Pierre me fait venir.
_____

</div>

3.2 Reduction.

Certain rules are needed in order to relate intermediary forms, to forms that
contain the corresponding pvp's. These rules depend on the position of the pronom-
inal phrases. It is understood that they apply only if these phrases are not
specified "non-reducible".

3.2.1 Subject

Subject positions, all allow [subject reduction], the rules needed are :

$$moi \longrightarrow je$$

$$toi \longrightarrow tu$$

$$lui \longrightarrow il$$

The rule : eux $\longrightarrow$ ils, is obtained by applying :

lui $\longrightarrow$ il   to :   eux = lui plur.   yielding :   il plur. = ils.

3.2.2. Definite direct complements.

The reduction applies in most cases.

oi $\longrightarrow$ e   applies to : moi, toi, soi

ui $\longrightarrow$ e   applies to : lui (E ≠ fem.) (E + plur.) yielding the forms :

le (E + fem.) (E + plur.) to which the following

adjustment rules apply :

$$le\ fem \longrightarrow la$$

$$le\ (E + fem.)\ plur. \longrightarrow les$$

3.2.3. à N complements.

Since reduction of an à-noun phrase to a pvp is restricted, such phrases have to be distinguished in some way (structurally or by marker).

When reduction does occur, a certain number of rules have to operate on the phrase containing the basic pronoun :

- in all cases à has to be zeroed

$$[\; à \quad z.] \; : \qquad à \; Pron \; \longrightarrow \; Pron$$

- in the case of : $Pron = moi + toi + soi$, the rule $oi \longrightarrow e$ applies ;

- in the case of $Pron_{hum}$ (pvp = lui) we also need :

zeroing of the feminine marker :

$$[\; fem \quad z.] \; : \qquad Pron \; fem \; \longrightarrow \; Pron$$

plural adjustment :

$$[\; plur. \; adj.] \; : \quad Pron \; plur \; \longrightarrow \; leur$$

Presumably this rule is also needed for possessives.

- the case of $Pron_{-hum}$ corresponds to the pvp y. We will use for y, a source closely related to the pronoun : celui la, which includes $Pron = lui$ (with gender and number, fn.15). The steps involved will be :

$$[\; lui \quad z.] \; : \qquad ce \; lui \; la \; \longrightarrow \; ce \; la$$

$$[\; ce \quad z.] \; : \qquad ce \; la \; \longrightarrow \; la$$

and a rule having the effect : $\quad la \longrightarrow y$

The first two rules are justified independently. In particular they apply to certain à N complements not reducible to y, as in :

Pierre reconnait Jean à ce Pron la.

$[\underline{lui}\ z.]$: $\longrightarrow$ Pierre reconnait Jean à cela.

$[\underline{à}\ z.]$, $[\underline{ce}\ z.]$: $\longrightarrow$ Pierre reconnait là Jean.   (after permutation)

- the case of place adverbials will be related to the preceding one
in the following way :

first we assume an operation of pro-adverbialization, that
introduces the pro-adverb $\underline{la}$; $\underline{ici}$ is often in complementary
distribution with $\underline{la}$, and $\underline{is}$ also called a pro-adverb. However only $\underline{la}$
has a referential function, the sentences :

Jean entre dans un magasin, il trouve Marie dans ce magasin.

Jean entre dans un magasin, il trouve là, Marie.

can be understood synonymously, i.e. with ce magasin, or $\underline{la}$
referring to the store mentioned in the first member. This is not
the case if $\underline{ici}$ replaces $\underline{la}$.

We now assume that the rule   we gave :

$$\underline{la} \longrightarrow \underline{y}\ ,$$

applies to the pro-adverbial in the preceding example, yielding :

Jean entre dans un magasin, il y trouve Marie.

which still has the same interpretation.

A further reason for choosing $\underline{la}$ rather than $\underline{ici}$ as a source
for $\underline{y}$, if the fact that certain verbs accept the pro-adverb $\underline{la}$:

Jean part là (E + bas).

but not ici :

*Jean part ici.

while they accept y :

Jean y part.

This analysis identifies the pro-adverb là and the particle là that appears in demonstrative pronouns ; there, and also in voi (ci + là), là is in complementary distribution with the particle ci.

The difference in distribution that separates particles from pro-adverbs is the phoneme /i/ in front of ci, but not in front of là. By assuming that the basic form of là is in fact ila, we could have a way to give a more regular description of these items, and in particular a much more natural rule for introducing y and that would consist in zeroing là, rule which is needed independently for the description of pronouns. In the case of pro-adverbs we would have :

$$[\text{là } \dot{z}.] : / \text{ila} / \longrightarrow /i/ = y$$

3.2.4. de N complements.

- Nouns complements of subjects or of direct objects, and de N verb

complements are reducible to en only when N is/non-human/.

- Nouns direct objects with indefinite determiners are reducible to
en independently of the/human/feature (fn.16).

- Nouns subjects and in direct complements with certain indefinite
determiners are reducible to zero.

When de N is reducible to en the following rule applies :

$$\text{de lui (E + fem.) (E + plur.)} \longrightarrow \text{en}$$

In order to account for the cases where several simultaneous
sources for en are available, we have to restrict this rule to a
single application with respect to a verb.

The rule is purely morphophonemic : it does not involve any
reference property. In particular it applies to both cases of
pronominalization, and independently of the determiner :

Jean est content de cette chemise.

$\longrightarrow$ Jean en est content.

Jean achète une chemise.

$\longrightarrow$ Jean en achète une.

Jean change de chemise.

$\longrightarrow$ Jean en change.

but the rule depends on the verb and its complement (fn.9) :

> Jean se trompe de chemise.

and *Jean s'en trompe.

The case of indefinite pronouns in non-direct object positions can be described by means of the rule :

$$\text{de lui } (E + \text{fem.}) \ (E + \text{plur.}) \longrightarrow \emptyset$$

3.2.5 Adjectivals

We will use the following "ad hoc" rule which applies to adjectivals : $\text{Adj} \longrightarrow \text{le}$. One could argue that : N_1 est Adj is in fact : N_1 est $\overline{N_2}$ Adj

where N_2 is a Pron. which can be zeroed or reduced to le. However this would not account for the fact that Adj has a property of manner adverbial in a question :

$$N_1 \text{ est Adj.}$$

$$\longrightarrow \text{Comment est } N_1 \ ? \qquad (\text{fn } 17)$$

3.2.6 Sentential complements.

The pvp's that correspond to sentential complements will be shown to obey the general rules (Chapter V, § 3).

3.3 Permutations

Pronominalizations and reductions lead to forms that have the position of their source : complement pvp's are left post-verbal; we need permutation rules in order to locate them correctly.

3.3.1 Verb-particle permutation.

All reduced positions will have to be permuted with the verb; the following general rule will apply :

$$[\text{pvp p.}] \qquad \text{V pvp} \longrightarrow \text{pvp V}$$

where V has to be understood as an element of the set of strings :

$$[\text{afx p.}] \; [\text{pn (pres + impf) (E + inf) (E + r(avoir) pp + r(être) pp}$$

$$(\text{E + r(faire) inf r(V)}].$$

which is understood as the string : tense, auxiliaries, verbal root, after [afx p.] (affix permutation) applied.

The rule also applies to infinitive as in :

Il pense voir le.

$$\longrightarrow \text{Il pense le voir.}$$

Moreover [pvp p.] attaches the pvp to V; otherwise in the preceding example [pvp p.] would reapply, yielding :

*Il le pense voir.

which is no longer acceptable.

[pvp p.] applies as many times as there are pvp's to move, and places the pvp's in an order which corresponds to the order they occupy in post-verbal positions, and which is not always the natural order of complements discussed in 2.2.4., and in Gross [1].

We apply the rules we have given so far to some of the examples of 2.2.1.

		Je donne ce livre à ce garçon.
[substitution] :	⟶	Je donne ce lui à garçon.
[ce z.] :	⟶	Je donne lui à ce garçon.
[ui → e] :	⟶	Je donne le à ce garçon.
[pvp p.] :	⟶	Je le donne à ce garçon.
[substitution] :	⟶	Je le donne à ce lui.
[ce z.] :	⟶	Je le donne à lui.
[à z.] :	⟶	Je le donne lui.
[pvp p.] :	⟶	Je le lui donne.

		Je rapporte cette photo à ces personnes dans cette maison.
[substitution] :	⟶	Je rapporte ce lui fem à ces personnes dans cette maison.
[ce z.] :	⟶	Je rapporte lui fem à ces personnes dans cette maison.
[ui → e] :	⟶	Je rapporte le fem à ces personnes dans cette maison.
[adjustment] :	⟶	Je rapporte la à ces personnes dans cette maison.
[pvp p.] :	⟶	Je la rapporte à ces personnes dans cette maison.
[substitution] :	⟶	Je la rapporte à ce lui fem plur dans cette maison.
[ce z.] :	⟶	Je la rapporte à lui fem plur dans cette maison.
[fem z.] :	⟶	Je la rapporte à lui plur dans cette maison.
[à z.] :	⟶	Je la rapporte lui plur dans cette maison.
[plur adj.] :	⟶	Je la rapporte leur dans cette maison.
[pvp p.] :	⟶	Je la leur rapporte dans cette maison.

[pro-adv.] : ⟶ Je la leur rapporte ila.
_____

[la z.] : ⟶ Je la leur rapporte y.
_____

[pvp p.] : ⟶ Je la leur y rapporte.
_____

We have applied the rules complement after complement.

3.3.2 Complement permutations.

A. "Length permutation"

Permutations occur, that rearrange complements :

in the sentence :   Je donne ce livre à Pierre.
_____

the complements are in basic order, permuting them yields :

Je donne à Pierre ce livre. somewhat unnatural.
_____

However when the first complement is "longer" (length of the whole phrase),
counted in number of morphemes, then the natural order is reversed :

? Je donne le livre dont j'ai arraché les pages hier à Pierre.
_____

Je donne à Pierre le livre dont j'ai arraché les pages hier.
_____

The corresponding type of rule is called "length permutation" in : Harris
[6], and was already discussed at length in : Beauzée. We apply it to
pvp's in the following case :

If a verb has two complements (in basic order), and if only the second
one is reduced to a pvp, then [pvp p.] cannot apply since between V and pvp
there is a non-reduced complement. In this case the length permutation rule
applies, permuting the pvp and the non-reduced complement yielding a string
to which [pvp p.] applies :

<pre>
                       Je donne ce livre à toi.
                       ─────────────────────────
[à z.] :   ──→   Je donne ce livre toi.
                       ─────────────────────────
[oi → e] : ──→   Je donne ce livre te.

[length p.] : ─→ Je donne te ce livre.
                       ─────────────────────────
[pvp p.] :   ──→   Je te donne ce livre.
                       ─────────────────────────
</pre>

B. en extraction.

When en has for source a direct object with indefinite determiner, a special type of permutation needs to take place. In such cases the pronominalization is not an operation of removal of a noun which has a referent but simply removal of a repeated lexical unit : the repeated occurrence of the noun has no common reference with the preceding one :

<pre>
In :   J'ai regardé un livre et j'ai acheté un livre.
        ──
        (I looked at a book, and I bought a book).
        ──
──→   J'ai regardé un livre, et j'en ai acheté un.
        ──
        (I looked at a book, and I bought one).
        ──
</pre>

two different books are involved.

We already mentioned that un livre has to be represented as un de livre, and that in this type of pronominalization, qualifiers are left :

<pre>
        J'achète un livre qui me plait.
        ──────────────────────────────────
──→   J'en achète un qui me plait.
        ──────────────────────────────────
</pre>

According to the rules we gave previously, we would have :

J'achète un de livre qui me plait.

[substitution] : ⟶ J'achète un de lui qui me plait.

[de N reduction] :⟶ J'achète un en qui me plait.

On this string the length permutation which is defined on full complement phrases cannot operate since en is located inside a noun phrase, and [pvp p.] cannot operate either, since en is separated from V by the indefinite determiner. We need the following rule :

[en extraction] : $N = Det._{indef.}$ X en Y⟶ en $Det._{indef.}$ X Y

(N direct object)

where : - $Det._{indef.}$ the indefinite determiner can include the restrictive que ;

- X is a possible string of prenominal adjectives ;

- Y is a possible string of other qualifiers of the noun.

We have for example :

J'achète un gros en qui me plait.

[en extraction] : ⟶ J'achète en un gros qui me plait.

[pvp p.] : ⟶ J'en achète un gros qui me plait.

In order to account for the order of the pvp's in the case of two complements (i.e. one direct with indefinite determiner, the

other reducible à N) we place the rule [en extraction] _after_ the reduction rules for the various types of complements, and _after_ length permutation. This leads to derivations of the type :

		J'achète un de livre rouge à ce garçon.
[substitution] :	⟶	J'achète un de lui rouge à ce garçon.
[de N reduction] :	⟶	J'achète un en rouge à ce garçon.
[substitution] :	⟶	J'achète un en rouge à ce lui.
[ce z.] :	⟶	J'achète un en rouge à lui.
[à z.] :	⟶	J'achète un en rouge lui.
[length p.] :	⟶	J'achète lui un en rouge.
[pvp p.] :	⟶	Je lui achète un en rouge.
[en extraction] :	⟶	Je lui achète en un rouge.
[pvp p.] :	⟶	Je lui en achète un rouge.

The same type of derivation can be used to generate sentences containing an en having for source the last of a series of noun complements attached to a direct object. However in this case the direct object can be longer than the indirect à N, which allows to [length p.] to apply sooner :

		Je montre l'extrémité du pied de cette table à cet homme.
[length p.] :	⟶	Je montre à cet homme l'extrémité du pied de cette table.
[substitution] :	⟶	Je montre à ce lui l'extrémité du pied de cette table.
[ce z.] :	⟶	Je montre à lui l'extrémité du pied de cette table.
[à z.] :	⟶	Je montre lui l'extrémité du pied de cette table.

[pvp p.] :   ⟶   Je lui montre l'extrémité du pied de cette table.

[substitution] : ⟶   Je lui montre l'extrémité du pied de ce lui fem.

[ce z.] :   ⟶   Je lui montre l'extrémité du pied de lui fem.

[de N reduction] : ⟶   Je lui montre l'extrémité du pied en.

[en extraction] : ⟶   Je lui montre en l'extrémité du pied.   (n.18)

[pvp p.] :   ⟶   Je lui en montre l'extrémité du pied.

C. Permutation of dialogue and reflexive pvp's.

There are cases where neither the natural order of complements, nor the preceding permutations account for the order of the corresponding pvp's. In :

Il (me + se) l'achète.

me, se correspond to the à N complement, and they precede le which corresponds to the direct complement. This phenomenon is general : in such structures, dialogue and reflexive pvp's will always precede the 3 rd person direct complement.

We will account for this situation in the following way :

Substitution for N(in an N or à N complement) of a basic dialogue pronoun, and reflexivization are early operations on a kernel sentence; they do not necessitate any information (reference, repetition) from outside the kernel in order to be applied; these operations will then precede other types of pronominalization that do require extra kernel information.

This ordering is also needed for the treatment of certain

causative forms like :   Il me fait me coucher.

In these cases length permutation will apply before pronominal-
-ization of the direct object :

		Il achète ce livre à N.
[reflexivization]	: ⟶	Il achète ce livre à soi.
[à z.]	: ⟶	Il achète ce livre soi.
[oi → e]	: ⟶	Il achète ce livre se.
[length p.]	: ⟶	Il achète se ce livre.
[pvp p.]	: ⟶	Il s'achète ce livre.
[substitution]	: ⟶	Il s'achète ce lui.
[ce z.]	: ⟶	Il s'achète lui.
[ui → e]	: ⟶	Il s'achète le.
[pvp p.]	: ⟶	Il se l'achète.

D.   Related permutations.

Certain negation transformations can be described as follows :

- attachment of the morpheme ne in preverbal position ;
- transformation of a phrase (subject, complement, adverbial, etc...)
into a negative :

	Jean mange N_{-hum}.
⟶	Jean ne mange rien.
	Jean boit souvent.
⟶	Jean ne boit jamais.

Jean voit N$_{hum}$

$\longrightarrow$ Jean ne voit personne.

rien, jamais, personne are the negatives.

Such transformations do not involve the nature of the tense, and consequently lead to :

Jean va manger N.

$\longrightarrow$ *Jean ne va manger rien.

Jean a bu souvent.

$\longrightarrow$ * Jean n'a bu jamais.

while the correct sentences are :

Jean ne va rien manger.

Jean n'a jamais bu.

We obtain these correct forms from the preceding intermediary ones, by means of a rule that permutes certain negatives, with a verb either in infinitive or past participle form. We write :

$$r \; (V) \; (inf. + pp.) \; X_{perm} \longrightarrow X_{perm} \; r \; (V) \; (inf. + pp.)$$

where X$_{perm}$ can be a permutable negative : rien and jamais are permutable negatives; personne is not permutable. Many non-negative adverbials also can permute in this manner : beaucoup, souvent, moins are optionally permutable.

This rule, applied before [pvp p.], accounts for sentences like :

Il essaie de ne (rien + jamais) lui dire.

Il peut ne pas le lui avoir donné.

where negatives are inserted into the pvp sequence.

Footnotes

fn 1 - In imperative sentences that do not contain negations, pvp's appear at the right of the verb (Chapter VII). Other inversions may occur (1.1.4).

fn 2 - The shape of sentences containing a detached N could suggest the following analysis which, if acceptable, would not request any special operation of detachment :

- to the noun phrase to be detached, a noun phrase apposition is attached (via a non-restrictive relative clause) ;

- one of these two noun phrases is pronominalized.

However this analysis does not account for the following facts :

(i) an apposition is not permutable with the rest of the sentence, a detached N is :

Jean, l'âme de la bande, a été arrêté.

*Jean a été arrêté, l'âme de la bande.

(ii) an apposition can be indefinite, a detached form cannot :

Un bandit, Jean, a été arrêté,   is correct while :

*Un bandit ≠ il a été arrêté.

---

fn 3 - We consider the symbols fem. (feminine), plur. (plural) as morphemes attached to (marking) certain parts of speech. Absence of the feminine symbol indicates that the corresponding part of speech is masculine or "neutral"; absence of the plural symbol indicates singular. We will not discuss here the position of these items (i.e. postnominal vs prenominal and permutation rules).

fn 4 - The transformation rule has to specify the complete unbounded structure of the noun phrase with its position with respect to the verb; this cannot be done by means of a finite rule, but requires a rule schemata.

fn 5 - In "extracted" positions we have pronominalization without pvp.

> C'est ce garçon que j'ai rencontré.
> ---
> → C'est lui que j'ai rencontré.
> ---

but ;   * Ce l'est que j'ai rencontré.

Ce in this position raises another problem, it is probably not a reduction of cela via ça, (Chapter VI, § 2.2.1), and has presumably to be considered as a subject pvp.

A different problem arises with the subject pvp on. In certain cases on can be preceded by an l as in :

> Je veux que l'on écoute Jean.
> ---

but then the pvp le cannot appear :

> *Je veux que l'on l'écoute.
> ---

while we have :   Je veux qu'on l'écoute.

This interdiction seems to be restricted to the pvp's le, la, les;the sentences :

                        Je veux que l'on (en + y) parle.

are acceptable.

fn 6 - Pvp's le, la, les cannot originate from direct complements in certain impersonal constructions :

                Il arrive que Jean boive. ──→ *Il l'arrive.

                        ──→ *Il l'arrive # que Jean boive.

This restriction is related to the fact that definite nouns are difficult to accept in this position :

                ?*Il (reste + existe) (cet homme + ces problèmes).

                ?Il correspond cette solution à ce problème.

but indefinite nouns may occur; the sentences :

                Il (reste + existe) (un homme + des problèmes).

are correct, and pronominalize with pvp en :

                Il en (reste + existe) (un + E).

                Il en correspond une à ce problème.

Definite nouns are allowed after the restrictive ne...que, which anyway prevents the formation of the pvp's le, la, les :

Il ne reste que (cet homme + ces problèmes).

With impersonal subjects we find all other complement pvp's, and with certain verbs, the "neutral" le :

Il le faut ≠ (que Jean vienne + ce livre).

fn 7 - These pvp's have the same properties as en with source in a noun complement : a rule schemata is needed for them, and their formation is not blocked by ne...que.

fn 8 - In certain cases, it is not clear whether it is the preposition à which is involved rather than some other preposition :

	Je lui construis une maison.	is quite natural.
but :	Je construis une maison à Jean.	is colloquial
while :	Je construis une maison pour Jean.	is quite natural

which could suggest that pour N can also be a source for pvp's.

fn 9 - Not all de N non-human complements can be sources for en, for example :

Jeanne grandit de deux centimètres.

⟶ *Jean en grandit.

Il augmente ses prix de deux dollars.

⟶ * Il en augmente ses prix.

Il est battu de justesse.

⟶ *Il en est battu.

In these examples N is indefinite, but there are examples with indefinite de N that are sources for en :

Il changera d'attitude.

⟶ Il en changera.

fn 10 - There are restrictions on the presence of partitive noun phrases in certain positions :

*De l'argent intéresse Pierre.

while :   L'argent intéresse Pierre.   with generic article alone is correct

and :   De l'argent intéresserait Pierre.   is again correct.

fn 11 - In 18th century speech we find :

Jean (veut + peut + doit) voir Pierre.

⟶ Jean le (veut + peut + doit) voir.

In modern French the position of the pvp is no longer this, the standard forms being :

Jean (veut + peut + doit) le voir.

fn 12 - Passive sentences have been analyzed in a similar way by Chomsky [4].

fn 13 - This condition will have to involve structural properties, as can be seen from the examples :

Depuis que Jean est arrivé, il boit,   - il may refer to Jean ;

Depuis qu'il est arrivé, Jean boit,   - il may refer to Jean ;

Jean boit, depuis qu'il est arrivé,   - il may refer to Jean ;

Il boit, depuis que Jean est arrivé.   - il may not refer to Jean.

fn 14 - The conditions under which a demonstrative determiner is attributed to a noun, include the process defined as : [definitization], by Kuroda [2].

fn 15 - Lui is used as an intermediary form independently of its being human or not. This raises a problem when [extraction] or [restriction] are applied to a non-human intermediary form :

Jean a acheté un livre et il a lu lui.

[restriction] : ⟶ ?*Jean a acheté un livre et il n'a lu que lui.

we have :   ?*Jean ne consent qu'à lui.

while :   Jean ne consent qu'à ce compromis.   is quite correct.

A possible solution could be to have the pronominalization rules depend on the position : restricted or extracted.

fn 16 - Un homme, certains hommes, etc... are to be represented as un d'homme, certains d'hommes, etc... together with a rule de → Ø : this solution has, among various independent motivations, the property of accounting simply for the detached forms of § 1.3.1.(v).

fn 17 - In a study on the nature of adjectival phrases, Ross [2] suggested that the zeroed N is identical with the subject. This might not account for the adverbial property. A solution could consist in using N = manière (manner), which would also greatly facilitate the analysis of sentences like :

Jean a souri d'une manière amusante.

(John smiled in an amusing manner).

Jean a souri d'une manière amusée.

(John smiled in an amused manner).

where amusant (amusing) and amusé (amused) have to be described as qualifying Jean (John).

fn 18 - Such an application of the rule is also needed for the description of possessive adjectives :

le livre de moi $\longrightarrow$ mon livre

le livre de cuisine de (toi + eux) $\longrightarrow$ (ton + leur) livre de

cuisine.

III   AN ELEMENTARY CLASSIFICATION OF VERBAL COMPLEMENTS.

We intend to describe a family of complex complements of verbs which are associated with particular classes of verbs; these are Harris' U, W, K operators or container verbs (Harris [6]). Other descriptions (for English) are available (Fillmore, Rosenbaum). Roughly speaking they are verbs which take as a complement, a predicate in infinitive form, or a whole sentence introduced by the "conjunction" que.

Our data extracted from various works of a "traditional" nature (Cohen [2], Grévisse, Sandfeld, Steinberg). The main concern of these grammarians seems to have been a research of quotations from various authors that would support some rather arbitrary semantic classification. An exception should be made with Steinberg who classifies infinitive constructions in a way very similar to ours, which in fact follows in many respects Harris's classification of operator verbs in U's and W's.

Our efforts will be concentrated on the relations existing between sentential complements and infinitive complements. These relations depend on other relations which hold between the various components of the frame and that we will describe. We will restrict the N's to certain positions, mainly subject, and complements introduced by zero preposition (direct complements), or by the prepositions à and de. N_o is always the subject of V_o, N_1 is a complement of V_o.

We will first present frames of sentences that these verbs may enter.

1.   Infinitive complements

1.1.   List of frames (superficial structures).

The upper index $i \in \{0,1\}$ on V_1 means than N_i is the subject of V_1^i.

$N_0 V_0 V_1^0 \Omega 1$

V_0 = courir + oser

Jean (court + ose) acheter ce chapeau.

$N_0 V_0 \text{ à } V_1^0 \Omega 1$

V_0 = commencer

Paul commence à manger.

$N_0 V_0 \text{ de } V_1^0 \Omega 1$

V_0 = achever

Jean achève de traduire un livre.

$N_0 V_0 N_1 \text{ à } V_1^0 \Omega 1$

V_0 = passer

Jean a passé trois heures à regarder la télévision.

$N_0 V_0 N_1 \text{ de } V_1^0 \Omega 1$

V_0 = menacer

Jean menace Pierre d'effectuer des représailles.

$N_0 V_0 \text{ à } N_1 \text{ de } V_1^0 \Omega 1$

V_0 = devoir

Jean doit à Pierre d'avoir trouvé un travail.

$N_0 V_0 \text{ à } N_1 V_1^0 \Omega$

V_0 = dire + paraître

Jean lui (dit + paraît) avoir fini.

$N_0 V_0 \text{ de } N_1 V_1^0 \Omega$

V_0 = dire + déduire

Jean dit de Pierre l'avoir rencontré.

Jean déduit de cela avoir fait une erreur.

$N_0 V_0 \text{ de } \tilde{N}_1 \text{ de } V_1^0 \Omega$

V_0 = obtenir

J'obtiens de Jean d'avoir la possibilité d'y aller.

$N_0 V_0 N_1 V_1^1 \Omega 1$

V_0 = regarder

Jean regarde Pierre faire la soupe.

$$N_o \ V_o \ N_1 \ \text{à} \ V_1^1 \ \Omega 1 \qquad\qquad V_o = \text{inviter}$$

Jean invite Pierre à venir.

$$N_o \ V_o \ N_1 \ \text{de} \ V_1^1 \ \Omega 1 \qquad\qquad V_o = \text{charger}$$

Jean charge Pierre d'acheter le vin.

$$N_o \ V_o \ \text{à} \ N_1 \ \text{à} \ V_1^1 \ \Omega 1 \qquad\qquad V_o = \text{apprendre}$$

Jean apprend à Pierre à cuire un canard.

$$N_o \ V_o \ \text{à} \ N_1 \ \text{de} \ V_1^1 \ \Omega 1 \qquad\qquad V_o = \text{savoir gré}$$

Jean sait gré à Pierre d'être venu.

1.2. V-complements and S-complements

We restrict the study mainly to structures involving the prepositions, à, de, and the zero-preposition noted Ø. The motivation for this choice is that these prepositions are related to the functions of the main components of the sentence. As we saw it, they play a major role in the formation of pvp's. Statistically, this single restriction isolates the majority of the structures we intend to study under the name of verb complements.

The given infinitive complements are intended to be complements of verbs (V-complements) as opposed to complements of entire sentences (S-complements). The distinction between these two types of complements is not always immediately apparent. We base it on several properties, none of them both necessary and sufficient by itself :

Within the frames we listed, no infinitive complement can be moved :

- in front of the sentence :

        * Acheter ce chapeau Jean (court + ose).

        * D'être venu Jean sait gré à Pierre.

* D'avoir la possibilité d'y aller j'obtiens de Jean.

- or between N_0 and V_0 :

* Jean acheter ce chapeau (court + ose).

Certain sentence complements have also the shape : à $V\Omega$ or de $V\Omega$:

The sentence :

(1) Jean ennuie Pierre, à raconter sa vie constamment.

fits in the frame : $N_0 V_0 N_1$ à $V_1^0 \Omega 1$.

The sentence :

(2) Jean enrage d'avoir accepté ce travail.

fits in the frame : $N_0 V_0$ de $V_1^0 \Omega 1$.

In (1) and (2) the infinitive complement can be found at the left of N_0 or between N_0 and V_0 :

A raconter sa vie, Jean ennuie Pierre.

Jean, à raconter sa vie, ennuie Pierre.

D'avoir accepté ce travail, Jean enrage.

Jean, d'avoir accepté ce travail, enrage.

In (1) we have a pattern of intonation with discontinuity between Pierre and à which does not occur with the V-complement fitting normally the corresponding frame; (2) has the same pattern with a possible pause between enrage et de .

(1) cannot be passivized, although the sentence :

Jean ennuie Pierre.   does have a passive.

In general, sentences corresponding to the frame : $N_o\ V_o\ N_1\ \text{à}\ V_1^1\ \Omega$, have a passive form.

In (1) the preposition à can be replaced by à force de, yielding an approximate paraphrase of (1); this is not the case with à-verb complements. Similarly, in (2) the segment : d'avoir can be replaced by parce qu'il a, yielding a paraphrase of (2); this is not the case with de-verb complements.

In the majority of cases, infinitive predicates preceded by a preposition other than à or de, and having for subject the subject of the main sentence, are S-complements rather than V-complements.

Phrases like : sans $V^o\Omega$, pour $V^o\Omega$ are permutable, and are not restricted by the main verb. This is the case for most of the compound prepositions en vue de, afin de, après, avant de, etc... V-complements are restricted by the main verb.

The prepositions par, pour, in a limited number of cases, introduce a V-complement;

$N_o\ V_o\ \text{par}\ V_1^o\Omega\ 1$:   Jean (commence + finit) par manger.

$N_o\ V_o\ \text{pour}\ V_1^o\Omega\ 1$:   Jean passe pour (être un lâche + avoir fait cela).

The presence of an S-complement in a sentence is always optional; in most cases V-complements are obligatory : the following sentences are incorrect, or uncomfortable :

Jean achève.

> Jean a passé trois heures.
>
> ────────────────────────────
>
> Jean doit à Pierre.
>
> ────────────────────────────
>
> Jean apprend à Pierre.
>
> ────────────────────────────
>
> Jean sait gré à Pierre.
>
> ────────────────────────────

A sentence containing à V-complement may also have an S-complement ; a sentence containing several non-conjoined S-complements is in general unacceptable.

2. Sentential complements

2.1. List of frames

We will first distinguish two types of embedded sentences preceded by que, according to the mood of the verb : indicative or subjunctive. We consider the indicative mood as the basic type of conjugation : it does not need a special morphological marker, subjunctive needs one. We will note it subj and use it as a symbol adjoined to S, the embedded sentence. In a certain number of cases the construction can be found indifferently with a que S or a que S subj complement :

> Je ne crois pas qu'il viendra.
>
> ────────────────────────────

and :
> Je ne crois pas qu'il vienne.
>
> ────────────────────────────

are completely equivalent (from meaning or acceptability point of view). In other cases like :

> Je dis à Jean qu'il viendra.
>
> ────────────────────────────
>
> Je dis à Jean qu'il vienne.
>
> ────────────────────────────

there is a sharp difference of meaning, and we will see that these two constructions differ in other respects.

$N_0 V_0$ que S

V_0 = constater

Jean constate que le résultat est faux.

$N_0 V_0$ que S subj

V_0 = vouloir

Jean veut que Pierre vienne.

$N_0 V_0 N_1$ que S

V_0 = avertir

Jean avertit Pierre qu'il sera absent demain.

$N_0 V_0 N_1$ que S subj

V_0 = supplier

Jean supplie Pierre qu'il vienne dès que possible.

$N_0 V_0$ à N_1 que S

V_0 = raconter

Jean raconte à Pierre que Paul fait la cuisine.

$N_0 V_0$ à N_1 que S subj

V_0 = suggérer

Jean suggère à Pierre qu'il fasse la cuisine.

$N_0 V_0$ de N_1 que S

V_0 = dire

Jean dit de Paul qu'il sait cuisiner.

$N_0 V_0$ de N_1 que S subj

V_0 = exiger

Jean exige de Pierre qu'il fasse la cuisine.

Other prepositions than : Ø, à, de can precede N_1, for example :

$N_0 V_0$ pour N_1 que S subj

V_0 = regretter

Jean regrette pour Pierre que Marie vienne.

$N_0 V_0$ par N_1 que S V_0 = savoir

Jean a su par Pierre que Marie venait.

The impersonal pronoun il is found as subject of V_0 in frames similar to the ones just described :

Il V_0 que S V_0 = paraître + s'avérer

Il paraît que son résultat est faux.

Il V_0 que S subj V_0 = se pouvoir

Il se peut que Jean vienne.

Il V_0 à N_1 que S V_0 = sembler

Il semble à Pierre que le canard est à point.

Il V_0 de N_1 que S subj V_0 = déplaire

Il déplait à Pierre que Jean boive trop.

Il V_0 de N_1 que S subj V_0 = résulter

Il résulte de ce théorème que votre conjecture est fausse.

Il V_0 de N_1 que S V_0 = dépendre

Il dépend de Jean que le canard soit à point.

Il V_0 pour N_1 que S V_0 = s'ensuivre

Il s'ensuit pour Jean qu'il doit recommencer.

Il V_0 pour N_1 que S subj V_0 = s'agir

Il s'agit pour Pierre que tout soit réussi.

The lists of frames are condensed into the formula :

$$\underline{N_o \, V_o \; (E + (E + à + de + pour) \, N_1) \; que \; S \; (E + subj).}$$

$$\underline{Il \, V_o \, (E + (à + de + pour) \, N_1) \; que \; S \; (E + subj).}$$

Other constructions involving que S (more precisely ce que S) are found in French.

These constructions should not be taken for similar ones involving Prep ce que NV but where que NV is a relative clause where a direct complement is relativized, and where ce is the determiner of a zeroed N that can be paraphrased by chose :

We have :   Je suis content de ce qu'elle achète.

                      (I am satisfied with the things she buys).

as opposed to :   Je suis content de ce qu'elle achète ces choses.

                      (I am satisfied with the fact that she buys these things).

                      with structure : NV de ce que S.

We find the following types :

$\underline{N_o \, V_o \; à \; ce \; que \; S}$	$\underline{V_o = songer}$
	Jean songe à ce qu'il doit aller là-bas.
$\underline{N_o \, V_o \; à \; ce \; que \; S \; subj}$	$\underline{V_o = tenir}$
	Jean tient à ce que Mary ne boive pas.
$\underline{N_o \, V_o \; de \; ce \; que \; S}$	$\underline{V_o = provenir}$
	Cela provient de ce qu'il est un oiseau.

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$N_0 V_0$ de ce que S subj

V_0 = douter

Jean doute de ce qu'il soit capable de venir.

$N_0 V_0 N_1$ à ce que S

V_0 = reconnaître

Je reconnais Jean à ce qu'il ne porte pas de chapeau.

$N_0 V_0 N_1$ à ce que S subj

V_0 = attacher + habituer

J'attache de l'importance à ce que tout soit prêt à l'heure.

J'habitue mes enfants à ce qu'ils fassent leur travail.

$N_0 V_0$ à N_1 à ce que S subj

V_0 = servir

Cela lui sert à ce qu'elle vienne.

$N_0 V_0 N_1$ de ce que S

V_0 = prévenir

Je préviens Pierre de ce qu'il a fait une erreur.

$N_0 V_0 N_1$ de ce que S subj

V_0 = soupçonner

Je soupçonne Jean de ce qu'il soit un espion.

$N_0 V_0$ à N_1 de ce que S

V_0 = parler

J'ai parlé à Jean de ce que Pierre y est allé.

$N_0 V_0$ à N_1 de ce que S subj

V_0 = se plaindre

Je me plains à Jean de ce qu'il soit un espion.

$N_0 V_0$ de N_1 à ce que S

V_0 = s'apercevoir

Je m'aperçois de sa présence à ce qu'elle tousse.

$N_0 V_0$ pour N_1 à ce que S subj V_0 = aboutir

Cela aboutit pour Jean à ce qu'il parte.

In connection with these que S complements, it should be remarked that certain verbs can have a que S subj phrase as subject; we will group them under the frame :

que S subj V∩

and we can easily verify that many of the examples we gave have this property.

The enumeration we made is intended to show the variety of frames that can be found, and that all include que S (E + subj). We can readily see that these sentential phrases may occur with many types of noun phrases. Further examples show that various sentential phrases may also co-occur:

que S subj V_0 que S subj V_0 = mériter

Que Jean soit venu mérite qu'on y fasse attention.

que S subj V_0 à ce que S subj V_0 = équivaloir

Que Jean soit venu équivaut à ce que Pierre soit parti.

que S subj V_0 de ce que S V_0 = provenir

Que Jean soit venu provient de ce que Pierre est parti.

que S subj V_0 à N_1 que S V_0 = démontrer

Que Jean soit venu démontre à Pierre que rien n'est

impossible.

$N_0 V_0$ que S subj à ce que S subj V_0 = préférer

Jean préfère que Jeanne vienne à ce que Pierre parte.

$N\ V_o\ $ que S à ce que S

V_o = reconnaître

Jean reconnaît que Jeanne est venu à ce que Pierre

est parti.

Il V_o que S de ce que S

V_o = résulter

Il résulte que cette conjecture est vraie de ce que

celle-ci est fausse.

$N\ V_o$ que S de ce que S

V_o = déduire

Jean déduit que ce théorème est vrai de ce que celui-

ci est faux.

$N\ V_o$ de ce que S à ce que S

V_o = s'apercevoir

Jean s'aperçoit de ce que ce théorème est vrai à ce

que celui-ci est faux.

We can also remark that we never find two complements of the same prepositional type (∅, à, de) whether nominal (N) or sentential (que S (E + subj.)). The verb servir is an exception to this statement, but the use of an à ce que S subj. complement with servir is very marginal.

We can observe that the distinction between S and S subj is irrelevant to the distribution of these phrases.

We will see that the distinction between que S (E + subj) and ce que S (E + subj) is superficial. Moreover there is no fundamental distinction to be made between N's (nominal phrases), and sentential phrases; in fact ce que S phrases are special cases of N phrases.

We can then summarize the list of frames by the following formula :

$$\underline{N_o V_o} \ (E + N_1) \ (E + à \ N_2) \ (E + de \ N_3)$$

with perhaps the restriction that at most two complements may occur after a verb. ($\underline{N_o \ s'aperçoit \ à \ N_2 \ de \ N_3}$) might be interpreted with the reflexive pronoun corresponding to $\underline{N_1}$).

This basic set of structures seems to play a fundamental role in French. It appears as a kind of invariant under various transformations. We saw for example that the causative operation yielded a structure entering this type of frame. We will see that a similar phenomenon occurs with derived impersonal constructions.

2.2 V-complements and S-complements

The preceding $\underline{que \ S \ (E + subj)}$ complements are considered as V-complements as opposed to S-complements fitting similar frames :

$$\underline{N \ V \quad que \ S \ (E + subj).}$$

2.2.1 (1) : $\underline{Jean \ viendra, \ que \ Pierre \ vienne \ ou \ non.}$

- (1) is uttered with a special intonation, with a pause between $\underline{viendra}$ and $\underline{que}$;

- $\underline{N \ V}$ and $\underline{que \ S \ subj}$ are permutable in (1), V-complements are not ;
- $\underline{S}$ is always a disjunction of two sentences :

* $\underline{Jean \ viendra, \ que \ Pierre \ vienne.}$

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- any sentence can have such a que S subj complement. There are no restrictions coming from V as in the case of V-complements. In particular it is possible to have together the S-complement and V-complement.

Jean affirmera que Pierre est un crétin, que celui-ci se taise ou non.

Jean veut que Pierre vienne, qu'il le sache ou non.

2.2.2. Imperative constructions in 3rd person can also be distinguished from V-complements (Chapt. VII).

2.2.3. Certain sentences may seem to fit the frames :

$$(Il + N_o) \ V_o N_1 \ que \ S \ (E + subj)$$

Je déteste,Jean, que tu viennes.

Il faut, Jean, que tu viennes.

In these cases the noun in the position of N_1 corresponds to the person (2nd) who is addressed by the speaker. It is separated from V_o and que by pauses, and the sentences have an emphatic intonation. N_1 can only have a definite article:

(Je déteste + il faut), l'homme, que tu viennes. are correct,

but :   *(Je déteste + il faut), un homme, que tu viennes.

This remark also holds for frames like : $N_o V_o N_1 prep V_1^o \Omega$.

2.2.4. (à + de) ce que S (E + subj) phrases are in most cases V-complements.

However certain constructions do not clearly classify according to our criteria. In particular, many intransitive verbs, or sentences with intransitive verbs, can receive a de ce que S subj complement (rire, dormir, for example) ; in these cases the complement can be permuted with the main clause, and the replacement of de ce que S subj by parce que S yields an approximate paraphrase:

Jean rit de ce que Pierre soit tombé.

$\equiv$ Jean rit parce que Pierre est tombé.

Constructions involving the prepositions en and sur are also possible.

N V$_0$ en ce que S   V$_0$ = se tromper

Jean se trompe en ce qu'il croit que Pierre viendra

N V$_0$ sur ce que S   V$_0$ = compter

Jean compte sur ce qu'elle viendra.

2.2.5   There are certain implication constructions that take the following form :

S_0, que S_1 = Jean viendrait, que je ne serais pas surpris.

the tenses of S_0 and S_1 are restricted

*Jean vient, que je ne suis pas surpris.

- there are no restrictions on the verbs of S_0 and S_1 ;

- the two members of this conjunction are not permutable : *que S_1, S_0.

3. Structure of the frames

So far we have only listed a certain number of frames, and a few of the features they present. Other relations hold between the elements of a frame, and other distributional properties are found.

3.1. Subject relation

It holds between an N of the frame and the infinitive predicate. This relation must be described for the following reasons :

3.1.1. Class restrictions occurring within the frame :

— The subject of V_1 is also restricted by V_o ; consider :

$$N_o \text{ décide } N_1 \text{ à } V_1^1 \, \Omega$$

where N_1 is felt to be the subject of V_1. As a complement of V_o, N_1 has to be a human noun, this requires V_1 to be a verb that accepts human nouns as subjects. This forbids verbs like cliqueter, the sentence :

Paul cliquète.   is odd and :

Jean décide Paul à cliqueter   has the same character of oddity.

— We mentioned that independently of the nature of the complements, que S subj is found as subject of certain verbs :

Que Pierre ait fait cela amuse Jean.

Que Pierre soit venu autorise Jean à y aller.   etc.

The tenses that underlie the subjunctive are restricted : imperfect and conditional are not possible, if V_o is in present, as can be seen from :

* Que Jean vienne hier ennuie Pierre.

* Que Jean parte si Paul venait, étonne Pierre.

while present and future are allowed in the same positions :

Que Jean vienne habituellement, ennuie Pierre.

Que Jean parte, si Paul vient, étonne Pierre.

These constructions are often associated with verbs like : amuser, ennuyer, étonner, which can have two types of subjects :

Jean amuse Pierre.

is an ambiguous sentence which is understood,

(i) either with an "active" subject : Jean is performing voluntarily the activity of amusing Pierre ;

(ii) or with a "non-active" subject : Jean behaves in a certain way that happens to amuse Pierre.

These sentences, with non-human subjects, are not ambiguous, and the class of their subjects is not restricted.

With a verb like : valoir, the sentence :

Jean vaut à Pierre d'être remarqué.

has only a meaning of the type (ii), the subject is not restricted and can be que S subj.

When a que S subj subject is possible, an infinitive subject is always possible too.

We will note such positions N_{unr} (unrestricted noun phrase). We will also find complement positions which are unrestricted in this sense, they will allow either que S subj, or que S, or sometimes both ; our use of the symbol N_{unr} will be, in this respect, somewhat ambiguous.

3.1.2. Reflexive pronominalization

In :   Jean autorise Paul à s'en aller.

the pronoun se refers to Paul. This can be seen by varying the persons of the various N's of the frame. The sentences :

*(Je + tu + il) autorise Paul à (m' + t') en aller.

show that N_0 cannot be subject of s'en aller. The sentences :

*N t'autorise à (m' + s') en aller.

*N m'autorise à (t' + s') en aller.

N autorise à m'en aller.

N t'autorise à t'en aller.

show that the constraints between N_1 and the reflexive pronoun are exactly the ones found in the sentence :

N_2 s'en va.

3.2. Expectancy

In certain frames, a constraint of expectancy is found : after an $\underline{N}$, the same $\underline{N}$ (with same reference) or a pronoun referring to this $\underline{N}$ is needed :

3.2.1. In :   (1)   Jean a dit de Pierre qu'il est un idiot.
       _____

                 (John said of Peter that he is an idiot).
                 _____

$\underline{Il}$ $\underline{(he)}$ is strongly felt as referring to $\underline{Pierre}$ $\underline{(Peter)}$ and not to $\underline{Jean}$ $\underline{(John)}$ or any other person appearing in a possible context. This is supported by the fact that :

                 (2)   Jean a dit de Pierre que Paul est un idiot.
                 _____

                        (John said of Peter that Paul is an idiot).
                 _____

seems ununderstandable. In fact the constraint between N_1 and $\underline{S}$ in the corresponding frame ($\underset{o\ o}{N\ V}$ de N_1 que $\underline{S}$) is not as clear as we just put it. Consider the sentence :

                 (3)   Jean a dit de Pierre que son frère est un idiot.
                 _____

                        (John said of Peter that his brother is an idiot).
                 _____

we understand it with $\underline{son}$ $\underline{(his)}$ referring to Pierre. Now if we think that in (2), $\underline{Paul}$ is $\underline{Pierre's}$ $\underline{(Peter's)}$ brother, (2) becomes acceptable.

In these conditions, it is not obvious in what way this constraint of expectancy can be represented.

We find this constraint only with certain frames, it does not occur in the sentence :

(4)   Jean a dit à Pierre que Paul est un idiot.

(John said to Peter that Paul is an idiot).

(2) and (4) differ in a much deeper way than by a simple opposition of the prepositions à (to) and de (of).

3.2.2.. This constraint also exists in many other types of frames. We find it with :

$$N_o \, V_o \, N_1 \text{ de } V_1^o \Omega \quad , \quad V_o = \text{menacer} \, .$$

The preferred reading of :

Jean menace Pierre de le battre.

attributes the referent Pierre to the pronoun le. The sentence :

Jean menace Pierre de battre Paul.

is understood with some extra linguistic relation holding between Pierre and Paul, as if Paul's beating should directly affect Pierre.

In : $N_o \, V_o \, N_1$ à N_2 $V_o = \text{reconnaître}$

John reconnaît Jean à son chapeau.

(John knows Jean by his hat).

An expectancy constraint between N_1 and N_2, attributes the hat to Jean and not to another person. However, other more complicated relations may hold between Jean and chapeau (hat), which can make the sentence :

John reconnaît Jean à ton chapeau.

John knows Jean by your hat.

acceptable, but still the meaning is such that Jean is wearing (holding,....)
the hat.

These expectancy constraints might be related to Harris' [6] notion
of difference, where on the two sides of the conjunction but for example,
a certain "difference" is expected. In the above cases it is rather
a certain "identity" which is expected.

3.3. Other constraints.

In all frames we find for the N's (whether nominal or sentential) the relations :
subject, complements (prepositional or not); in general they can be studied
independently of each other. However some constraints involve the overall structure
of the sentence.

3.3.1. Tense value of V_1

When V_1 has an infinitive or a subjunctive ending, the tense value is
not apparent; in general it depends on V_o :

in :   (1)   J'aime qu'on le croie.

the value of the subjunctive is present tense (something like present
of habit) ;

in : (2)   Je veux qu'on le croie.

the value of the subjunctive is future tense.

 This notion of "value" will be made more precise in the study of the various subclasses of V_o. We will consider that subj and inf are affixes which are introduced by transformations together with elimination of a tense T. We will reconstruct T by means of the tense agreement constraints between V_o and V_1, and also by using time adverbial constraints as in the examples :

- the adverb d'habitude occurs with present and imperfect alone, but not with future :

D'habitude, on le (croit + croyait).

*D'habitude, on le (croira + croirait).

- the adverb hier occurs with imperfect but not with present :

Hier, on le croyait.

*Hier, on le croit.

Since the sentence :

J'aime que d'habitude on le croie.

is correct, while :

* J'aime qu'hier on le croie.

we conclude that the underlying tense in (1) is <u>pres</u>.

In the same way <u>si Jean parle</u> occurs with future but not with conditional :

Si Jean parle on le croira.

* Si Jean parle on le croirait.

Since the sentence :

Je veux que si Jean parle, on le croie.

is correct, while :

* Je veux que d'habitude on le croie.

we conclude that the underlying tense of (2) is simple future.

3.3.2. Constraints between V_0 and V_1.

For certain V_0's we find restrictions on the corresponding V_1's :

Jean monte lire son livre.

but :   * Jean monte savoir que Pierre arrive.

We will indicate some of these restrictions in the particular study of the V_0's.

3.3.3. Constraints between N_0 and N_2

We find certain restrictions involving N_0, and subject of the sentence $S = N_2 \, V_2 \Omega_2$ ([Gougenheim]) :

> Je veux que je mange.
>
> Tu veux que tu manges.
>
> Nous voulons que nous mangions.
>
> Vous voulez que vous mangiez.

are all unacceptable sentences. So are the sentences :

> N_0 veut que N_2 mange,

when N_0 and N_2 refer to the same person.

This constraint has to be distinguished from an apparently similar restriction coming from the notion of expectancy :

> (5) Je dis de Jean que je ne suis pas un idiot.

is odd, not because of the identical reference of N_0 and N_2 but because of the expectancy constraint which demands : a noun or a pronoun referring to Jean instead of the second je ; this is seen from the fact that :

> Je dis de Jean que tu n'es pas un idiot.

is as odd as (5); but satisfies the constraint of difference of reference between N_0 and N_2.

4. Remarks

4.1. We symbolized by V_0 the main verbs entering the described frames, and we gave proper verbs as examples of V_0, other elements than "morphological verbs" may enter certain of these frames :

Être Adjectival, for certain adjectives :

Je suis content qu'elle vienne.

avoir N, for certain nouns with restricted determiners :

J'ai l'habitude qu'elle vienne tôt.

* J'ai une habitude qu'elle vienne tôt.

avoir peur, where the structure of this sequence is not clear : peur which is a noun without article can nevertheless be preceded by très, which makes it rather similar to an adjective :

J'ai (E + très) peur qu'elle vienne.

avoir beau, as in :

Jean a beau le faire, elle ne viendra pas.

where beau has no adjectival property, and where the second member is obligatory.

4.2. We will study certain transformations of sentential complements into infinitive complements. Almost all V_0's given in 2.1 as examples, can enter frames listed in 1.1, but the converse is not true. Many V_0's of 1.1 having an infinitive complement have no sentential complements (with the same meaning). Most of these transformations will be formulated as a redundancy removal operation which erases N_2 when it is identical (with respect to reference) to some N_1 member of the frame. Other parameters are involved : particular classes of N's, prepositions, and tenses ; we will study them in the coming chapters.

IV CLASSES OF OPERATOR VERBS.

In the preceding chapter we classified operator verbs according to certain grammatical functions, and to the prepositions that the main types of complements take. We now refine this classification according to various constraints holding between the elements of the frames. When we will attempt to formulate rules that relate the various structures (Chap.VI), we will return to some of these constraints.

In all the following structures, and unless otherwise specified, N_o and N_1 (subject and complement of the main verb) can be sources of pvp's. These structures can be passivized, relativized, and questioned by means of general rules.

A. INFINITIVE COMPLEMENTS.

Many classes listed in the preceding chapter, § 1, correspond to V_o's that may have infinitive complements, but for which the presence of a sentential complement is impossible or dubious. For each frame we study various subclasses.

1. $N_o V_o V_1^o \Omega$,

1.1. $V_o = V_{mt}$.

1.1.1. Class restrictions.

The verbs of movement (V_{mt}) were already mentioned in Chapter I, in connection with the study of aller. Their frames are restricted as follows:

- $N_o = N_{an}$ (animate nouns) ;

- $V_1 \neq V_{mt}$ + avoir + être (which excludes V_1 in passive form) + devoir + vouloir + cevoir + ...

If V_1 = aimer + détester + préférer + penser + croire + ...

the resulting sentences are either dubious or unacceptable. This property could be a base for defining a class of "verbs of action" which would be the only ones allowed in the position V_1.

1.1.2   Complement pvp.

The infinitive complement has the following property with respect to pvp formation :

$V_1 \Omega$ can be pronominalized, or detached with pvp : y

(1)   Jean monte voir Pierre.

Jean y monte $\neq$ (E + voir Pierre).

The sentence with detached complement has the characteristic intonation pattern which distinguishes it from the sentence :

Jean y monte voir Pierre.

where the source of y is a place adverbial as in :

Jean monte dans la chambre voir Jean.

To the question : Où Jean monte-t-il ?

one can associate the answer :

Voir Pierre.

which confirms the place adverbial nature of the infinitive complement.
Sentences like :

$$\text{Jean monte (pour + afin de) voir Pierre.}$$

although approximate paraphrases of (1) cannot be considered as sources for (1). These two infinitive complements have very different properties :

− (pour + afin de) $V\Omega$ can be added to (1) :

$$\text{(pour + afin de) lui parler, Jean monte voir Pierre.}$$

They are S-complements, while $V\Omega$ is a V-complement ;

− $V_1\Omega$ cannot be in negative form :

$$\text{*Jean monte ne pas voir Pierre.}$$

but :   Jean monte (pour + afin de) ne pas voir Pierre.   are correct.

1.1.3 Tenses.

V_0 and V_1 are understood as having one common tense. This can be seen from the fact that they cannot take independent time adverbials :

$$\text{*Hier Jean montait voir Pierre aujourd'hui.}$$

while for example : Hier Jean voulait voir Pierre aujourd'hui. is correct.

1.2 V_0 = oser + savoir.

1.2.1 Class restrictions.

$\underline{N}_o = \underline{N}_{hum}$, non-human nouns produce a metaphoric meaning :

  ? La maison (ose + sait) brûler.

- if : $\underline{V}_1$ = pouvoir + devoir + ...

the corresponding sentences are highly dubious or unacceptable.

1.2.2 Savoir.

The two sentences :

  (1) Jean sait résoudre le problème.

  (2) Jean sait qu'il résoud le problème. (il referring to Jean)

have different meanings and cannot be considered as transforms of the same source.

We have :

  (3) Jean sait comment résoudre le problème . ≡ (1)

and : (4) Jean sait avoir résolu le problème.

with : (5) Jean sait qu'il a résolu le problème.≡(4) (il referring to Jean)

while :   *Jean sait comment avoir résolu le problème.

(3) and (4) will be considered as derived forms with respect to a first verb savoir. In (1) we will consider a second verb savoir of the type of oser (fn 1). Then the ambiguous sentence :

  Jean sait être gentil.

can be analyzed :

- as a transform of a sentence that contains the first verb savoir :

Jean sait qu'il est gentil. (il referring to Jean) ;

- as containing the second verb savoir.

1.2.3 Tense.

Oser and V_1 can have independent time adverbials ; savoir and V_1 cannot.

1.3 V_o = devoir + pouvoir + avoir failli (fn 2).

1.3.1 Devoir, pouvoir.

The sentence : Jean doit venir.

is twice ambiguous; one meaning is "obligation" the other is "possibility".

The sentence : Jean peut venir.

is triply ambiguous, the meanings are : "possibility", "authorization" and "ability". They depend on N_o and V_1.

1.3.2 Class restrictions.

Avoir failli, devoir (possibility), and pouvoir (possibility) do not restrict N_o; the class of N_o is determined by V_1 :

Il a (failli + du + pu) pleuvoir.

Que Jean vienne a (failli + du + pu) amuser Pierre.

> La maison a (failli + du + pu) brûler.

1.3.3 Tense.

V_1 may have an underlying tense different from the tense of V_0 :

in :   Jean (doit + peut) arriver demain.

V_1 is future.

If V_1 is past :

> Jean (doit + peut) être arrivé.

some of the interpretations disappear, this also happens when V_1 is in a negative form.

2. $N_0 \, V_0 \, \text{à} \, V_1^0 \Omega$.

2.1. V_0 = commencer + recommencer + continuer + ...

2.1.1. Class restrictions.

N_0 is not restricted by V_0, but by V_1 :

> Il V_0 à pleuvoir.   but :   *Il V_0 à manger (with impersonal il)

> Que S subj. V_0 à amuser Jean.   but :   *Que S subj. V_0 à manger.

The complement à $V_1 \Omega$ cannot be a source of pvp, and does not seem to be related to nominal complements that V_0's may also have :

commencer, recommencer, continuer, can be transitive, but cannot occur with en à N'complement.

2.1.2 Tense.

V_0 and V_1 cannot have separate time adverbials.

2.2. V_0 = être + demeurer + rester .

2.2.1. Class restrictions.

N_0 seems to be restricted to N_{hum}.

2.2.2. Tense.

V_0 and V_1 cannot have separate time adverbials.

3. $N_0 V_0$ de $V_1^O \cap$.

3.1. V_0 = achever + arrêter + s'arrêter + manquer + ...

These verbs have the same properties as the verbs of 2.1., with the difference that V_1's of 2.1 can be negated, but not the V_1's of 3.1. Also, they have a tense that can be different from the one of V_0.

3.2. V_0 = se dépêcher + s'empresser + se hâter + ...

$N_0 = N_{hum}$, de $V_1 \cap$ cannot be a source of pvp's.

V_0 and V_1 cannot have independent time adverbials ; V_1 can be negated.

4. Other frames.

4.1. $\underline{N_0 \, V_0 \text{ par } V_1^0 \, \Lambda}$.

$\underline{V_0} = \underline{\text{commencer} + \text{finir}}$

$\underline{N_0}$ is constrained by $\underline{V_1}$, not by $\underline{V_0}$. No independent time adverbials are allowed. $\underline{V_1}$ can be negated.

4.2. $\underline{N_0 \, V_0 \text{ pour } V_1^0 \, \Lambda}$.

$\underline{V_0} = \underline{\text{passer}}$

$\underline{N_0}$ is constrained by $\underline{V_1}$; independent time adverbials are allowed ; $\underline{V_1}$ can be negated.

The classes described in § 1. to § 4. show important structural differences among apparently similar $\underline{V_0}$'s.

We will oppose the following distinctions :

(i) Subject restrictions :

- $\underline{V_0}$'s that may appear in any sentence independently of the nature of the subject $\underline{N_0}$, and of the verb $\underline{V_1}$, these were the verbs : 1.3, 2.1, 3.1, 4.1.

- $\underline{V_0}$'s that have restricted subjects : 1.1, 1.2, 2.2, 3.2, possibly 4.2.

(ii) Tense constraints :

- $\underline{V_0}$'s that cannot have time adverbials independently of $\underline{V_1}$; these were : 1.1, $\underline{\text{savoir}}$, 2.1, 2.2, 3.1, 3.2.

- $\underline{V_0}$'s that can : $\underline{\text{oser}}$, 1.3, 4.1, 4.2; we will call this constraint : "tense unity".

Tense constraints are related to the general tense agreement constraints mentioned in Chapter I § 3.

In many cases, these constraints are to be generalized to class constraints between V_0 and V_1.

These main properties cross-classify the various V_0's. Subject restrictions are used for separating them in U's and W's according to Harris' terminology [6] :

-- U's are treated as auxiliaries; they are primitive inserts. Semantically they seem to correspond to "modals" and "aspectuals" ;

-- W's are analyzed in a different way : for example a sentence $N_0 \ W \ V_1^0 \Omega$ will be considered as a compound of two simpler sentences : $N_0 \ W \ N$ and $N_0 \ V_1 \Omega$.

5. $N_0 \ V_0 \ N_1 \ \text{à} \ V_1^0 \Omega$.

V_0 = demeurer + gaspiller + ...

-- $N_0 = N_{hum}$;

-- N_1 is restricted to very specific categories of nouns like : noun phrases of time, money value, etc. ;

-- that we have tense unity is clear from :

* Jean demeure trois heures à avoir travaillé sur ce problème.

* Jean gaspille cent francs à acheter ce livre demain.

* Hier, Jean est demeuré trois heures à travailler aujourd'hui sur ce problème.

-- à $V_1^0 \Omega$ can be a source for the pvp y .

6. $N_0 \ V_0 \ N_1 \ \text{de} \ V_1^0 \Omega$.

V_o = menacer :

- $N_o = N_{hum} + N_{unr}$;
- $N_1 = N_{hum}$;

- an expectancy constraint holds between N_1 and $V_1^o \Omega$:

Jean menace Pierre de battre Paul.

is understood as if Paul's beating is a threat to Pierre.

This constraint may be the cause of the following peculiarity :

In :   Jean menace Pierre de le battre.

where le refers to Pierre; if menacer is passivized, V_1 has to be passivized too :

*Pierre est menacé par Jean de le battre.

while :   Pierre est menacé par Jean d'être battu.   is correct ;

- de $V_1^o \Omega$ can be a source for the pvp en, which is related to the fact that menacer enters the frame : $N_o \ V_o \ N_1$ de ce que S subj.

7. $N_o \ V_o$ à N_1 de $V_1^o \Omega$.

V_o = devoir : $N_o = N_{hum}$;

de $V_1 \Omega$ can be a source for the pvp le (neutral).

8. $N_o \ V_o \ N_1 \ V_1^1 \Omega$.

8.1 V_o = regarder + laisser + ...

- $N_o = N_{an}$, N_1 may belong to various classes, and its passivization leads to substandard forms ;

-tense unity : *Jean, hier, regardait Pierre faire la soupe demain.

- $V_1^1 \Omega$ cannot be a source of pvp ;

- $V_1 \neq$ avoir + être + devoir + pouvoir + negated verb + ...

8.2. V_o = conduire + envoyer + mener + ...

- $N_o = N_{hum}$;

- $N_1 = N_{hum}$, can be a source of pvp; passives are questionable ;

- $V_1 \neq V_{mt}$ + avoir + être + devoir + pouvoir + vouloir + savoir + negated verb + ...

These verbs which semantically can be considered as "causatives of movement", are closely related to the V_{mt}'s; they have very similar constraints : unity of tense, and $V_1 \Omega$ is a source for the pvp y, and for the interrogative pronoun où.

9. $N_o \, V_o \, N_1 \, à \, V_1^1 \Omega$.

V_o = employer	:	$N_o = N_{hum}$;	$N_1 = N_{hum}$;
V_o = inviter	:	$N_o = N_{hum} + N_{unr}$;	$N_1 = N_{hum}$;
V_o = réduire	:	$N_o = N_{hum} + N_{unr}$;	N_1 can also be non-human ;

à $V_1^1 \Omega$ can be a source for the pvp y.

Various tense constraints and class restrictions between these V_o's and V_1 hold.

10. $N_0 \ V_0 \ N_1$ de $V_1^1 \Omega$.

V_0 = charger : $N_0 = N_{hum}$; $N_1 = N_{hum}$;

V_0 = décourager : $N_0 = N_{hum} + N_{unr}$; $N_1 = N_{hum}$;

de $V_1^1 \Omega$ can be a source for the pvp en.

11. $N_0 \ V_0$ à N_1 à $V_1^1 \Omega$.

V_0 = apprendre : $N_0 = N_{hum} + N_{unr}$; $N_1 = N_{hum}$;

à $V_1^1 \Omega$ can be a source for le ;

V_0 = donner + servir + rester (Il reste à Jean à y aller). These verbs have similar properties, but à $V \Omega$ cannot be a source for le or for y.

12. $N_0 \ V_0$ à N_1 de $V_1^1 \Omega$.

V_0 = valoir : $N_0 = N_{unr}$; $N_0 = N_{hum}$;

de $V_1^1 \Omega$ cannot be a source of pvp .

B. SENTENTIAL COMPLEMENTS.

When we precise the frames of Chapter 3, § 2, we find constraints similar to the ones just described.

We will note N_2 the subject of the embedded sentence S and V_2 its verb. The condition

$N_2 = N_i$, often mentioned throughout our study, means that these two nouns-phrases have a common reference.

1. $N_0 \ V_0$ que S

1.1 V_0 = constater + ...

- $N_0 = N_{hum}$;

- que S can be a source for the pvp le (neutral) ;

- the forms can be passivized :

$$N_0 \ V_0 \text{ que S} \longrightarrow \text{ que S est } V_0 \text{ pp. par } N_0 .$$

The tense agreement matrix is the following :

Paul ...	que Jean							
	pleure	pleurait	pleurera	pleurerait	a pleuré	avait pleuré	aura pleuré	aurait pleuré
constate		?				?		
constatait	*		*		*		*	
constatera								
constaterait			?				?	
a constaté								
avait constaté	*		*		*		*	
aura constaté								
aurait constaté			?				?	

Parallel to sentences :   (1) $\underline{N_o \ V_o}$ que S we find sentences with infinitive

Complements :

$$(2) \quad \underline{N_o \ V_o \ V_2 \, \Omega}$$

which have the meaning of (1) under the following conditions :

- $\underline{N_o} = N_2$

- $\underline{V_2}$ is infinitive, and restricted :

$\underline{V_2 = \text{être} + \text{avoir}}$

$\underline{V_2 = (\text{pouvoir} + \text{devoir} + \ldots) \ V \ \text{inf}}$

as in :   Jean constate ((être le dernier + avoir fini) + (pouvoir + devoir) le faire)

We will consider (1) and (2) as transforms of each other. In order to specify more completely the transformation, we reconstruct the tense underlying the infinitive form in :

$$\underline{\text{Jean } T_a \ r(\text{constater}) \ \text{avoir pleuré.}}$$

The fact that :

$$\underline{\text{Jean } T_a \ r(\text{constater}) \ \text{pleurer.}}$$

restricts us to the right half of the tense agreement matrix.
We will now use as $\underline{S}$ the sentence :

$$(3) \qquad \underline{\text{Jean pleure aussitôt que Marie boit.}}$$

which was studied for tense agreement in Chapter I, § 3.2.2.
We have sentences like :

(4)   Jean constate avoir pleuré aussitôt que Marie a bu.

We observe from the tense agreement matrix of (3) (Chapter I, § 3.2.2) that if boire and pleurer are restricted to compound tenses, the tense of boire determines uniquely the tense of pleurer : both tenses are identical. Studying the possible combinations of tenses for the pair :   (constater, boire) gives us the combinations of tenses for the pair : (constater, pleurer), which are those that determine the transformation. The matrix that corresponds to these pairs is the following :

		avoir pleuré aussitôt que Marie ...			
		a bu	avait bu	aura bu	aurait bu
	constate			*	*	*
	constatait	*		*	*
	constatera	*	*		*
	constaterait	*	?	*	?
Jean	a constaté		*	*	*
	avait constaté	*		*	*
	aura constaté	*	*?		*
	aurait constaté	*	*?	*	?*

The tense constraints between V_0 and infinitive V_2 correspond to identity of simple tenses.

Sentences like (4), because of their awkwardness, are difficult to test (fn.3).

1.2. V_0 = prévoir

- $N_0 = N_{hum}$

- que S can be a source for the pvp le and can undergo the passive transformation ;

- if $N_2 = N_0$ we find an infinitive form with equivalent meaning :

Jean prévoit qu'il viendra demain.

$\equiv$ Jean prévoit de venir demain.

Here, the preposition de is involved, and the tense constraints are different. We return to these verbs in Chapter VI, § 1.3.2.

1.3. V_0 = rêver + avoir l'impression + ...

The corresponding que S complements can be replaced by de $V\Omega$ complements, when $N_2 = N_0$; which makes these structures similar to the preceding ones.
However an important feature is different, the complements cannot be sources for the pvp le, but are sources for the pvp en :

Marie a trop bu, Jean (rêve + a l'impression) que Marie a trop bu.

$\longrightarrow$ Marie a trop bu, Jean en (rêve + a l'impression).

where en refers to the sentence : Marie a trop bu. We also have :

Jean rêve que Marie boit trop.

[detach] : ⟶ Jean en rêve #̸ que Marie boit trop.

In Chapter II, we noticed that en was closely connected with de N phrases. In the present cases too, en will be shown to have a de N source, and this through the structures :

$$N_o V_o \text{ de ce que S}$$

that these V_o 'enter. (B.11.3)

1.4. V_o = songer

This case is similar to the preceding case : que S cannot be a source for le, but can be one for y :

Marie viendra, Jean songe que Marie viendra.

[pronominalization] : ⟶ Marie viendra, Jean y songe (y refers to the sentence : Marie viendra).

Jean songe que Marie viendra.

[detach] : ⟶ Jean y songe #̸ que Marie viendra.

In the case of : V_o = croire + penser que S can be a source for both le and y.

These cases will be regularized by considering them as derived from the

structure :

$$N_o \cdot V_o \text{ à ce que } S$$

that they enter.

When V_o = compter, que S can be source only for the pvp y but does not enter the preceding structure; however :

$$N_o \text{ compte sur ce que } S. \qquad \text{is acceptable.}$$

1.5. V_o = voir + entendre + sentir + ...

- $N_o = N_{an}$;

- que S can be a source for le, but cannot be passivized ;

- parallel to que S complements, these verbs have infinitive complements but not as previously, under the condition $N_2 = N_o$. Only que and tense are replaced by inf. under tense identity ; then, V_2 cannot be : avoir, être, devoir, pouvoir, ... These infinitive constructions are identical to the ones of A.B.1., and they have the following properties :

$$\text{given the frame : } N_o V_o N_1 V_1^1 \Omega$$

$\Omega = \emptyset$, V_1^1 is intransitive : N_1 can be placed after V_1^1 ;

$\Omega = N$, V_1^1 is transitive : N_1 can be placed after V_1^1 N but has to be preceded by à. Then N, and N_1 or à N_1 can be sources of pvp's with respect to :
$V_o V_1^1$.

We already mentioned these operations in chapter II § 2.1.4, when we studied the causative faire; to a certain extent they also apply to the verbs of A.B.2 :

Il envoie Jean chercher ce livre.

$\longrightarrow$ Il envoie chercher ce livre à Jean.

$\longrightarrow$ Il le lui envoie chercher.

Remarks :

(i) Faire can have a que S complement :

N_0 fait que Pierre vient. $N_0 = N_{hum} + N_{unr}$

where que S is not in general a source for le.

(ii) A structure which has verbal properties of a related type is the following :

(Voici + voilà) que Jean vient.

which sometimes reduces to an infinitive form :

Voici venir Jean.

In the same way that we have :

Je vois Jean qui vient.

$\longrightarrow$ Je le vois qui vient.

which shows that the relative clause has a special structure (fn.4), we also have :

(Voici + voilà) Jean qui vient.

$\longrightarrow$ Le (voici + voilà) qui vient.

1.6. V_o = oublier + omettre + ...

These verbs enter : $\underline{N_o \ V_o \ \text{que} \ S}$, and also frames containing infinitive complements. We find for example :

$$\underline{\text{Jean a oublié qu'il y était allé.}} \text{ (il (he) refers to Jean (John).}$$

$$\underline{\text{(John forgot that he went there).}}$$

⟶ $\underline{\text{Jean a oublié y être allé.}}$

the transformation is the one suggested in B.1.1.
But we also find :

$$\underline{\text{Jean a oublié d'y aller.}}$$

$$\underline{\text{(John forgot to go there).}}$$

and this sentence cannot be considered as a transform (by the same type of transformation with a different tense constraint) of :

$$\underline{\text{Jean a oublié qu'il (y allait + irait + ...).}}$$

$$\underline{\text{(John forgot that he (would + could + ...) go there).}}$$

since the sentences have different meanings (fn. 5). Moreover, there are various restrictions on V_1 :

$$\underline{\text{*Jean a oublié d'y être allé.}}$$

$$\underline{\text{(*John forgot to have gone there).}}$$

1.7. V_o = entraîner + établir + impliquer

- $\underline{N_o = N_{un_r}}$;

- these verbs may also have a pour N_1 complement ;
- que S is a source for le and can be passivized only when N_o is different from que S or V Ω ;

- no parallel forms exist under the condition $N_o = N_2$

Marginal forms of the type :

Ces faits impliquent d'avoir un autre comportement.

can be found, but the subject of V_2 is not N_o ; it is understood as undefined. The subject is N_1 in :

Ces faits impliquent pour N_1 d'avoir un autre comportement.

2. $N_o V_o$ que S subj.

2.1. V_o = vouloir + désirer + ...

- $N_o = N_{hum}$;
- que S subj can be a source for neutral le and can be passivized ;
- $N_2 = N_o$, the corresponding sentences are ungrammatical :

* Tu (veux + désires) que tu viennes.

instead we have infinitive constructions :

Tu (veux + désires) venir.

The tenses that underly the subjunctive and infinitive forms can be reconstructed by using our previous method :
we first give part of the tense agreement matrix of : S_1 quand S_2 :

Jean pleure quand Marie (boit + a bu).

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* Jean pleure quand Marie (buvait + boira + boirait).

* Jean pleure quand Marie (avait + aura + aurait) bu.

Jean pleurera quand Marie (boira + aura bu).

* Jean pleurera quand Marie (boit + buvait + boirait).

* Jean pleurera quand Marie (a + avait + aurait) bu.

When désirer is in present, we have :

Pierre désire que Jean pleure quand Marie (boit + a bu).

and : Pierre désire que Jean pleure quand Marie (boira + aura bu).

which are the only correct sentences, when the tense of boire ranges over T_a. This shows that the underlying tense of the subjunctive can be either present or simple future. Similarly, it is easy to verify that :

Jean désire pleurer quand Marie (boit + a bu).

Jean désire pleurer quand Marie (boira + aura bu).

are the only correct sentences when the tense of boire ranges over T_a and when désirer is left in present. This shows that here also the tense underlying the infinitive can be either present or simple future. In this case the transformation that reduces the subjunctive sentence : S subj. to the infinitive verb phrase : V Ω does not involve any further tense conditions; the situation was different with constater.

2.2. V_o = aimer + haïr + ...

- N_o = N_{hum} ;

- que S subj cannot be a source for the neutral pvp le, nor for any

other pvp ; passive forms are dubious ;

- $N_2 = N_0$, the corresponding sentences are ungrammatical :

* Tu (aimes + hais) que tu fasses cela.

instead, we have equivalent infinitive constructions :

Tu (aimes + hais) faire cela.

The tenses that underly subjunctive and infinitive can be reconstructed in exactly the same way as in the preceding case. We have a different result : V_0 being left in present, the underlying tense is limited to present :

* Pierre aime que Jean pleure quand Marie (boira + aura bu).

* Jean aime pleurer quand Marie (boira + aura bu).

2.3. V_0 = envisager + affecter   : $N_0 = N_{hum}$;

   V_0 = mériter   : $N_0 = N_{hum} + N_{unr}$.

In both cases :

- que S subj. can be a source for the neutral pvp le and can be passivized ;

- $N_2 = N_0$, the corresponding sentences are dubious or ungrammatical ;

instead we have infinitive forms with de :

Jean (envisage + mérite) de faire cela.

- tense reconstruction (limited to V_0 in present) yields results of the

type found in B.2.1.

2.4. V_0 = douter + avoir (assez + honte + ...) + ...

- que S subj. is a source for en, these verbs are related to the verbs B.11.4. ;

- $N_2 = N_0$, parallel infinitive forms are of the type : $N_0 \ V_0$ de $V_2^o \Omega$.

3. $N_0 \ V_0 \ N_1$ que S

V_0 = avertir + prévenir + convaincre + ...

- $N_0 = N_{hum} + N_{unr}$;

- $N_1 = N_{hum}$ can be passivized ;

- que S is a source for the pvp en, which is explained by the fact that these V_0's also enter the structure : $N_0 \ V_0 \ N_1$ de ce que S (B.11.7) ;

- $N_2 = N_0$, and under certain tense constraints,we can have equivalent infinitive forms :

J'avertis Jean que j'y suis allé.

$\equiv$ J'avertis Jean y être allé.

- more or less marginally these V_0's may take que S subj. complements ; instead of que S complements, we find different infinitive complements :

$N_2 = N_1$:   J'avertis Jean qu'il y aille.

$\equiv$ J'avertis Jean d'y aller.

4. $N_0 \ V_0 \ N_1$ que S subj.

V_o = supplier + prier + ...

- $N_o = N_{hum}$;

- $N_1 = N_{hum}$, can be passivized ;

- que S subj. is a source for en, which is a consequence of the fact that these verbs enter the structure : $N_o V_o N_1$ de ce que S subj. (B.11.8) ;

- $N_2 = N_1$ parallel to dubious sentences like :

Je te supplie que tu y ailles.

we find equivalent infinitive forms of the type :

$N_o V_o N_1$ de $V_1^1 \Omega$:   Je te supplie d'y aller.

5. $N_o V_o$ à N_1 que S.

5.1. V_o = garantir   : $N_o = N_{hum} + N_{unr}$;

V_o = murmurer   : $N_o = N_{hum}$;

- $N_1 = N_{hum}$;

- que S is a source for le, and can be passivized ;

- $N_2 = N_o$, and if :

V_2 = avoir + être (auxiliaries or not) + devoir + pouvoir + savoir + ...,

we have infinitive forms with identical meanings :

Jean lui (raconte + garantit + murmure) (avoir fait cela + être allé là-bas).

while : *Jean lui (raconte + garantit + murmure) (faire cela + aller là-bas).

These restrictions on V_2 are the ones described in B.1.1.

5.2 $\underline{V_o = \text{jurer}}$ **:** $\underline{N_o = N_{hum}}$;

    $\underline{V_o = \text{promettre}}$ **:** $\underline{N_o = N_{hum} + N_{unr}}$;

- $\underline{N_1 = N_{hum}}$

- que S is a source for $\underline{\text{le}}$ and can be passivized ;

- $\underline{N_2 = N_o}$ a reduced infinitive form has an identical meaning **:**

$$\underline{\text{Tu jures à Jean que tu iras.}}$$

$\equiv$ $\underline{\text{Tu jures à Jean d'y aller.}}$

5.3. $\underline{V_o = \text{se plaindre} + \text{se vanter}}$ **:**

- $\underline{N_o = N_{hum}}$;

- $\underline{N_1 = N_{hum}}$ **:** ;

- que S is a source for $\underline{\text{en}}$, which is a consequence of the fact that these verbs enter the frame **:**

$$\underline{N_o \ V_o \ \text{à } N_1 \ \text{de ce que S.}} \quad (\text{B.11.10}) ;$$

- $\underline{N_o = N_2}$ we find an infinitive corresponding form **:**

$$\underline{\text{Je me vante à Jean que j'y suis allé.}}$$

$\equiv$ $\underline{\text{Je me vante à Jean d'y être allé.}}$

6. $\underline{N_o \ V_o \ \text{à } N_1 \ \text{que S subj.}}$

6.1. $\underline{V_o = \text{suggérer} + \text{ordonner} + \text{souhaiter} + \dots}$

    $\underline{V_o = \text{suggérer}}$ **:** $\underline{N_o = N_{hum} + N_{unr}}$;

V_o = souhaiter : N_o = N_{hum} ;

- N_1 = N_{hum} ;

- que S subj. is a source for le ;

- N_2 = N_1, we have an infinitive form with identical meaning :

Jean suggère à Pierre qu'il y aille.

$N_o V_o$ à N_1 de $V_2^1 \Omega$: ≡ Jean suggère à Pierre d'y aller.

Certain verbs like dire have properties of both B.5.1 and B.6.1 :

N_2 = N_o : Jean lui dit qu'il y est allé ≡ Jean lui dit y être allé.

N_2 = N_1 : Jean lui dit qu'il y aille ≡ Jean lui dit d'y aller.

6.2. V_o = offrir + proposer + refuser :

- N_o = N_{hum} ;

- N_1 = N_{hum} ;

- que S subj. is a source for le ;

- with these three verbs we have two possibilities for infinitive complements :

N_2 = N_o : ?J'offre à Jean que je m'en aille.

≡ J'offre à Jean de m'en aller.

N_2 = N_1 J'offre à Jean qu'il s'en aille. (il refers to Jean).

≡ J'offre à Jean de s'en aller.

Il offre à Jean de s'en aller. is then ambiguous.

7. $N_0 \, V_0$ de N_1 que S

V_0 = dire + penser + ...

The main feature that these structures share is the expectancy constraint between N_1 and S (Chapter III, § 3.2). This fact seems to be in conflict with the possibility of reducing que S to an infinitive complement; however, the sentences :

Je dis de Jean que je l'ai vu.   (le referring to Jean).

$\equiv$ Je dis de Jean l'avoir vu.   are acceptable.

8. $N_0 \, V_0$ de N_1 que S subj.

V_0 = exiger + obtenir + ...

These verbs present the same problem as the verbs B.7. The only difference being the conditions of reduction : frames B.7 seem to reduce under the conditions of B.1.1., the frames B.8 under the conditions of B.2.3., if they reduce at all, sentences like :

J'exige de Jean d'aller là-bas.   being dubious.

9. $N_0 \, V_0$ prep. N_1 que S (E + subj.)   ;   prep. $\neq$ Ø + à + de.

Reductions to infinitive occur only when $N_2 = N_0$:

J'espère pour Pierre que je viendrai demain.

$\equiv$ J'espère pour Pierre venir demain.

J'ai su par Pierre que je m'étais trompé.

$\equiv$ J'ai su par Pierre m'être trompé.

10. Frames with impersonal subjects.

The following structures (with sentential complements) all have for subject (N_0) the impersonal : il.

10.1.   Il V_0 que S   ; V_0 = s'avérer + se trouver ;

- que S cannot be a source for le, and cannot be found in subject position.

* Que S (s'avère + se trouve).

10.2.   Il V_0 que S subj.   ; V_0 = se pouvoir :

- que S subj. cannot be a source for le, and can be found in subject position :

Que S subj. se peut

10.3   Il V_0 à N_1 que S   ; V_0 = sembler :

- que S can be a source for le, and cannot be found in subject position ;
- $N_2 = N_1$, we have a parallel infinitive form ;

Il semble à Jean y être allé.

10.4   Il V_0 à N_1 que S subj. ; V_0 = déplaire + appartenir :

- que S subj. cannot be a source for le, and be found in subject position ;
- $N_2 = N_1$, we have parallel infinitive forms :

Il plait à Jean d'y aller.

With falloir, que S can be a source for le, cannot be found in subject position ;
no de appears in the parallel infinitive form.

10.5   Il V_o de N_1 que S   ; V_o = résulter ;

- $N_1 = N_{unr}$, in particular : N_1 = ce que S ;

- que S cannot be a source for le, it can be found in subject position ;

- $N_2 = N_1$, no parallel form.

10.6   Il V_o de N_1 que S subj.   ; V_o = dépendre :

- $N_1 = N_{unr}$, including N_1 = ce que S

- que S subj. cannot be a source for le, and can be found in subject position ;

- $N_2 = N_1$, no parallel form.

10.7   Il V_o pour N_1 que S.   ; V_o = s'ensuivre :

- que S cannot be a source for le, it can be found in subject position ;

- $N_2 = N_1$, no parallel form.

10.8   Il V_o pour N_1 que S subj.   ; V_o = s'agir :

- que S subj. cannot be a source for le, and cannot be found in subject position ;

- $N_2 = N_1$, we have a parallel form :

                    Il s'agit pour Jean qu'il y aille.

              $\equiv$ Il s'agit pour Jean d'y aller.

V_o = être temps : que S subj. is a source for en, while it is not with s'agir ;

both enter the frame :

$$\underline{Il\ V_o\ pour\ N_1\ de\ ce\ que\ S\ subj.}$$

11. Prepositional sentential complements.

The following structures have all prepositional sentential complements; we already met some of these structures in the present chapter (A.6, B.1.3, B.1.4, B.2.4, B.3, B.4, B.10.5, B.10.6.).

11.1 $\underline{N_o\ V_o\ \text{à ce que S.}}$; $\underline{V_o} = \text{songer}$:

- $\underline{N_o = N_{hum}}$;
- $\underline{\text{à ce que S is a source for } \underline{y}}$;
- $\underline{N_2 = N_o}$, a parallel form exists : $\underline{N_o\ V_o\ \text{à } V_2^o\ \Omega}$;
- $\underline{V_o}$ also enters the frame : $\underline{N_o\ V_o\ \text{que S}}$ (B.1.4).

11.2 $\underline{N_o\ V_o\ \text{à ce que S subj.}}$

11.2.1 $\underline{V_o} = \text{veiller}$:

- $\underline{N_o = N_{hum}}$;
- $\underline{\text{à ce que S subj. is a source for } \underline{y}}$;
- $\underline{N_2 = N_o}$, a parallel form exists : $\underline{N_o\ V_o\ \text{à } V_2^o\ \Omega}$;
- $\underline{V_o}$ does not enter the frame : $\underline{N_o\ V_o\ \text{que S subj.}}$

11.2.2 $\underline{V_o} = \text{concorder + concourir + contribuer}$:

- $\underline{N_o = N_{unr}}$;
- $\underline{\text{à ce que S subj. is a source for } \underline{y}}$;

$$- \underline{N_2 = N_0} \text{ , a parallel form exists : } \underline{N_0 \ V_0 \ \text{à } V_2^o \Omega} \text{ .}$$

11.3 $\underline{N_0 \ V_0 \text{ de ce que S}}$:

11.3.1 $\underline{V_0 = \text{provenir}}$:

- $\underline{N_0 = N_{unr}}$;

- de ce que S is a source for $\underline{\text{en}}$;

- no infinitive or $\underline{\text{que S}}$ forms may replace $\underline{\text{de ce que S}}$.

11.3.2 $\underline{V_0 = \text{se souvenir} + \text{rêver}}$:

- $\underline{N_0 = N_{hum}}$;

- de ce que S is a source for $\underline{\text{en}}$;

- $\underline{N_2 = N_0}$, a parallel form exists : $\underline{N_0 \ V_0 \text{ de } V_2^o \Omega}$;

- $\underline{V_0}$ enters the frame : $\underline{N_0 \ V_0 \text{ que S}}$ (B.1.3) ;

- the tense constraints are different for $\underline{\text{se souvenir}}$ and $\underline{\text{rêver}}$.

11.4 $\underline{N_0 \ V_0 \text{ de ce que S subj.}}$:

11.4.1 $\underline{V_0 = \text{se mêler}}$:

- $\underline{N_0 = N_{hum}}$;

- de ce que S subj.is a source for $\underline{\text{en}}$;

- $\underline{N_2 = N_0}$, a parallel form exists : $\underline{N_0 \ V_0 \text{ de } V_2^o \Omega}$;

- $\underline{V_0}$ does not enter the frame : $\underline{N_0 \ V_0 \text{ que S subj.}}$

11.4.2 $\underline{V_0 = \text{douter.}}$

Same properties as the preceding ones but douter does enter the frame :
$N_o V_o$ que S subj. (B.2.4).

11.5 $N_o V_o N_1$ à ce que S.

V_o = reconnaître : $N_o = N_{hum}$; $N_1 = N_{unr}$;

- à ce que S is not a source for y ;

- no parallel forms exist.

11.6 $N_o V_o N_1$ à ce que S subj.

     11.6.1 V_o = attacher + consacrer :

         - $N_o = N_{hum}$;

         - N_1 is restricted (A.5) ;

         - à ce que S subj. is a source for y ;

         - $N_2 = N_o$, we find the parallel form : $N_o V_o N_1$ à $V_2^o \Omega$.

     11.6.2 V_o = autoriser + habituer :

         - N_o may be N_{hum} , N_{nr} depending on the particular V_o ;

         - $N_1 = N_{hum}$;

         - à ce que S subj. is a source for y ;

         - $N_2 = N_1$, we find the parallel form : $N_o V_o N_1$ à $V_2^1 \Omega$;

         - expectancy constraints may hold between N_1 and S.

11.7 $N_o V_o N_1$ de ce que S.

V_o = avertir : (B.3).

11.8 N_o V_o N_1 de ce que S subj.

    11.8.1 V_o = menacer (A.6) ; the frame N_o V_o N_1 que S subj. seems dubious for menacer.

    11.8.2 V_o = supplier (B.4) ; an expectancy constraint holds between N_1 and S subj.

11.9 N_o V_o à N_1 de ce que S.

    11.9.1 V_o = parler :

        - N_o = N_{hum} ;

        - N_1 = N_{hum} ;

        - de ce que S is a source for en ;

        - N_2 = N_o , we have the parallel form : N_o V_o à N_1 de $V_2^o \Omega$;

        - parler does not seem to enter the frame : N_o V_o à N_1 que S.

    11.9.2 V_o = s'apercevoir :

        - N_o = N_{hum} ;

        - N_1 = N_{-hum} with further restrictions ;

        - de ce que S is a source for en ;

        - no parallel infinitive form exists ;

        - s'apercevoir enters the frame : N_o V_o à N_1 que S. and also B.11.11.

11.10 N_o V_o à N_1 de ce que S subj.

    V_o = se plaindre :

- $N_0 = N_{hum}$;

- $N_1 = N_{hum}$;

- de ce que S subj. is a source for en ;

- $N_2 = N_0$, we have the parallel form : $N_0 \ V_0$ à N_1 de $V_2^0 \Omega$;

- se plaindre enters the frame : $N_0 \ V_0$ à N_1 que S subj.

11.11 $N_0 \ V_0$ de N_1 à ce que S.

V_0 = s'apercevoir :

- $N_0 = N_{hum}$;

- $N_1 = N_{-hum}$ with further restrictions ;

- à ce que S is not a source for y ;

- no parallel forms exist.

11.12 $N_0 \ V_0$ pour N_1 à ce que S subj.

V_0 = aboutir + équivaloir :

- $N_0 = N_{unr}$;

- $N_1 = N_{hum}$;

- à ce que S subj. is a source for y ;

- $N_2 = N_1$, we have the parallel form : $N_0 \ V_0$ pour N_1 à $V_2^1 \Omega$.

12. Si S complements.

Certain verbs accept si S complements :

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Je demande à Jean si Pierre viendra.

Je ne sais pas s'il viendra.   (fn.6).

- these phrases are not in general permutable with the rest of the sentence :

* Si Pierre viendra je demande à Jean.
---

which distinguishes them from implications which have the shape :

si S_1 (E + alors) S_2.
---

in this case we saw that S_2 cannot include Fut., while si S can (fn.7).

The implicational si has the "variant" que which is found in conjunctions :

Nous nous amuserons si Jean vient et qu'il reste.

$\equiv$ Nous nous amuserons si Jean vient et s'il reste.

The si found in verbal complements does not present this feature :

Je ne sais pas s'il viendra et s'il restera.
---

but :   * Je ne sais pas s'il viendra et qu'il restera.

- Si S complements are in some sense closely associated with the disjunction ou

Je ne sais pas s'il viendra ou non.
---

but :   * Je ne sais pas s'il viendra et non.
---

que S complements do not have this property :

          * Je sais que Jean viendra ou non.
          ————————————————————————

where non would correspond to :(que + si) Jean ne viendra pas.
      ———   ————————————————————————

    This behaviour with respect to the disjunction is not an intrinsic property of the morphemes si or que since :

    - with que we have :

        Jean viendra, que Pierre vienne ou non.
        ————————————————————————————————

    and :*Jean viendra, que Pierre vienne.
        ————————————————————————————

    - with implicational si we have :

        Jean viendra, si Pierre vient.
        ——————————————————————————

    and :?*Jean viendra, si Pierre vient ou non.
        ————————————————————————————————

    - si S phrases are restricted to direct complement positions.

Remarks.

    We listed a certain number of classes of operator verbs. The parameters of the classification are syntactic properties that are not only shared by verbs, but which are found in various other places of the grammar.

    Often a verb, keeping its meaning, enters a variety of frames. We mentioned the cases of savoir, of dire (B.6.1), and offrir (B.6.2) ; there are other examples like : souhaiter that can be : B.2.2, B.2.3, B.6.1, and all the cases where it is not clear whether the sentential complement is subjunctive or indicative.

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The main result of this listing, is that the syntactic properties we considered are all independently necessary for the description of these verbs. Whether some properties are redundant (implied by others), is an open question that can be answered only by making an exhaustive study of these verbs, and by gaining more insight into the general structure of grammars. As far as we can see, one should expect in a first stage, only few rules of this sort.

To a large extent, sets of syntactic features come close to semantic characterizations : verbs of movement and causatives of movement have syntactic characterizations. Roughly speaking, verbs entering the frame : $N_0 V_0$ que S are verbs of perception or sensation. Almost all the verbs entering the frame : $N_0 V_0$ à N_1 que S are verbs of "externalization" (N_0 "externalizes" S to N_1), which can be considered as causatives of perception : N_0 causes N_1 to perceive S. The fact that we are using the term "causative" is motivated by the syntactic properties of the typical causative operator : faire which, when applied for example to:

$$N_1 \text{ sait que S}$$

yields :
$$N_0 \text{ fait savoir à } N_1 \text{ que S}$$

semantically not far from :

$$N_0 \text{ indique à } N_1 \text{ que S.}$$

Such a "causative" pairing is strongly felt with the verb : apprendre in various of its meanings :

N_0 apprend à $V_1^0 \Omega$ (to learn to), and N_0 apprend à N_1 à $V_1^1 \Omega$ (to teach)

N_0 apprend que S (to learn that), and N_0 apprend à N_1 que S (to tell).

Footnotes

fn 1 - It may turn out that (1) is a transform of (3) by means of the rule :

comment → Ø. Since (3) is a transform of a sentence : Jean sait que S, this would

reduce the second verb savoir to the first one, but we have no other support for

this rule than the fact that : (3) ≡ (1).

fn 2 - The verbal expression : être censé, has most of the properties of these

verbs, only the tense restrictions are unclear.

fn 3 - There is always a possibility that the tense adverbial is understood as

attached to V_o . One can avoid this, by restricting it by means of : ne...que.

In :

Jean constate avoir pleuré aussitôt que S.

aussitôt que S can be understood as attached either to avoir pleuré or to constate,

but :

Jean constate n'avoir pleuré qu'aussitôt que S.

is not ambiguous.

This example should be understood as showing the application of a tool that

allows reconstruction of tenses. The results at which we arrived are not always

very precise. Various phenomena not discussed in this paper occur. In particular,

we need a way to state that verbs with past tense auxiliary and in imperfect form

are both "past" in some common way. We also need a way to state that in the

sentence :

Jean dira qu'il travaille trop.

travaille can be present, but can also be future, with respect to the time
at which the sentence is uttered, namely, the two events dira and travaille
may occur at the same time.

But in :

> Jean dira qu'il travaillera trop.

travaillera is future with respect to dira, namely, the event travaillera will
occur at a later time than the event dira.

fn.4 — Some of these verbs have a noun, and an adjective or a participle as
complements (Chapter VI, § 1).

fn 5 — The sentence :

> Jean a oublié qu'il devait y aller.
>
> (John forgot that he had to go there).

has a meaning very close to the one of :

> Jean a oublié d'y aller.
>
> (John forgot to go there).

but we have :

> Jean a oublié qu'il devait y aller demain.
>
> (John forgot that he had to go there to-morrow).

while :   * Jean a oublié d'y aller demain.

> (* John forgot to go there to-morrow).

fn 6 - Not all verbs with a que S complement have a si S complement :
for example :

* Je crois si Jean viendra.

There are verbs with a si S complement, that do not have a que S complement :

* Je (regarde + examine + étudie) que Jean vient.

while :   Je (regarde + examine + étudie) si Jean vient.

are correct.

fn 7 - In this respect, the si S found in sentences like :

Je travaille comme si j'en avais besoin.

presents particular tense restrictions, and among these, we can observe that
Fut is not allowed.

V COMPLEMENTS OF OPERATOR VERBS

In the preceding chapter we attempted a subclassification of verbs, using as criteria, syntactic properties that refined the classes of Chapter III. We arrived at natural classes of verbs in only very few cases, the other classes being rather arbitrary. These data show that the natural objects to study are more the syntactic properties than the verbs themselves. We now make more precise some properties that clarify the structural nature of various complements.

In Chapter II we discussed various frames, introducing the order : $E \langle à \langle de$ among possible complements. We mentioned certain restrictions on their co-occurrence. The frames that involve nominal complements and that may be sources for pvp's are :

$$(F) \quad \begin{vmatrix} \underline{N_o \ V_o \ (N_1 + à \ N_1 + de \ N_1)}. \\ \underline{N_o \ V_o \ N_1 \ (à \ N_2 + de \ N_2)}. \\ \underline{N_o \ V_o \ à \ N_1 \ de \ N_2}. \end{vmatrix}$$

Certain adverbials which can be added in general to each of these frames are left out.

We now show that in most of the cases, the frames described in chapters III and IV can be considered as instances of frames (F).

1. Compared distribution of complements.

In all cases where the position of infinitive or sentential complements can be occupied by nouns, the corresponding frames are elements of (F).

1.1 Infinitive complements.

In Chapter IV, end of § A.4, we referred to a division of verbs into U's and W's. U's are basic inserts, while structures containing W's result from certain transformations.

The U's are classified according to the properties :

(i)   no restrictions on the subject : A.1.1, A.1.3, A.2.1, A.3.1, A.4.1.

(ii) subjects restricted to human nouns : A.1.2, A.2.2, A.3.2.

(iii) restrictions on the main verb :

— tense restrictions ; the case we called   tense unity is not such a case, we can consider that the insertion of a U governing the infinitive takes place into the sequence :

$$N \ T \ V \Omega$$

and that U carries no tense :

$$N \ T \ V \Omega \longrightarrow N \ T \ U \ (E + prep.) \ V \Omega \ ;$$

— class restrictions between U and the main verb. This is the case for V_{mt}'s for example, but not for commencer à inf.

One of the reasons that lead to define U's as auxiliaries is that they do not accept, in general, noun complements in the position of the infinitive: — some V_{mt}'s accept direct object complements (monter, sauter,...), some do not (aller, s'envoler,...), and some accept very restricted ones, like in :

Jean (court + nage + ...) (un + le) cent mètres.

Jean saute deux mètres.

where they have a "sport" meaning. These complements are sources of pvp's
(le, la, les, en) which are not related to the infinitive complement ;

    - oser barely accepts noun complements ;

    - savoir has very restricted direct objects (quelque chose, l'anglais,
les mathématiques).

The sentence :

                Jean le sait.

cannot be understood as :

                Jean sait l'anglais.

this can be considered as a consequence of :

                * Jean sait cet anglais.

where cet anglais is not to be taken with a generic meaning ;

    - verbs A.1.3, do not accept noun complements. When they do (direct
objects for devoir and pouvoir) their meaning is not the same ;

    - verbs A.2.1 do not accept à N complements; they accept direct objects
but with a special meaning :

                Jean commence un livre.

                (Johns begins a book).

is understood as :

                John begins to (read + print + write + ...) a book.

but the verbs that may enter the parentheses are very restricted (Harris'
"appropriate verbs") ;

   - verbs A.2.2 take à N complements that are place adverbials only ;

   - verbs A.3.1 do not take de N complements; they take direct objects in the
same conditions as for verbs A.2.1 ;

   - verbs A.3.2 do not take de N complements, nor direct objects ;

   - verbs A.4.1 take par N complements in the same conditions as for verbs
A.2.1 ;

   - verbs A.4.2 take pour N complements, but N is restricted by N_o :

              *Jean passe pour un bateau.

and   :   *Jean est un bateau.

have the same type of oddity. This, and the fact that an adjective in agreement
with N_o may occur in the position of N, suggests that être has been zeroed :

              Jean passe pour beau.

but :   *Jean passe pour belle.

   For the other classes of infinitive complements, we have the following
possibilities :

   - verbs A.5, A.6, A.9, A.10 : prep. $V_1 \Omega$ can be replaced by prep. N (same
prep.) ;

   - verbs A.7, A.11, A.12 : prep. $V_1 \Omega$ can be replaced by N ;

   - verbs A.8.1, A.8.2 : $N_1 V_1 \Omega$ can be replaced by N.

1.2 Sentential complements.

- verbs B.1.1, B.1.2, B.1.5, B.1.6, B.1.7, B.2.1, B.2.2, B.2.3, B.5.1, B.5.2, B.6.1, B.6.2, B.7, B.8, B.9, all verbs B.11, B.12 : the corresponding sentential complement position can be occupied by a noun phrase ;

- verbs B.1.4 : the sentential complement cannot be replaced by a noun phrase, but these verbs have a parallel form with an à ce que S complement in which N can replace ce que S ;

- verbs B.1.3, B.2.4, B.3, B.4, B.5.3 : ce que S can be replaced by a noun phrase only in the parallel forms with de ce que S (E + subj.) complements ;

- verbs B.10 : in general que S (E + subj.) cannot be replaced by a noun phrase; however, this can be the case with a small number of verbs (falloir). These structures will be discussed below, § 4.

2., Structure of sentential complements.

In the preceding paragraph we saw that various complements (infinitive, sentential), were in complementary distribution with noun phrases. We want to make this point more precise, mainly with respect to :

- determiners : problem of the nature of ce in : ce que S (E + subj.) ;

- prepositions : problem of their source in the reduction process of sentential complements to infinitive complements.

2.1 Deletion of ce.

When we studied the various operator verbs W we found :

- in non-prepositional positions (subject or direct object) : que S (E + subj.) and never : ce que S (E + subj.) ;

- in prepositional positions ce que S (E + subj.) and never que S (E + subj.). The prepositions involved were mainly à and de, but the same remark holds for : sur (compter) and en (se tromper). There are other prepositions after which : que S (E + subj.) is found and not : ce que S (E + subj.), for example : pour, avant, après, dès, but they introduce sentence complements rather than verb complements, (fn 1). There are still other sentence complements where ce que S (E + subj.) has to

appear (jusqu'à ce que S subj.).

Certain phenomena indicate that in various positions ce in front of que S subj. does appear, but has to be deleted.

2.1.1 Subjects positions.

We have sentences with unrestricted subjects :

Que Jean fasse ceci étonne Pierre.

Instead of que S subj. we could have a noun phrase :

La conduite de Jean étonne Pierre.

This last sentence has a passive (fn 2) :

Pierre est étonné de la conduite de Jean.

and the previous one has a passive too :

Pierre est étonné de ce que Jean fasse ceci.

The passive transformation is not quite the same in the two cases; we have

$$N_o \, V_o \, N_1 \longrightarrow N_1 \text{ est pp } V_o \text{ de } N_o \qquad\qquad N_o = \text{Det. Noun}$$

and : $\quad N_o \, V_o \, N_1 \longrightarrow N_1 \text{ est pp } V_o \text{ de ce } N_o \qquad N_o = \text{que S subj.}$

However, saying that we have only one passive rule for these two cases, but that a zeroable ce does appear in front of que S subj. in the basic form of the sentence is a more general solution ; moreover we have cases where ce appears in front of a sentential phrase.

2.1.2 Direct object positions.

- There are instances where ce does appear in front of que S :
with certain V_o's in exclamative sentences of the type :

Regarde ce qu'il est beau !   where V_o is in imperative, and
can be zeroed, yielding :

Ce qu'il est beau !   (fn 3)

The second ce in :

C'est effrayant ce qu'il fait chaud !

also has this feature ;

- in various nominalizations a ce appears in front of que S (E + subj)

Il craint qu'il ne vienne.

$\longrightarrow$ sa crainte de ce qu'il ne vienne.

$\equiv$ sa crainte qu'il ne vienne.

Here the presence of a ce regularizes this process by making it
identical with nominalization when the complement is a noun (Dubois [2]) :

Il craint Jean.

sa crainte de Jean.

This argument can be also used for que S subj. in subject positions :

Que S subj. est nécessaire.
_____

$\longrightarrow$ la nécessité de ce que S subj.
_____

$\equiv$ la nécessité que S subj.
_____

2.2 The noun phrase : ce que S.

A certain number of reasons already compelled us to consider ce que S
(E + subj.) as noun phrases. We give further facts that confirm this point
of view, and make more precise, and more regular, the structure of such noun
phrases.

Our basic assumption will be that these phrases are composed of :

(i) A determiner : ce ("demonstrative adjective"), which is a basic definite
determiner, ce is zeroed when it precedes que S (E + subj.), and when it
does not follow one of the prepositions : à, de, sur, en :

$$X \text{ ce que } S \text{ (E + subj.)} \longrightarrow X \text{ que } S \text{ (E + subj.)} \qquad X \neq \text{à + de + sur + en}$$

This assumption makes que S (E + subj.) complements strings identical with
the ones found after the mentioned prepositions.

(ii) A noun (or pronoun) which is always zeroed, and that carries various
syntactic and morphological properties.

(iii) A modifier or the type : que S (E + subj.), that will be considered
as the basic modifier.

This analysis could be questioned in the following way :
although ce can be a determiner, it has also properties that only pronouns
have. Sentences of the type :

C'est X.

have the following corresponding yes-no question :

Est-ce X ?

The permutation which applies here, is only found with subject pvp's which clearly correspond to nouns. Then, instead of assuming ce and a noun (or zeroed pronoun), why not consider ce as pronoun.

If we consider ce as a noun (or pronoun) either we assume that it has a zeroed determiner or that it is similar to a proper name (i.e. it incorporates a definite determiner which would make it a source for the pvp le) ; however :

    - reconstructing a determiner in front of ce seems unfeasible to us ;

    - assuming that ce is a definite noun leaves us with the problem of finding a source for le in the case where que S (E + subj.) is a source for le.

    - We will rather assume that in C'est X, ce is the determiner of a zeroed noun (or pronoun) which can be permuted, as in certain types of questions.

2.2.1 Que S (E + subj.) noun complements.

We now return to the analysis of the structure : ce N' que S (E + subj.)

The phrase :

le fait que S (E + subj.)

is a very similar structure, and yields a precise paraphrase of que S subj.,
in subject positions :

Que S subj. ennuie Jean.

$=$ Le fait que S subj. ennuie Jean.

In certain complement positions :

Il se plaint de ce que S (E + subj.).

$=$ Il se plaint du fait que S (E + subj.).   (fn 4)

This analogy gives further support to our basic assumption, where all
these sentential phrases have a definite determiner. We can notice that :

un fait que S (E + subj.)

is completely ungrammatical, and that this is a rather general phenomenon :

l'idée que Jean viendra.

but :   *une idée que Jean viendra.

which has nothing to do with verbs, but rather with the construction of
a noun phrase by means of N's and modifiers. Thus the assumption :

ce = definite determiner, and que S (E + subj.) = modifier,

regularizes these phrases with respect to the problem of the relations
between determiners and modifiers.

We will give further indications on the possible underlying
structures of que S (E + subj.), when we will discuss the source of de

in infinitive complements reduced from sentential ones.

2.2.2 Que S (E + subj.) complements of "demonstrative pronouns".

I Restrictive and non-restrictive modifiers.

   The restrictive nature of the modifier que S (E + subj.) is confirmed
by the following facts :

- between :   la nécessité que S subj.

                (the necessity that S),

   and :   cette nécessité que S subj.

                (this necessity that S),

a difference is felt, which is also found between :

                le livre que j'ai lu

                (the book that I read),

   and :   ce livre que j'ai lu

                (this book that I read) ;

to definite articles, corresponds a restrictive modifier (relative clause
or sentential modifier); to demonstratives corresponds a non-restrictive
modifier ;

- with "demonstrative pronouns" (which, in French, are by no means
demonstrative, as demonstrative adjectives are) like in :

celui que j'ai lu

the relative clause is felt as restrictive. Similarly, if nécessité is in such a position that it can be replaced by the corresponding basic pronoun

celle que S subj.

then que S subj. is felt as restrictive. Such phrases come very close to the structure we assumed as basic. Here we have the sequence :

ce, basic pronoun, que S (E + subj.)

In (ii) we envisaged a noun in second position; we will rather assume the presence of a basic pronoun that carries the syntactic information, and that can be zeroed without any recoverability problem. We will note it : $lui_{+ z}$.

II Modifiers of "demonstrative pronouns"

The "demonstrative pronouns " can never appear without what we call Modifier.

Modifier = Relative clause + que S (E + subj.) + de N + ci + la :

    - the relative clause can have any type of relative pronoun ;
    - que S (E + subj.) can be reduced to an infinitive complement ;
    - de N can be of various types, and could be derived from a relative clause :

celui que Jean a $\equiv$ celui de Jean.

Other prepositional complements than de N are marginally allowed ; past participles are often Modifiers, but adjectives are not.

There are other phrases with similar structures :

- ce Relative clause   (the relative clause can be of any type, see III below) ;

- ce que S (E + subj.) (in certain cases ce has to be zeroed)

- ce (ci + la)   (non-human pronouns)

The main difference found between these phrases and the phrases headed by a "demonstrative pronoun", is that the basic pronoun has disappeared, which entails a difference of meaning : there is no reference to a specific noun (noun considered as dictionary item as opposed to nouns or pronouns having a reference to the extra linguistic situation). Another difference is that no de N complement is allowed : *ce de N. This could be a consequence of the nature of the rules that relate relative clauses to de N complements, or else, of the fact that certain basic pronouns lui_{+z} have syntactic properties similar to nouns like : fait, événement, that accept only very restricted types of de N complements :

> *le (fait + événement) de Jean.
>
> (*the (fact + event) of John)
>
> = *son (fait + événement)
>
> *(his (fact + event))

III   Relative clauses with unspecified antecedent.

A basic pronoun $\underline{lui_{+\ z}}$ has also to be assumed in other places of the grammar. We have :

(1) <u>Jean mange ce que Jeanne fait.</u>

which can be paraphrased by :

<u>Jean mange la chose que Jeanne fait.</u>

The noun phrase that interests us in (1) is :

(2) <u>ce que Jeanne fait,</u>

here (2) is as distant from the regular relative clause :

<u>la chose que Jeanne fait</u>

as : <u>ce que S (E + subj.)</u> is from : <u>le fait que S (E + subj.).</u>

If we consider that a pronoun has been zeroed, then we regularize this type of phrase which becomes :

<u>ce</u> $\underline{lui_{+z}}$ <u>Relative clause.</u>

$\underline{lui_{+\ z}}$ has to be singular, masculine, and non-human :

* N_o <u>mange ce qui (lui plaisent + est bonne).</u>

* N_o <u>mange ce que Jeanne ennuie.</u>

Here $\underline{\text{lui}_{+z}}$ has to carry the semantic information determined by the verb $\underline{\text{manger}}$ ($\underline{\text{lui}_{+z}}$ has to be "food") since the sentence :

$$\underline{\text{Jean mange ce que Pierre murmure.}}$$

is as odd as :

$$\underline{\text{Jean mange une réponse intelligente.}}$$

(une réponse intelligente can be an object for $\underline{\text{murmurer}}$ but not for $\underline{\text{manger}}$).

The general condition for relative clause embedding : identity between two nouns will apply here between the pronoun $\underline{\text{lui}_{+z}}$ and a noun.

3. Pronominalization of sentential complements.

3.1. Pro-modifiers.

We will consider that ci and la (fn 5) are replacing certain modifiers; the reasons for giving to these morphemes a cross-reference function are the following :

(a) Unlike in ce N demonstrative phrases, ce in ce que S (E + subj.) is not associated with a referential function; the same is true for phrases headed by "demonstrative pronouns".

(b) When Modifier is a relative clause, and only then, a special type of de N complement can also be attached to the "demonstrative pronoun" :

celui d'entre (eux + les invités) qui l'a fait

celui des invités que vous avez vu

This de N complement with N either plural or N indicating a set of people or things : groupe, bande, tas, ... has a very clear referential meaning : the noun referred to by the pronoun is always an element of the set referred to by N. This referential complement (fn 6) cannot be found co-occurring with :

- que S (E + subj.) ;

- the de N complements that are mentioned in § 2.2., and that have a different (genitive) meaning : celui de Jean, celle de la maison, ... ;

- the morphemes ci and la. These two morphemes are in complementary distribution with :

the sequence : referential de N, Relative clause, on the one hand,

que S (E + subj.), on the other.

(c) In the phrases : ce lui_{+z} Relative clause, no de N complements (referential or not) are ever allowed, still ci and la are in complementary distribution with que S (E + subj.) or with relative clauses.

We can describe the zeroing process of a sentence S (or the referring process to a sentence S) by the rule :

[promod] : que S (E + subj.) $\rightarrow$ ci, la (in appropriate environments).

We have for example :

Jean est venu, je sais ce lui_{+z} que Jean est venu.

[pro-mod] : $\rightarrow$ Jean est venu, je sais ce lui_{+z} (ci + la).

$$[\text{lui}_{\neq z} \; z \;] : \longrightarrow \text{Jean est venu, je sais ce (ci + la).}$$

We then see that the _ce_ which appears in the resulting sentence is the _ce_ which has to be zeroed in certain positions (§ 2.2 (i)). Its zeroing rule (which has to follow [pronominalization]) does not apply in presence of _ci_ or _la_.

The same rule applies to :

- prepositional complements :

Je tiens à ce que S subj.

$\longrightarrow$

Je tiens à ce (ci + la).

Je me plains de ce que S.

$\longrightarrow$

Je me plains de ce (ci + la).

- subjects :

Ce que S subj. ennuie Jean.

$\longrightarrow$

Ce (ci + la) ennuie Jean.

For separating U's from W's (§ 1.1), this pronominalization often constitutes a sharper test than replacement by a noun. Some U's accept a non-human N-complement; as a consequence they accept the pronouns _ce_ (ci + la) as complements ; when they do, these pronouns are never understood as referring to complete sentences (or to predicates) but only to nouns; the situation is different with W's.

3.2. Pronominalization with pvp formation.

One of the properties we checked throughout Chapter IV, was the possibility of a sentential complement to be a source for a pvp. We observed that :

- que S (E + subj.) (direct object) can be sources for le (but not, for instance, with verbs B.2.2) ;

- à ce que S (E + subj.) can be sources for y (but not with : reconnaître, s'apercevoir) ;

- de ce que S (E + subj.) are sources for en ;

The corresponding basic forms are :

$$(1) \quad : \quad (E + à + de) \text{ ce } lui_{+ z} \text{ que S } (E + subj.)$$

When pronominalization is possible, which depends on the verb, the rule :

$$\text{que S } (E + subj.) \longrightarrow \emptyset \quad (\text{in appropriate environments})$$

will transform (1) into :

$$(2) \quad : \quad (E + à + de) \text{ ce } lui_{+ z}$$

which are exactly the strings on which the rules defined for nouns act to generate the corresponding pvp's (Chapter II § 3.2). It is understood that these rules operate before zeroing of $lui_{+ z}$.

When we studied complement noun phrases as sources of pvp's we did not find any direct object positions that could not be sources for le, la, or les. In the case of the verbs B.2.2 (détester, haïr, etc. ...) for example, we find a different phenomenon : while most of the other que S (E + subj.) are sources

for le, que S subj. after a verb B.2.2 (also que S after trouver, etc.) are not such sources. The verbs will have to be marked for this interdiction, and this marker has to be associated with the complement : lui$_{+Z}$, since for these verbs all definite nouns that can be direct complements are sources for le, la, or les. This situation is not uncommon, we encountered it with à N complements (Chapter II § 1.4) : with penser, human nouns cannot be sources of pvp's, but non-human nouns can.

The relations between the two processes of pronominalization will have to be established through a more detailed study involving nominal complements as well as sentential complements. It appears that the pro-modifier operation is more general :

- the pvp mechanism is restricted to particular syntactic positions : complements of type N, à N, de N, and in these positions the process is not compatible with various transformations (extraction, restriction, ...) ;

- the pro-modifier mechanism does not have these restrictions. It may take place after all kinds of prepositions and is compatible with the mentioned transformations. Moreover, in the case of sentential complements, we have examples where the pro-modifier process can take place but the pvp process cannot (verbs B.2.2, à ce que S complement of reconnaître). We have no example where the converse would be true.

It is possible to imagine various relations between the two processes : for example, there would be only one operation of pronominalization leading to a basic pronoun and the two processes would simply consist of two different morphemic alterations of this pronoun, pvp's being only more reduced forms of the basic pronouns.

3.3. Remarks on the processes of pronominalization.

3.3.1. Grammatical reference.

What is called pronominalization in traditional grammars is a process of replacement of nouns (which include various types of phrases) by members of a closed and small set of morphemes called pronouns. It has been noticed very early that, for first and second persons, it is more difficult to talk about replacement of a noun. Many other facts show the complexity of the phenomenon. Pronominalization also involves different notions of reference ; we have for example :

- a "discourse" reference as in :

Un étudiant est arrivé, (celui-ci + il + ce garçon) a demandé un

livre.

(A student arrived, (he + this boy) asked for a book).

where celui-ci, il and ce garçon (he, this boy) refer to the student of the first sentence ;

- a "lexical" reference as in :

Un étudiant est arrivé, j'en ai interrogé un.

(A student arrived, I questioned one).

where en ... un (one) refer to the lexical unit étudiant (student) ;

- an "external" reference as in :

Un étudiant est arrivé, j'ai interrogé celui-là.

(A student arrived, I questioned this one).

where celui-la (this one) refers to a well-defined student, but who does not appear in the discourse.

These notions play a fundamental role in the description of all referential elements (pronouns, etc.).

Part of the argument that leads to the establishement of the rule :
[promod] : que S (E + subj.) ⎯→ ci, la

is statistical : among several hundred verbs that accept sentential complements (E + ce) que S (E + subj.) and to which [promod] could a priori apply, we found a very small number of exceptions to this rule:

- estimer, juger, trouver, with que S complement (fn 7),

- aimer, chercher, demander, apprendre, with à ce que S subj. complement.

The sentential complement of these verbs does not pronominalize, either with ce (ci + la), or with pvp formation. This property does not only depend on the verb, but on the structure as well. Thus, for : estimer, juger, trouver, we have the following transformation (Chapter VI § 1.2.2) :

J'estime que que Jean vienne est indispensable.

⎯→ J'estime indispensable que Jean vienne.

In the resulting sentence : que S subj. (= que Jean vienne) becomes a direct complement of estimer, and to this complement the rule can apply, yielding :

J'estime ce (ci + la) indispensable.

where ce (ci + la) can be understood as referring to a sentence.
Pronominalization with pvp formation does not apply to this complement :

in :   Je l'estime indispensable.

le cannot be understood as referring to a sentence, which is accounted for
by the cyclic nature of the pronominalization rules.

These facts confirm that we have to attach to the complement, the
information necessary for the description of these restrictions. A
natural place for it, is the pronoun (lui_{+z}) that heads the
sentential complement.

We dealt with the problem of ce (ci + la) referring to sentences,
but what we treated by means of rule [promod] does not cover all cases :
there are complement positions of certain verbs that cannot be filled
by sentential complements, but that can be filled by ce (ci + la)
referring to sentences as in :

          Jean travaille beaucoup, j'insiste sur cela.

Other sources could be considered; certain nouns (with demonstrative
adjective) allow reference to sentences as in :

          Jean travaille beaucoup, j'insiste sur (ce point + ce fait + cette
          chose + ...).

A phenomenon that could be related is shown by the sentences :

          Je sais une chose : Jean viendra.

          Jean a une habitude curieuse : il y va tous les jours.

where the second sentences have a connection (reference ?) to the nouns that precede them.

3.4. Zeroing of : (à + de + sur) ce.

In Chapter IV we gave examples of verb que S (E + subj.) complements that were sources for the pvp's y and en. However, we noticed that the same verbs had also : (à + de) ce que S (E + subj.) complements, respectively. In order to derive non-prepositional ones, we then assume a rule (we call it [pc z]) that has the effect :

$$[pc\ z]\ :\quad (à + de + sur)\ ce\ \longrightarrow\ \emptyset$$

There are several questions one can raise in connection with this rule :

- on what grounds is this rule defined ?
- since formation of pvp's also involves the zeroing of the same prepositions and of ce, is there a relation between the two processes ?

3.4.1. Motivation for [pc z].

I   The main reason for having the rule is that it relates a number of sentences which are synonymous, which have identical syntactic properties, and which, otherwise, would have to be described independently :

(1)   :   Jean songe à ce que S.

has exactly the meaning of :

(2)   :   Jean songe que S.,

but what is important is that certain syntactic properties are the same for the two sentences, tense agreement for example.

Moreover, we have sentences like :

(3) :   Que S $\neq$ Jean y songe. (with detached que S) where the pvp y that appears has been correlated with the preposition à in all similar structures. Then deriving (3) from (2) would make the verb songer in (2), an exception to this statement. Assuming that [pc z] operates between (1) and (2), and between (4) and (3) :

(4) :   Jean y songe $\#$ à ce que S.

regularizes these constructions.

Sentential complements have in general parallel infinitive forms. When an à ce que S (E + subj.) complement has such a parallel form, the preposition à is kept :

(5) : Jean songe à venir.

Jean fait attention à ce que S subj. N_2 = Jean

$\longrightarrow$ Jean fait attention à $V_2 \Omega$.

It is then quite natural to derive (5) from (1) and not from (2).

With other verbs the data are different. For croire and penser we have the following forms :

$$N_0 \ V_0 \ \text{à ce que S}$$

and : N_0 y V_0 where y can be understood as referring to a sentence. We also have for the same verbs :

$$N_0 \ V_0 \ \text{que S}$$

and   : N_0 le V_0 where le can be understood as referring to a sentence.

Corresponding infinitive forms are different for the two verbs; we have :

$$N_0 \ \text{pense} \ (E + \text{à}) \ V\Omega.$$

$$N_0 \ \text{croit} \ V\Omega.$$

but : $*N_0$ croit à $V\Omega$.

If we want to say that in all these structures one single verb occurs (one croire and one penser), we have to assume an operation that restructures the result of [pc z], making the que S complement a direct object that can be a source for the pvp le, and that can have a corresponding non-prepositional infinitive form. Notice that these two properties are independent, since with the verb compter we have :

$$N_0 \ \text{compte sur ce que S.}$$

$\longrightarrow$ N_0 y compte.   (y refers to an S).

$\longrightarrow$ N_0 compte que S.

$\longrightarrow$ N_0 compte $V\Omega$.

but : $*N_0$ compte sur $V\Omega$.

and : $*N_0$ le compte.

Here que S has a parallel non-prepositional infinitive form but cannot be a source for le (n. 8).

With the verb chercher we have the following data :

N_0 cherche à ce que S subj.

*N_0 y cherche.

N_0 cherche que S subj.

N_0 le cherche.   (where le refers to an S)

N_0 cherche à VΩ.

but :   *N_0 cherche VΩ.

Here que S subj. can be a source for le, but does not have a parallel non-prepositional infinitive form .

We may also have to say that in each case we have two different verbs. The properties that we need (on independent grounds) for encoding them are available; this might avoid the introduction of a new rule. This solution could be justified for croire on semantic grounds; there could be a shade of meaning depending on the structures the verbs enter (fn 9). For penser the case is clearer :

Jean a pensé à venir.

implies that Jean came, while

Jean a pensé venir.

implies that Jean did not come.

This problem arises with many verbs (aimer, demander, souhaiter, verbs that accept both que S and que S subj. as complements, etc.). In a few cases, it is quite clear from the meaning that several verbs are involved :

voir and regarder on the one hand in :

Jean (voit + regarde) à (ce que S subj. + $V \Omega$).

on the other in :

Jean voit que S.

Jean regarde si S.

Jean (voit + regarde) N $V \Omega$.

have meanings that are clearly distinguished.

II Another place where [pc z] applies is the following :

there are V_o's like :

- autoriser, condamner, ... that enter : N_o V_o N_1 à ce que S subj.

- admirer, empêcher, ... that enter : N_o V_o N_1 de ce que S subj.

When N_1 is left unspecified and does not appear in the structure, these verbs, with the same meaning may enter the frame :

N_o V_o que S subj.

In these frames the subject of S seems to be restricted : when N_2 is a noun the resulting sentences are sometimes quite uncomfortable; when N_2 = on (indefinite pronoun), they are acceptable. This may be due to the fact that an expectancy constraint holds between N_1 and S. In the reduced form N_o V_o que S subj. :

- que S subj. can be pronominalized into ce (ci + la); the pvp le is presumably not acceptable ;

- que S subj. cannot be reduced to an infinitive complement with N_o as a subject.

The rule [pc z] applies in various other structures. We have :

- for certain adverbials :

de (façon + manière) à ce que S subj.

[pc z] : ———➤   de (façon + manière) que S subj.

- for certain passive structures :

Que S subj. étonne Jean.

[passive] : ——➤ Jean est étonné de ce que S subj.

[pc z] :   ——➤ Jean est étonné que S subj.

- for certain "middle" structures :

Que S subj. étonne Jean.

[se middle] : → Jean s'étonne de ce que S subj.

[pc z] : → Jean s'étonne que S subj.

- for certain nominalizations :

[nominalization] : → la (crainte + nécessité) de ce que S subj.

[pc z] : → la (crainte + nécessité) que S subj.

III Several ways of formalizing [pc z] could be suggested :

(a) We could mark the head to which the prepositional complement is attached, as allowing the zeroing of the preposition. The zeroing of ce would be ensured as a consequence, since we already have the rule :

$$\text{ce que S (E + subj.)} \longrightarrow \text{que S (E + subj.)}$$

that operates on subjects, and on objects, and that has to be extended to certain nouns (fn 10).

(b) Alternatively, we could mark the head as allowing the zeroing of ce and a new rule :

$$\text{(à + de + ...) que S (E + subj.)} \longrightarrow \text{que S (E + subj.)}$$

would zero the preposition.

The solution (a) seems preferable on the basis of the data that we collected. However, further facts like introduction of de in

reduction of que S (E + subj.) phrases and in nominalization could require a solution of the type (b).

3.4.2. Relation of [pc z] to other processes.

In formal terms the action of the rule [pc z] consists in the zeroing of : on the one hand a preposition (mainly à and de), on the other the determiner ce. These very same operations occur in other places of the grammar : pvp formation, and also, ce in front of a sentential direct complement drops. A natural question to ask is whether behind these differently motivated operations, there is a unique process at a level other than the purely descriptive one that consists in attaching a zeroing marker or operator (+ z) to each of these morphemes.

In the preceding paragraph (a), we suggested a possible way to relate [pc z] to the zeroing of ce in front of direct sentential complements. On the other hand, if we want to relate [pc z] to pvp formation it is preferable to zero ce as we did in Chapter II, § 3.1.1, and, depending on verb and complement, to zero the preposition and to reduce the pronoun, which is closer to solution (b) above.

When we study verbs with prepositional sentential complements, the position of ce que S (E + subj.) may sometimes also be occupied by nouns. In such cases, we find the following possibilities :

- non-human nouns :

[pc z] operates, pvp formation operates :   songer, se souvenir;
[pc z] does not operate, pvp formation operates : tenir, provenir ;

[pc z] does not operate, pvp formation does not operate : reconnaître

N à ce que S ;

- human nouns :

[pc z] operates, pvp formation does not operate : penser, rêver ;

[pc z] does not operate, pvp formation does not operate : tenir,

provenir ;

[pc z] does not operate, pvp formation operates : équivaloir.

These lists show that to a large extent the two processes are
independent. From the data we present here we could extract certain
redundancy rules, but they would have no other motivation than
stating these observations.

4. Impersonal constructions.

We give here various indications about sentences with impersonal il as subject. We
will return to such constructions in § 6.3.

4.1. Sentential complements and noun phrases.

When a sentential complement occurs in an impersonal construction (verbs B.10),
it is not always the case that a noun can occupy its position.
For certain verbs such a replacement is possible :

                Il arrive à Jean que S subj.

and :   Il arrive quelque chose à Jean.

                Il faut que S subj.

Il faut quelque chose.

For other verbs the replacement is not possible :

Il plait à Jean que S subj.

but :   *Il plait quelque chose à Jean.

Il importe à Jean que S subj.

but :   *Il importe quelque chose à Jean.

This feature questions the complement nature of que S (E + subj.), and we can compare it to related properties of sentential complements :

- possibility of being a source for the pvp le ;
- possibility of taking the place of the impersonal subject : il.

We have the following cases for que S (E + subj.) phrases :

not subject	and not a source for le	(B.10.1),
not subject	and source for le	(B.10.2),
subject	and not a source for le	(B.10.3).

An important point is that we have no example where a que S (E + subj.) complement could be both a subject and a source for le.

The property of "replacement" by a noun could be accounted for in the following way : we will assume a transformation between the two types of structures :

(1) : $Il\ V_o\ N\ (E + \Omega)$.

(2) : $N\ V_o\ (E + \Omega)$.

where N is a noun phrase that can, in particular, have the form :

ce lui que S (E + subj.)
$$\begin{array}{c}\text{\overline{ce lui que S (E + subj.)}} \\ == \quad \text{\overline{que S (E + subj.)}}\end{array}$$

in the corresponding positions. Such a transformation is moreover suggested by a large number of pairs like :

quelquechose (existe + subsiste).

$==$ Il (existe + subsiste) quelquechose.

Quelquechose (manque + reste) à Jean.

$==$ Il (manque + reste) quelquechose à Jean.

4.2. The impersonal permutation transformation ([impers p]).

The question now is the direction in which the transformation operates :

$$(1) \longrightarrow (2) \quad \text{or} \quad (2) \longrightarrow (1) \,?$$

Consider plaire, if N = que S subj., both forms (1) and (2) are acceptable. But if N = ce livre (or any other noun phrase headed by a noun, and not by lui$_{+ z}$) only (2) is acceptable :

*Il plait à Jean ce livre.

Ce livre plait à Jean.

In the case of plaire, the verb does not impose any restriction on $N = N_{unr}$ in (2), while in (1) it does. If we want to say that we have only one verb

plaire, which is quite natural, we have to assume that the transformation
is : (2) ⟶ (1), and that this transformation is, for certain verbs,
restricted to certain N's. This restriction opposes nouns to sentential
noun phrases which is a distinction found in other places of the grammar.
For verbs like manquer, rester the restrictions on the transformation are
not the same : any noun that can be found in (2) can also be found in (1).

There are verbs like falloir, neiger, which do not enter the structure
(2); for them the structure (1) will be considered as basic and not as
derived by the transformation : (2) ⟶ (1).

The transformation [impers p.] has another property : the N that
appears in (1) in a direct position cannot be a source for le (or la, les).
If we define the notion direct object by the property of being a source
for these pvp's, then N in (1) is not a direct object. We can still consider
it as the subject ("logical subject" of traditional grammars) of the verb.
In (1), this N can be questioned, and restricted for example, but it
cannot be relativized.

There are more examples that lead us to assume this transformation:
(i) When in a structure a direct complement : que S (E + subj.) can be
passivized as in :

Jean a dit à Pierre que S.

⟶ Que S a été dit à Pierre par Jean.

Jean a apprécié que S subj.

⟶ Que S subj. a été apprécié par Jean.

Then we also have the sentences :

Il a été dit à Pierre par Jean, que S.

Il a été apprécié par Jean que S subj.

- these sentences are often more natural without the agent ;
- these properties are not restricted to sentential complements but are also found with N's instead :

Beaucoup de steacks ont été mangés.

and :   Il a été mangé beaucoup de steacks.

There can also be restrictions :

Ce livre a été apprécié.   but :   *Il a été apprécié ce livre.

In all these examples, the permuted element : que S (E + subj.) or N, cannot be a source for le (or la, les).

These properties are also found with : être Adj. instead of V_o :

Que S subj. est possible.

$\longrightarrow$ Il est possible que S subj.

(ii) There are structures that admit, as a variant of passive, a middle transformation :

$\triangle$ raconte que S.

$\longrightarrow$ Que S se raconte.

$\triangle$ mange beaucoup de steacks ici.

$\longrightarrow$ Beaucoup de steacks se mangent ici.

[impere p] operating on the resulting sentences yields :

Il se raconte que S.

Il se mange beaucoup de steacks ici.

(iii) For certain transitive verbs the following pairs may occur :

Δ jette ces livres.

and : Ces livres sont à jeter.

Δ craint (Jean + que Jean ne vienne).

and : (Jean +que Jean ne vienne) est à craindre.

Some of these constructions may have a corresponding impersonal form :

*Il est à jeter (ces + des) livres.

*Il est à craindre Jean.

while : Il est à craindre que Jean ne vienne.   is correct.

The last two examples show that   we have a restriction on
[impers p.] that has already been found in various places.

A very natural solution for formulating [impers p] in the cases of
permutation of que S (E + subj.) consists in using Rosenbaum's extra-
position rule [extrap]. If we have the basic structure :

ce lui que S (E + subj.) VΩ.

(where ce lui → ∅, and Ω cannot be a direct complement),

the rule [extrap] will have the following effect :

ce lui que S (E + subj.) VΩ .

—→ ce lui VΩ que S (E + subj.).

To this string [ce z.] applies, yielding :

lui VΩ que S (E + subj.)

and then, the subject reduction rule : lui —→ il, applies as defined in Chapter II § 3.2.1, yielding :

Il VΩ que S (E + subj.)

The rule [extrap] permutes a modifier of a pronoun, a similar effect can be observed with relative clauses attached to nouns :

Un homme qui marchait droit est arrivé.

—→ Un homme est arrivé, qui marchait droit.   (Ross [3])

The fact that the heading pronoun is left in subject position gives a natural source for the impersonal pronoun il, and an explanation for the fact that these sentential phrases, when permuted, cannot be pronominalized : the pronouns le and ce (ci + la) both involve the celui part of the phrase which is left in subject position (fn 11).

However [extrap] is not a general solution for impersonal il :

- in the case of :

Il faut que S subj.

none of the reasons used for defining the rule holds ;

- in the case of :

>   Des gens arrivent.
>   _____
>
> ——➤ Il arrive des gens.
>   _____

although it could be argued that the basic form of : des gens is :
                                                    _____
celui dea gens (which in a sense regularizes partitive articles), the
_____
restrictions on [extrap] are still exceptional.

5. Structures N₀ V₀ N₂ C.
   _____

There are various verbs V₀ which enter structures that have to be analyzed in the
following way :

>   N₀ V₀ N₂ C
>   _____

where C is a complement of V₀ that always occurs in sentences like :
      _   _

>   N₂ est C , with the constraints that it implies.
>   _____

C is an adjective, a noun, an adverb, etc.; it is always in agreement with N₂, but
_
unlike usual noun modifiers, it is also felt as attached to V₀. The main test for
showing this fact is transformation of N₂ alone into one of the pvp's le, la, les ;
in current cases we saw that modifiers could not be left :

>   Je conduis cette voiture rouge.
>   _____

but :   *Je la conduis rouge.
          _____

while in the cases we are interested in, we have :

$$\underline{N_o \ V_o \ N_2 \ C}$$

$$\longrightarrow \underline{N_o \ (le + la + les) \ V_o \ C}$$

Relativization of $\underline{N_2}$, restricting C by $\underline{ne...que}$, and extracting it in : $\underline{C'est \ que \ S}$ sentences, are further tests that $\underline{confirm}$ this structural feature.

These constructions subdivide into many cases, and the source of $\underline{C}$ is far from being clear. We first list various types of such constructions.

5.1. $\underline{V_o}$'s without sentential complements.

5.1.1. $\underline{V_o}$ = $\underline{manger + boire + acheter + ...}$ $\underline{N_o}$ = $\underline{N_{hum}}$, $\underline{C}$ = $\underline{Adj.}$

The sentence :

$$\underline{Jean \ boit \ son \ rhum \ chaud.}$$

is ambiguous : $\underline{chaud}$ can be either a $\underline{C}$ or an adjective attached to $\underline{rhum}$. The sentence with $\underline{C}$ has a special intonation involving a pause between $\underline{rhum}$ and $\underline{chaud}$ which has to agree in gender and number with $\underline{N_2}$. $\underline{C}$ = chaud also has the status of a manner complement : it is questioned in the following way :

question : $\underline{Comment \ Jean \ boit-il \ son \ rhum \ ?}$

answer : $\underline{Il \ le \ boit \ chaud.}$

When we question chaud in the sentence :

$$\underline{Le \ rhum \ est \ chaud.}$$

we find the same peculiarity :

<div style="text-align:center">

question :   Comment est le rhum ?

answer :   Il est chaud.

</div>

5.1.2. V_o = avoir

<div style="text-align:center">

Jean a les (pouces bandés + idées claires).

</div>

Here N_2 seems to be restricted to the nouns we already referred to as "inalienables" or "parts of human beings" with the special possessive meaning of the definite article that refers to the subject.

5.1.3. V_o = élire + nommer : $N_o = N_{hum}$, $N_2 = N_{hum}$.

C is here an N without determiner.

5.1.4. V_o = appeler : $N_o = N_{hum}$, C is a noun without determiner. While in the preceding case N_2 could hardly be questioned, here N_2 yields comment through questioning.

5.1.5. V_o = payer : $N_o = N_{hum}$,

When C is a measure N we have :

<div style="text-align:center">

Jean a payé ce livre dix francs.

$\longrightarrow$ Combien (E + de francs) Jean a-t-il payé ce livre.

</div>

5.1.6. V_o = mettre : N_o = N_{unr}.

With this particular verb we find that a number of C's are of the form : en N, where N is a noun with possible complements, and with restrictions on its determiners :

> Pierre a mis Jeanne en (colère + route + maison + mesure d'y aller +)

The converse is not true :

- there are sentences : N_2 est en N where N is of a restricted class :

> La boîte est en fer.

    but : *Pierre a mis la boîte en fer.

- we have : Jeanne est en train d'y aller.

    but : *Pierre met Jeanne en train d'y aller.

However en train de $V\Omega$ has to be distinguished from similar phrases :

> en (droit + état + mesure + passe + position + ...) de $V\Omega$

that can be found in C positions : V cannot be in past tense (avoir Vpp) after en train de, while it can after the other expressions.

We also find some C's of the form hors de N :

> Il est hors de (lui + atteinte).

    and : Je l'ai mis hors de (lui + atteinte).   (fn 12).

5.1.7. V_o = rendre : $N_o = N_{unr}$

C = Adj. (with possible complements) $N_2 = N_{unr}$

N rend Pierre fou.

N rend la science inutile.

N rend le pain détestable.

N_2 can also be que S subj. (and de VΩ by reduction) :

N rend amusant (qu'on y aille + d'y aller).

Ceci rend aisé pour Jean d'y aller. (Jean subject of

aller)

which clearly include the sentence :

Y aller est aisé pour Jean.

derived from : Que Jean y aille est aisé pour Jean.

In the cases 5.1.1 to 5.1.5 we did not give any analysis for $N_o V_o N_2$ C constructions. We could treat them in the following way :

*Jean boit que son rhum est chaud.

[que I z]→ *Jean boit son rhum être chaud.

[être z]→ Jean boit son rhum chaud.

However, the two intermediary forms are quite difficult to justify; the only reason for having them is analogy with such

derivations where the intermediary forms are found in the language (when V_o = imaginer, for example). We turn in § 5.2 to cases where the analysis has clearly to be this one.

In the last two cases (mettre, rendre) we still could envisage the analysis we just proposed, but here a new one might be available : since these verbs clearly involve a causative meaning, we could think of the transformation :

$$N_o \; f \; ; \; N_2 \; est \; C$$

$$\longrightarrow \; N_o \; f \; est \; N_2 \; C \qquad (N_2 \; becomes \; a \; direct \; object)$$

where f is a causative operator, which has properties similar to those of faire, and which, when combined with être and depending on the nature of C, would be realized as mettre or rendre.

5.2 V_o's with sentential complements.

V_o enters : $N_o \; V_o$ que S (E + subj.)

For these verbs the analysis :

$$N_o \; V_o \; que \; N_2 \; T \; r(\hat{e}tre) \; C$$

$$\longrightarrow \; ^{*}N_o \; V_o \; N_2 \; \hat{e}tre \; C \qquad\qquad by : [que \; T \; z]$$

$$\longrightarrow \; N_o \; V_o \; N_2 \; C \qquad\qquad\quad by : [\hat{e}tre \; z]$$

is quite natural, since the basic form does appear in the language, and since there are various reasons that justify the use of the intermediate form. According to V_o, C can be more or less restricted.

5.2.1 V_o = aimer + détester + exiger + ... ; N_2 = N_{hum} + N_{-hum}

We have for example :

> Je déteste que ce vin soit frais.

> $\longrightarrow$ Je le déteste frais.

Intermediary forms of the type :

> *Je déteste ce vin être frais.

are not found.

C is an adjective; a noun in its position does not seem acceptable.

5.2.2 V_o = croire + dire + estimer + ...

We have :

> Je (crois + dis + estime) que ce vin est frelaté.

> $\longrightarrow$ Je le (crois + dis + estime) frelaté.

The intermediary forms :

> Je V ce vin être frelaté.

are somewhat odd. However, unlike in all preceding cases it is

necessary to consider them, since several transformations act on them;

for example :

- relativization of N_2 :

> Le vin que je (crois + dis + estime) être frelaté.

- extraction :

> C'est ce vin que je (crois + dis + estime) être frelaté.

Corresponding forms without être are also found:

> (Le + c'est ce) vin que je (crois + dis + estime) frelaté.

Not all verbs with que S (E + subj.) direct complements enter $N_o V_o N_2 C$ constructions, and among the verbs that enter them, there are further subclasses :

- $N_2 = N_{hum} + N_{-hum}$, but N_{-hum} does not include sentential phrases

> Jean dit cet homme honnête.
>
> Jean dit ce tableau authentique.

but :   *Jean dit possible que Pierre vienne.

- $N_2 = N_{unr}$:

> Jean croit cet homme honnête.
>
> Jean croit ce tableau authentique.
>
> Jean croit possible que Pierre vienne.

When N_2 is a noun, it can be a source for : le, la, les :

as in :   Jean le (dit + croit) (honnête + authentique).

but in :   Jean le croit possible.

it is   difficult to understand le as referring to a sentence, while in :

> Jean croit cela possible.

cela may refer to an S.

Remarks :

A. Impersonal constructions and que, T, être zeroings.

Instead of separating these verbs by class restrictions on N_2, the following solution could be proposed :

We could say first, that there is only one case : $N_2 = N_{hum} + N_{-hum}$ (que S subj. is excluded from N_2), second, that for certain verbs we have the following transformation :

Je crois qu'il est possible que S subj.

⟶ Je crois possible que S subj.

which consists in zeroing que, T, être, and impersonal il. Although we now introduce il, the following compensating advantage would have to be considered :

we have : Je crois possible de VΩ.

where de VΩ is a reduced form of : que S subj.

and :   *Je crois possible VΩ .

We also have :

Je crois qu'il est possible de VΩ .

while :   *Je crois qu'il est possible VΩ .

Instead, the way we will derive :

Je crois possible que S subj.

does not introduce the preposition de :

we have the source :

Je crois que que S subj. est possible. (fn.13)

[reduction of : que S subj.] : —→ Je crois que VΩ est possible.

[que, T, être zeroings] :   —→ *Je crois VΩ possible.

[length p.] :   *Je crois possible VΩ .

However, independently of these constructions we will have to say that in subject positions, VΩ is preceded by de ,and that de is zeroed, in order to relate :

VΩ est possible.

and :   Il est possible de VΩ .

The derivation has to be :

Que S subj. est possible.

[reduction]:—→ de VΩ est possible. (which is a substandard form, see
                                    chapter VI § 2.2.4.A.)

[de z] in subject position : —→ VΩ est possible.

This last rule does not apply, if [extrap] applies after [reduction]
yielding :   Il est possible de VΩ .

Now if $[\text{être } z]$ applies before $[\text{de } z]$, this last rule can no longer apply since the verb être which is used to define the subject position has disappeared.

B. A certain number of verbs that have these properties also enter the frame :

$$\underline{N_o \ V_o \ \text{à } N_1 \ \text{que } S : V_o = \text{dire} + \text{déclarer} + \text{avouer} + \dots}$$

The constructions :

$$\underline{N_o \ V_o \ \text{à } N_1 \ N_2 \ C} \qquad \text{seem quite dubious :}$$

$$\underline{?\text{*Jean lui (dit + déclare + \dots) cet homme honnête.}}$$

This could be the effect of a general constraint (on the production of speech, or on the grammar), that would limit to two, the number of verb complements.

C. Influence of the determiner of $\underline{N_2}$.

Certain examples suggest that the nature of the determiner of N_2 plays a role in the conditions required, for the described transformations to apply :

while : $\underline{\text{Je sais (cet homme + ce vin) honnête.}}$ are correct

$\underline{\text{Je sais (un homme + un vin) honnête.}}$ are unacceptable.

Similarly : $\underline{\text{Je crois cet homme honnête.}}$

is correct, and twice ambiguous, meaning :

(a) $\underline{\text{I believe that this man is honest.}}$

(b) $\underline{\text{I believe this honest man.}}$

Since croire has restricted objects (vin cannot normally be an object) the sentence :

Je crois ce vin honnête.

has only a meaning of type (a).

If we have an indefinite N_2, then the corresponding sentences are unacceptable :

Je crois un homme honnête.

has only a meaning of type (b).

If N_2 is indefinite but with a referential complement, the corresponding sentences have a meaning of type (a) :

Je (crois + sais) un des hommes honnête.

An ad hoc solution would be to incorporate these complex restrictions in the definition of the transformation involved here, but it seems that these restrictions are rather consequences of independent constraints :

sentences like :

Un homme est honnête.

are very difficult to accept. Although their structure is simple, it is impossible to give them an interpretation if un homme is understood as a completely indefinite noun. The same is true with indefinite plural as in :

Des hommes sont honnêtes.

There is no such problem with :

(i) definite nouns as in :   L'homme est honnête.

which is understood as a generic statement, or as a statement about a particular man mentioned in the context ;

(ii) indefinite nouns with a referential complement as in :

Un de (ces + les) hommes est honnête.

C is not restricted to adjectives but can also be a noun with or without determiner as in :

Elle le croit (professeur + un très grand professeur).

In such cases the determiner of the noun is correlated to the determiner of N_2.

5.2.3 V_o = voir + imaginer + se représenter + ...

These verbs enter a construction somewhat similar to the frame : $N_o \, V_o \, N_1 \, V_1^1 \, \Omega$ that we described :

Je (vois + imagine + me représente) Jeanne (ayant fait + faisant) ce travail.

Here, instead of infinitive, we have present participle, and the tense constraints between V_o and V_1 are different from the case with infinitive, where the past auxiliaries were not allowed.

These constructions are restricted to certain verbs :

*Je (écoute + regarde + croit + ..) Jeanne faisant ce travail.

Moreover, they are not always related to sentential complements; we have :

Pierre (représente + décrit) Jeanne buvant du soir au matin.

where : *Pierre représente (que S (E + subj.) + si S).

but we have : $N_o V_o N_1$ comme si S.   and $N_o V_o N_1$ comme ant $V_2^1 \Omega$.

To summarize, we give reasonable support for the following patterns of transformations :

$$N_o V_o \text{ que } N_2 T \text{ être } C.$$

$[\text{que } T z] : \longrightarrow N_o V_o N_2 \text{ être } C.$

the result being in general an intermediary form, on which the transformation :

$[\text{être } z]$ acts, yielding : $N_o V_o N_2 C$.

These two transformations apply in the given order, and certain conditions besides class markers for V_o are necessary for $[\text{que } T z]$ to apply :

- nature of N_2 : que S subj. or not ;
- tenses constraints between V_o and V_2.

An important property of this transformation is that N_2

becomes a direct object complement of V_o with all the structural

properties that this implies   with respect to various transformations :

pvp formation, extraction, question, relativization, passive, etc.

6. The transformation : $[\text{que T z}]$.

In the preceding section, we gave certain evidences for the treatment of $N_o V_o N_2 C$
constructions by means of $[\text{que T z}]$; we now indicate further uses of this
transformation.

6.1 $N_o V_o N_1 V_1 \Omega$ structures.

We noticed some properties of these frames in chapter IV, § A.8.1, § B.1.5,
and our intention was to derive these structures from structures with
sentential complements that these verbs also enter ; we assumed a transfor-
mation of the type :

$$N_o V_o \text{ que } N_2 T V_2 \Omega .$$

$$\longrightarrow N_o V_o \quad N_2 V_2 \Omega .$$

which involves zeroing of que and T (fn14).

A first difficulty with this analysis is that, besides verbs A.8.2,
some of these verbs do not have a que S complement : regarder, écouter, laisser
However regarder and écouter have a si S complement which could fit our
purposes, but for laisser we will have to postulate a basic form not
found in French :

$$*N_o \text{ laisse que S.} \quad \text{or :} \quad *N_o \text{ laisse si S.} \quad (\text{fn 15}).$$

Returning to the conditions of $\underline{que\,T}$ zeroing, we can notice that the tenses of $\underline{V_o}$ and $\underline{V_2}$ have to be identical in some sense : no auxiliaries (future or past) are allowed for $\underline{V_2}$. This condition is also found in another construction related to the structures $\underline{N_o\ V_o\ N_2\ C}$.

The sentence :

<p style="text-align:center">Je vois l'homme qui vient.</p>

is felt as ambiguous, although the two meanings are very close :

(a) in one case the relative clause $\underline{qui\ vient}$ and the object $\underline{l'homme}$ are both verb complements; the meaning, then, is : $\underline{Je\ vois\ que\ l'homme\ vient}$:

(b) in the other case, $\underline{qui\ vient}$ is a regular relative clause attached to $\underline{l'homme}$, and the whole phrase is the only verb complement of $\underline{voir}$.

In order to describe (a), we will assume the following operation of extraction :

$$\underline{Je\ vois\ que\ N_2\ T\ V_2\,\Omega\ .}$$

[subject extraction] : $\longrightarrow$ $\underline{Je\ vois\ N_2\ que\ T\ V_2\,\Omega\ .}$

[$\underline{qui}$ formation] : $\longrightarrow$ $\underline{Je\ vois\ N_2\ qui\ T\ V_2\,\Omega\ .}$

The last rule is : $que\ T\ \longrightarrow\ qui\ T$. It applies in other cases : extraction, relative clauses, but not in relative clauses with relativized object, and subject permuted in post verbal position, as in :

<p style="text-align:center">L'homme que frappe Jean.</p>

This operation of extraction shares   properties with the extraction used in : $\underline{C'est...que}$ sentences :

> C'est l'homme qui vient.
> _____

end :   Je vois l'homme qui vient.
> _____

are felt as having the ambiguity (a) – (b). In both cases the extracted
N can have a restrictive relative clause :
—

> C'est l'homme que j'ai rencontré hier qui vient.
> _____

> Je vois l'homme que j'ai rencontré hier qui vient.
> _____

and these sentences are not ambiguous. The main differences are that the
extracted N (l'homme) after voir can be a source for pvp's; after C'est
it cannot, and the "tense identity" constraint does not hold between
être and its embedded verb, which is a reason for separating tense
problems from extraction problems.

This extraction is restricted to subject :
if we have :

> Je vois que Jean mange la pomme.
> _____

and :   Je vois la pomme que Jean mange.
> _____

que Jean mange is a relative clause attached to la pomme, which is seen
from the fact that the corresponding sentence is not felt as ambiguous,
and from :

> *Je la vois que Jean mange.
> _____

The same would be true for all other non-subject phrases.

In order to derive sentences like :

> Je vois N_2 V_2 $\cap$ (N_2 subject of V_2).
> _____

we can assume the following transformation : $\underline{qui\ T} \rightarrow \underline{\emptyset}$

$$\underline{Je\ vois\ N_2\ qui\ T\ V_2 \Omega\ .}$$

$[\underline{qui\ T}\ z]\ :\rightarrow \underline{Je\ vois\ N_2\ V_2 \Omega\ .}$

This transformation has to be restricted by the nature of T : no auxiliaries, and "tense identity" between $\underline{voir}$ and $\underline{V_2}$:

the sentences :

$$\underline{Je\ le\ vois\ qui\ (travaillait + travaillera + a\ travaillé + ..).}$$

are all unacceptable, and the sentences :

$$\underline{Je\ vois\ l'homme\ qui\ (travaillait + travaillera + a\ travaillé + ..).}$$

have only meaning (b).

This tense constraint is close to identity of simple tenses; however it will have to be more precisely stated in order to account for :

$$\underline{Je\ le\ verrai\ qui\ vient.}$$

which is acceptable and also :

$$\underline{Si\ je\ regardais,\ je\ le\ verrais\ qui\ vient.}$$

which is also acceptable, while :

$$\underline{Si\ je\ regardais,\ je\ le\ verrais\ qui\ viendrait.}$$

is at best dubious.

We refine the derivation :

$$\frac{N_o \; V_o \; \text{que} \; N_2 \; T \; V_2 \text{Ω} \, .}{} \quad \text{(with "tense identity")}$$

$$[\text{que} \; T \; z \,] \; : \quad \longrightarrow \quad \frac{N_o \; V_o \; N_2 \; V_2 \text{Ω} \, .}{}$$

and replace it by the new derivation :

$$\frac{N_o \; V_o \; \text{que} \; N_2 \; T \; V_2 \text{Ω} \, .}{} \quad \text{(with "tense identity")}$$

$$[N_2 - \text{extraction}] \; \longrightarrow \quad \frac{N_o \; V_o \; N_2 \; \text{que} \; T \; V_2 \text{Ω} \, .}{}$$

$$[\text{qui} - \text{formation}] \; \longrightarrow \quad \frac{N_o \; V_o \; N_2 \; \text{qui} \; T \; V_2 \text{Ω} \, .}{}$$

$$[\text{qui} \; T \; z] \quad \longrightarrow \quad \frac{N_o \; V_o \; N_2 \; V_2 \text{Ω} \, .}{}$$

One of the motivations that led . us to define this process is the following : the transformation that attached certain adjectives to nouns operates in exactly the same fashion :

- we have an extraction restricted to the subject of the embedded sentence, basic form of the relative clause :

$$\frac{\text{Jean conduit une voiture que cette voiture est rouge.}}{}$$

$[N_2 - \text{extraction}]: \rightarrow$ $\dfrac{\text{Jean conduit une voiture cette voiture que est rouge.}}{}$

$[N_2 \; z] \; : \qquad \longrightarrow$ $\dfrac{\text{Jean conduit une voiture que est rouge.}}{}$

$[\text{qui} - \text{formation}]: \rightarrow$ $\dfrac{\text{Jean conduit une voiture qui est rouge.}}{}$

. - we have the same constraints on the tenses :

$$\frac{\text{Jean conduit une voiture rouge.}}{}$$

$$\equiv \frac{\text{Jean conduit une voiture qui est rouge}}{}$$

and these sentences are different from :

Jean conduit une voiture qui (était + sera + serait + ..) rouge.

This is true for all tenses :

Jean conduisait une voiture rouge.

$\equiv$ Jean conduisait une voiture qui était rouge.

$\not\equiv$ Jean conduisait une voiture qui (est + sera + ..) rouge.

- when the tense constraints between main verb and être are satisfied, the rule qui T—>ø applies and is followed by the rule : être —> ø.

This adjective placement operation does not depend on the position of the N. The place of [qui-formation] in the ordered sequence of transformations is not quite defined : we could have as well used the rule [que T z] where que and T are adjacent, and place [qui formation] after this rule.

If we consider these operations of adjective placement within Chomsky's model [4], we have the following difficulty :
since the process is not local (i.e. internal to a noun phrase), but depends on the main verb, we would have to state as many rules of adjective attachment as there are types of noun phrases attached to a verb. In order to cope with the phenomenon in all its generality, several solutions can be proposed :
- one could change Chomsky's concept of "analyzability" and define it in such a way that it would take into account the notion of grammatical function : the tense agreement rule would be then defined by means of a function of the type : "V-complement" ;

- one could consider the whole system of tense constraints as a separate

device, independent of the deep structure derivations and of the transformations to surface structures. Then we would follow Chomsky's ([4]) suggestion to zero only unmarked elements.

6.2 Pvp's with sources in C.

We already said that in sentences like :

Jean sait cet homme capable de venir.

C = capable de venir was attached to V_o while in agreement with N_2 = cet homme (fn 16). This is not the case in sentences like :

Jean connaît le seul homme capable de venir.

where the adjective capable de venir is attached only to homme through relativization.

Both constructions involve [que T z] and [être z]; however there is an important difference :

In :   Il connaît le seul homme qui en (est + soit) capable.

qui, T, être cannot be zeroed, otherwise the result would lead to strings like :

*Il connaît le seul homme en capable.

or :   *Il en connaît le seul homme capable.

where en would correspond to the complement of capable.

With verbs like croire, savoir, etc... the situation is different; we have:

> Il (croit + sait + ...) Jean capable de cela.

$\longrightarrow$ Il en (croit + sait + ...) Jean capable.

Notice that the strings :

> Il sait Jean y être attaché.

> Il sait Jean en être capable.

are acceptable.

In order to keep the same rules for the two cases we have :

(i) to preclude formation of pvp's whose sources are complements of adjectives that are attached to a noun. We obtain this result by applying $[que\ T\ z]$ when que and T are contiguous, and the rule is imme-diately followed by $[être\ z]$;

(ii) to allow these same pvp's in the case of V_o's of the croire type. In order to meet these conditions, we have to assume that a restructuration of the complement construction is involved :

- V_o acquires a direct object : N_2, with the corresponding properties with respect to various transformations and in particular to pvp formation ;

- C becomes a complement of V_o which allows again pvp formation of lui, leur, y, en with respect to V_o.
The fact that le cannot replace C :

> Elle croit Pierre gentil.

$\longrightarrow$ *Elle le croit Pierre.

could be correlated to the general restriction that states that a **verb** can have only one direct object. This would also preclude :

Elle croit cet homme un grand savant.

⟶ *Elle en croit cet homme un grand.

6.3 Application to impersonal constructions.

Certain constructions suggest that the transformation $[que\ T\ z]$ applies to sentences with impersonal subject. In this connection paraître enters a variety of structures (fn 17) :

(1) : Il paraît $(E + à\ N_1)$ que S.

while : *Il paraît $(E + à\ N_1)$ que S subj.

(sembler which is quite similar accepts both subjunctive and indicative) we also have :

(2) : Il paraît Adj $(E + à\ N_1)$ que S subj.

while : *Il paraît Adj $(E + à\ N_1)$ que S.

These structures have many of the properties that we found in § 5.2 :

- que S subj. can reduce to de V∿ ;

- Adj. is restricted, Adj. could not be rouge for example ;

- (1) and (2) can be related in exactly the way we already described :

in (1) : Il paraît $(E + à\ N_1)$ que S.

if $\underline{S} = \underline{\text{que S subj. est Adj.}}$, we have :

$$\underline{\text{Il paraît (E + à N}_1\text{) que que S subj. est Adj.}}$$

$[\underline{\text{que T z}}] : \rightarrow (3) :$ $\underline{\text{Il paraît (E + à N}_1\text{) que S subj. être Adj.}}$

$[\underline{\text{être z}}] : \rightarrow$ $\underline{\text{Il paraît (E + à N}_1\text{) que S subj. Adj.}}$

$[\text{length p.}] \rightarrow (2) :$ $\underline{\text{Il paraît Adj (E + à N}_1\text{) que S subj.}}$

However, there are important differences with the $\underline{V_o}$'s of the $\underline{\text{croire}}$ type :

— $\underline{\text{que S subj.}}$ cannot be pronominalized into $\underline{\text{cela}}$:

(4) : $\underline{\text{*Il paraît cela difficile.}}$

— $\underline{N_2}$ seems to be restricted to $\underline{\text{que S subj.}}$; it cannot be a noun :

(5) : $\underline{\text{*Il paraît Pierre gentil.}}$

6.3.1 The transformation $[\text{impers p}]^{-1}$.

A way to make these transformations more regular is the following : to (1) we apply $[\underline{\text{que T z}}]$ independently of the nature of $\underline{S}$; we thus obtain intermediary forms like (3), (4) and (5). To intermediary forms that contain an $\underline{N_2}$ noun or pronoun in object position, a permutation applies :

$$\underline{\text{*Il paraît (E + à N}_1\text{) Pierre être gentil.}}$$

$\longrightarrow$ $\underline{\text{Pierre paraît (E + à N}_1\text{) être gentil.}}$

(We call this operation : inverse of impersonal permutation, and we note it : $[\underline{\text{impers p}}]^{-1}$).

The rule $[\underline{\text{être z}}]$ applies optionally. When it applies we get :

Pierre paraît gentil (E + à N_1).

When S does not contain être as the main verb, we also have :

$$*Il \ paraît \ (E + à \ N_1) \ N_2 \ V_2^2 \Omega \ .$$

$$[impers \ p]^{-1} \longrightarrow N_2 \ paraît \ (E + à \ N_1) \ V_2^2 \Omega \ .$$

yielding sentences like :

Pierre lui paraît faire une bêtise.

where Pierre, and not lui (à N_1), is the subject of faire.

We have the following pattern of transformations :

(i) : if $[être \ z]$ has not applied, then $[impers \ p]^{-1}$ is obligatory

(ii) : if $[être \ z]$ has applied, then :

- if $N_2 \neq$ que S subj. (or the reduced infinitive form), then $[impers \ p]^{-1}$ is obligatory ;

- if $N_2 =$ que S subj, then $[impers \ p]^{-1}$ is optional.

This pattern applies to : paraître, apparaître, sembler, s'avérer, être supposé, but $[être \ z]$ does not apply to : se trouver :

Jean se trouve gentil.

(John finds himself nice).

is not related in an obvious way to :

Jean se trouve être gentil.

(John happens to be nice.)
_____

The two sentences have quite different meanings :

-The first one is derived in the following way :

                       Jean trouve que Jean est gentil.
                       _____

[que T z] : $\longrightarrow$ Jean trouve Jean être gentil.
                       _____

[être z] : $\longrightarrow$ Jean trouve Jean gentil.
                       _____

[reflexivization] : $\rightarrow$ Jean trouve soi gentil.
                       _____

[oi $\rightarrow$ e], [pvp p] : $\rightarrow$ Jean se trouve gentil.
                       _____

-The second one will be derived as follows :

                       Il se trouve que Jean est gentil.
                       _____

[que T z] : $\longrightarrow$ Il se trouve Jean être gentil.
                       _____

[impers p]$^{-1}$: $\longrightarrow$ Jean se trouve être gentil.
                       _____

It is possible that throughout these examples we have one single verb trouver, which always allows [que T z] and that the two basic forms we used, are related in the following way :

N trouve que S can be :   A trouve que S.   then :
_____   _____

[se middle] : $\longrightarrow$ Que S se trouve.

[extrap] : $\longrightarrow$ Il se trouve que S

However, it would remain to explain why in one case [être z] has to apply while in the other it does not (fn 18).

Similarly supposer and être supposé could be related through
passive :

$$\Delta \text{ suppose que S.}$$

[passive p] : $\longrightarrow$ Que S est supposé.

[extrap] : $\longrightarrow$ Il est supposé que S.

The verb supposer also allows [que T z] independently of
zeroing of N_2, but here in one case, [être z] is obligatory,
while in the other it is optional.

Another application of the rule [impers p]$^{-1}$ is made in the
following derivation :

Que Jean fasse ceci est idiot.

[extrap] : $\longrightarrow$ Il est idiot que Jean fasse ceci.

[que T z] : $\longrightarrow$ *Il est idiot Jean de faire ceci.

[impers p]$^{-1}$: $\longrightarrow$ Jean est idiot de faire ceci.

The only new point is that [que T z] introduces the preposition
de. This same fact will be observed in a different context,
chapter VI § 1.

The reasons for adopting this derivation are that :

— we have no source of the type :

* Jean est idiot (E + de ce) que S subj. — as for
curieux, for example in :

<div style="text-align: center;">

Jean est curieux de faire ceci.

</div>

- de V Ω cannot be a source of pronouns ;

- de V Ω cannot be permuted, which makes its status similar to the one of V Ω in :

<div style="text-align: center;">

Jean semble faire ceci.

</div>

In the case of paraître and sembler, when [être z] applies, the adjective becomes a complement of the corresponding V_o. If this adjective has an à N or a de N complement that can be a source of pvp, we find again the problems that were discussed in § 5.2., complicated by the fact that it is possible to have two à N complements that may lead to conflicting pvp's as in Chapter II, § 2.2.4.

6.3.2   Remarks on impersonal permutations.

- The fact that [extrap] and [impers p]$^{-1}$, when applied to sentential complements, appear to be restricted to : que S subj. is a consequence of the fact that they operate on subject positions where que S subj. is favoured, perhaps by a general rule that places subj in que S subject.

- If we compare these permutations to the permutations occurring with middle transformation, we can notice that middles are of two types :

<div style="text-align: center;">

(i)   se appears :

</div>

(the sentences are more natural when a manner adverbial is present)

Δ boit ce vin $\longrightarrow$ Ce vin se boit.

Δ boit facilement ce vin $\longrightarrow$ Ce vin se boit facilement.

(ii)   no se appears :

Δ cuit ce rôti $\longrightarrow$ Ce rôti cuit.

One of the reasons for grouping these two transformations is that semantically they have the same effect : something like "inverse of causative". But $[\text{impers p}]^{-1}$ which is formally very close to the second type of middle (placement of object in subject position) does not have this semantic property.

FOOTNOTES

fn 1 We find ce between pour and que S (not que S subj. as in sentence complements) in "restricted exclamations" like :

Pour ce qu'il est beau !

Haase noticed that, in seventeenth century speech, ce occurred between pour and que S subj., between sans and que S subj.

fn 2 In a large number of cases, the passive transformation involves the preposition par rather than de. The conditions in which de is found are not clear; for a discussion see Clédat [2].

fn 3 This type of zeroing is a particular case of a general method of analyzing sentences, which has been developed by Harris [6] for the treatment of imperative and interrogative sentences ; we will use this method in Chapter VII. Other pairs

of exclemative sentences require such an analysis :

$$\underline{\text{(Regarde + regardez) qu'est-ce qu'il est beau !}}$$

$$\equiv \underline{\text{Qu'est-ce qu'il est beau !}}$$

$$\underline{\text{(Regarde + regardez) quel bel oiseau nous avons là !}}$$

$$\equiv \underline{\text{Quel bel oiseau nous avons là !}}$$

Other verbs than regarder have these properties (voir, savoir, imaginer).

fn 4   The noun fait cannot be used as a general source for the zeroed N of (ii) :

- there are many cases where the paraphrase is not possible (vouloir) ;

- when que S (E + subj.) reduces to infinitive we have de $V\Lambda$, but there are other cases : no preposition, preposition à.

fn 5   We noticed in Chapter II that : ici, là, là-bas, which are morphemically related to ci and la, were, in some sense, pro-place adverbials. French orthography distinguishes two la's : la and là. We will not make this arbitrary distinction and will use only : la.

fn 6   These referential complements are related to what we called nominal determiners in Chapter II - § 1.3.2.B.

fn 7   Trouver has another meaning : "to make a discovery"; this other verb also takes a que S complement that can be a source for : ce (ci + la) and also for le.

fn 8   We already saw that there are a few exceptions to this rule, but they are of a different nature and they constitute natural classes.

fn 9 The solution that consists in having several verbs, has the peculiarity of restricting furthermore the number of cases to which the rule : à ce ⟶ ∅ applies. In fact there are very few such examples besides the ones we gave ; sur ce ⟶ ∅ applies even more rarely, while : de ce. ⟶ ∅ is a very general rule that applies to a large number of constructions.

fn 10 We used a similar rule in Chapter II § 3.2.3. - A (i).

fn 11 While sentential complements can be pronominalized in subject positions :

       in :   Cela plait à Pierre.   where cela may refer to an S,
they cannot be pronominalized after [extrap] applied :

           * Il plait cela à Pierre.

All the cases we found in § 4.1 where we compared sentential subjects, and sentential sources for le, are found again when we replace le by ce (ci + la).

fn 12 This process is quite productive as can be seen from recent examples like :

         Le satellite est en orbite.

         Ils ont mis le satellite en orbite.

    A few verbs have similar properties, with various class restrictions (remettre, placer, ...). C can also be a more general place adverbial.

fn 13 The basic form that corresponds to the embedded sentence is close to :

<u>Jean croit que ce lui_{+ z} que S subj. est possible.</u>

This analysis can account for the fact that in :

<u>Jean le croit possible.</u>

le may not refer to an S , since the source for the pronoun is a sentential
subject where only <u>ce</u> (ci + la) is allowed.

fn 14 Since the affix : inf. has to appear, we are hesitant between the rules :

<u>que</u> and <u>T</u> are zeroed,

or :   <u>que</u> is zeroed, and <u>T</u> replaced by : <u>inf.</u>

Still another possibility may be worth considering : independently of <u>que</u>
zeroing, we saw that subjunctive replaces a well defined (reconstructible)
tense. The same is true for infinitive and for present participle. If we want
to group these three similar cases, we can use the rule :

<u>T</u> —> <u>nfe</u> (non finite ending), <u>nfe</u> = <u>subj.</u> + <u>inf.</u> + <u>ant.</u>

When necessary (for <u>inf</u> and <u>ant</u>) the rule :

<u>que</u> —> ∅   applies.

In fact the symbol <u>nfe</u> could be dispensed with, and replaced by ∅, if the
non-finite endings are determined by the environment : for example, presence of
<u>que</u> and of the subject of the verb implies that its ending has to be subjunctive.
In this case we would be justified to call the overall transformation : <u>que T</u>
zeroing.

fn 15 Even though regarder has only a si S complement we still might have to postulate a que S basic form and this although :

*? N regarde que S, the reason being that we have exclamative sentences of the type :

Regarde ce que S !

Presumably the solution of this problem lies in the clarification of the relations holding between que and si (Chapter V, § 12).

fn 16 The way the adjective C is attached to V_o is different in § 1.1, and in § 1.2. In § 1.1 we saw that adjectives could be questioned yielding comment - questions; this is not possible for verbs like savoir, croire

*Comment sait-il cet homme ?

fn 17 We will not consider as distinct, structures that are derived one from the other by [length p].

fn 18 We find many of these constructions with verbs that have a que S direct object complement which undergoes [passive] or [se-middle]. However, the applications of [être z] in the basic structure and in the derived ones, seem to be independent ; a further example of this is given by révéler :

it is not clear whether [que T z] and [être z] apply to :

Jean révèle que le résultat est faux.

yielding :

?*Jean révèle ce résultat faux.

Jean révèle possible que S subj.   is completely unacceptable
_____

but :   Il se révèle possible que S subj. is correct with impersonal il,
_____   __

and so are :

Ce résultat se révèle (E + être) faux.
_____

VI TRANSFORMATIONS OF OPERATOR STRUCTURES.

In the preceding chapters we evidenced various phenomena; for example we observed that for a large number of structures that had a sentential complement, we could find, instead, an infinitive complement that was understood as a reduced form of the sentential one. In chapter V, we studied examples of reduction bearing on : que, tense, and être. We will now turn to the reduction of N_2, the subject of the main sentence of the sentential complement. We will also examine various constructions that give further support to our analysis of operator verbs.

1. Types of reduction.

The phenomenon that we want to describe is the following : in various positions with respect to an operator verb W (V_o), the phrases que S (E + subj.), where S = $N_2 V_2 \Omega$, can be reduced to inf $V_2 \Omega$, infinitive verb phrase, sometimes preceded by a preposition. In general this reduction occurs when N_2 and some N_i attached to V_o have a common reference. We will describe various features of this reduction process, returning to some of the properties that were already described in Chapter IV.

1.1 Positions.

In general, attached to a W we find : que S (E + subj.) phrases, and nouns. Various possibilities of referring N_2, subject of S, to a noun are found. There are examples where only one noun is available for this purpose; this is the case for the frames :

$N_o V_o$ (E + à + de) ce que S (E + subj.).

que S subj. V_o (E + à + de + pour) N_1.

We will see that various restrictions can be present.

In the case of frames where two N's are available for referring N_2, we can see that the positions of the sentential complement and of the referent for N_2 are independent of the description of the frames as we gave it. For example we have :

$$N_o \ V_o \ N_1 \ \text{à ce que S}$$

V_o = passer,	reduction : $N_2 = N_o$;
V_o = autoriser,	reduction : $N_2 = N_1$;
V_o = reconnaître,	no reduction ;

$$N_o \ V_o \ N_1 \ \text{de ce que S}$$

V_o = menacer,	reduction : $N_2 = N_o$;
V_o = convaincre,	reduction : $N_2 = N_1$;
V_o = déduire,	no reduction ;

$$N_o \ V_o \ \text{à } N_1 \ \text{de ce que S}$$

V_o = se plaindre,	reduction : $N_2 = N_o$;
V_o = savoir gré,	reduction : $N_2 = N_1$;
V_o = s'apercevoir,	no reduction ;

$$N_o \ V_o \ \text{que S à } N_1$$

V_o = jurer,	reduction : $N_2 = N_o$;
V_o = ordonner,	reduction : $N_2 = N_1$;

(S is to be understood as indicative or subjunctive).

These examples show that :

- since all V_o's do not allow reduction, a special class marker is needed (fn 1) ;

- since the position of N_i, the referent of N_2, may vary, according to V_o, a reference marker is needed ; in these cases the reduction marker is redundant.

The positions that N_i may occupy are mainly :

- subjects ;
- direct objects ;
- prepositional complements with preposition à ; these constitute the large majority. A small number of V_o's with preposition pour (aboutir, s'agir) can be found, but we have no examples with the prepositions de, and par, for example.

The phrase pour N_i is special with operator verbs;cases like :

Il suffit pour Jean d'y aller.

are analyzed as follows :

Qu'il y aille suffit pour Jean.

[reduction $N_2 = N_1$] : ⟶ ?D'y aller suffit pour Jean.

[extrap] : ⟶ Il suffit pour Jean d'y aller.

This pattern is quite general with "operator adjectives" :

Que N_2 V_2Λ est facile pour N_1.

$[\text{reduction } \underline{N_2} = \underline{N_1}]$: $\longrightarrow$?De $V_2 \Omega$ est facile pour N_1.

$[\text{extrap}]$: $\longrightarrow$ Il est facile pour N_1 de $V_2 \Omega$.

In related constructions involving "operator nouns", pour N_1 is also found :

Que N_2 $V_2 \Omega$ est la solution pour N_1.

$[\text{reduction } \underline{N_2} = \underline{N_1}]$: $\longrightarrow$?De $V_2 \Omega$ est la solution pour N_1.

from this structure we can derive :

either : $V_2 \Omega$ est la solution pour N_1.   by : de zeroing

or : La solution est de $V_2 \Omega$ pour N_1.   by : mirroring (Harris [6] (fn 2)

1.2 Reduction of prepositional complements.

When (à + de) ce que S (E + subj.) complements reduce, they retain in front of the infinitive their preposition (fn 3) :

Jean (passe son temps + l'autorise) à travailler.

Jean le (menace + charge) de travailler.

Jean (se plaint + sait gré) à Pierre de travailler.

In these cases, the part which is dropped is limited to : ce que N_2 T.

Various tense constraints are found, and also restrictions involving V_2 :

Jean (se plaint + sait gré) à Pierre d'être (fatigué + vieux).

but : *?Jean le (menace + charge) d'être (fatigué + vieux).

This type of reduction is not limited to operator constructions but is also found :

- with nouns :

son (insistance + entêtement) à ce que S subj.

$\longrightarrow$ son (insistance + entêtement) à $V_2 \Omega$;

sa (crainte + peur) de ce que S subj.

$\longrightarrow$ sa (crainte + peur) de $V_2 \Omega$;

- with nouns functioning as subordinating conjunctions :

de (manière + façon) à ce que S subj.

$\longrightarrow$ de (manière + façon) à $V_2 \Omega$.

au lieu de ce que S subj.

$\longrightarrow$ au lieu de $V_2 \Omega$;

- with prepositions :

jusqu'à ce que S subj.

$\longrightarrow$ jusqu'à $V_2 \Omega$.

quitte à ce que S subj.

$\longrightarrow$ quitte à $V_2 \Omega$;

- with adjectives :

Jean est enclin à ce que S subj.

$\longrightarrow$ Jean est enclin à $V_2 \Omega$

- we also have cases of reduction with present participle V_2 :

$$\xrightarrow{\hspace{1cm}} \quad \frac{\text{bien que S subj.}}{\text{bien que ant } V_2 \curlywedge.}$$

In the first cases (nouns) the possessive adjective is understood as being the subject of V_2; in the three other cases, the subject of the main sentences is the subject of V_2.

This reduction appears to be independent of the zeroability of $(\grave{a} + de)$ ce (i.e. of the rule $[pc\ z]$) :

if V_o = tenir, $N_o = N_{hum}$: $\underline{N_o\ V_o\ \grave{a}\ ce\ que\ S\ subj.} \rightarrow \underline{N_o\ V_o\ \grave{a}\ V_2 \curlywedge}$

but : $\rightarrow \underline{*N_o\ V_o\ que\ S\ subj.}$

while for V_o = consentir : $\underline{N_o\ V_o\ \grave{a}\ ce\ que\ S\ subj.} \rightarrow \underline{N_o\ V_o\ \grave{a}\ V_2 \curlywedge}$

and : $\rightarrow \underline{N_o\ V_o\ que\ S\ subj.}$

This property allows us to classify verbs like aimer and demander in the following way :

- to a first verb aimer (or demander) with à ce que S subj. complement $[pc\ z]$ does not apply ;

- a second verb aimer has the properties of détester, haïr (verbs B.2.2) ;

- a second verb demander enters : $\underline{N_o\ V_o\ \grave{a}\ N_1\ que\ S\ subj.}$ (verbs B.6.1).

Then, N_0 aime que S subj. is a basic form (verbs B.2.2); it cannot be obtained by à ce zeroing. Similarly : N_0 demande que S subj. is obtained only by leaving N_1 unspecified. Moreover aimer and demander are like chercher, with respect to pronominalization of à ce que S subj. which cannot become à ce (ci + la) or y, and with respect to pseudo cleft sentences (as will be seen in § 2.2.3).

The frames : $N_0 V_0$ à ce que S subj., where $N_0 = N_{hum} + N_{unr}$

(V_0 = viser), may reduce whatever N_0; for example if N_0 = que S subj. :

Que S subj. vise à ce que que S subj. amuse Jean.

$\longrightarrow$ Que S subj. vise à amuser Jean.

The sentence :

Jeanne vise à amuser Jean.

has the ambiguity due to the fact that Jeanne is interpreted either as N_{unr} or as "active" N_{hum}.

This reduction does not occur with verbs like équivaloir, aboutir, ...; we have :

Que S subj. équivaut à ce que S subj.

and : Que S subj. équivaut à V_2ſL .

However, the reduced sentences are not understood with que S subj. subject of V_2, but with unspecified subject for V_2 the subject would be a pour N_1 complement of équivaloir. The subject que S subj. of viser had to be the

referent of que S subj. subject of V_2 = amuser. The fact that :

*Que S subj. vise à rire.

is then a consequence of :

*Que S subj. rit.

while sentences like :

Que S subj. équivaut à rire.   are correct.

The frames : $N_o V_o$ de ce que S, where $N_o = N_{unr}$ (V_o = provenir + résulter

+ ...)

do not reduce. A way to oppose this case to the preceding one could involve the nature of the sentential complement : subjunctive vs. indicative.

1.3 Reduction of que S direct complements.

1.3.1 Reduction to non-prepositional infinitive.

A. The following case of reduction is fairly general.

When V_o has a que S complement in direct position, this complement reduces to an infinitive form in the following way :

if : $N_o T_o V_o$ ce que $N_2 T_2 V_2$ (E + prep N_1)

is the basic form :

ce que $N_2 T_2 \rightarrow \emptyset$ (or $\rightarrow$ inf.) under the following conditions:

(i) : $N_2 = N_o = N_{hum}$;

(ii) : tense constraints ;

(iii): V_2 the verb (or part of verb) carrying the tense is
restricted to certain verbs : avoir, devoir, pouvoir, vouloir, savoir.

(i) That the reduction is restricted to human nouns can be seen
from examples where $N_o = N_{unr}$ is allowed together with $N_o = N_{hum}$:

let V_o = confirmer : the sentence :

> Jean confirme que N_2 a été ridicule.

is ambiguous in the way described in Chapter III § 2.3.

If N_2 = Jean, it reduces to :

> Jean confirme avoir été ridicule.

this sentence is not ambiguous and has only the "voluntary" meaning.

On the other hand :

> Que Jean vienne confirme que que Jean vienne a été
ridicule.

cannot reduce :

> *Que Jean vienne confirme avoir été ridicule.

The same remark holds for promettre which reduces in a different way
(see below) ;

(ii) Tense agreement between V_o and V_2, and the tense constraints that accompany the reduction were discussed on one example in Chapter IV § B.1.1. We give now a second example which confirms the complexity of the problem.

The sentence :

> Elle affirme qu'elle est belle.

reduces to :

> Elle affirme être belle.

The tense agreement constraints between **affirmer** and **être** in sentences such as :

> Elle affirme qu'elle est belle.

are the following :

out of the 16 sentences :

> Elle (pres. + impf.) (E + inf.) r(affirmer) qu'elle (pres. + impf
>
> (E +inf.) r(être) belle.

only :   ?*Elle affirmait qu'elle est belle.

and :   *Elle affirmait qu'elle sera belle.

are ungrammatical. These constraints, insofar as they are

restricted to part of possible cases, are the ones already
found in Chapter IV § B.1.1.

But the constraints that are necessary for the reduction to :

Elle (pres. + impf.) (E + inf) r(affirmer) être belle.

are different. From the meaning and from various tests (in particular
attachment of habituellement to être belle which is an operation
restricted to pres. and impf.), it can be seen that the sources
are respectively :

Elle affirme qu'elle est belle.

Elle affirmait qu'elle était belle.

Elle affirmera qu'elle est belle.

Elle affirmerait qu'elle est belle.

In chapter V, when we discussed the tense constraints between
voir and être in relation with zeroing of que, T, être, we
saw that the same phenomenon occurred : for elementary tenses
the constraints are : identity of tenses; but for simple tenses :

Vous la (croirez + croiriez) belle.

the sources are respectively :

Vous (croirez + croiriez) qu'elle est belle.

(ii) and (iii) are independent conditions. Although most of the
allowed V_2's have some tense function (auxiliary, modal, ...), it

is clear that the verbs themselves are involved, and not their
tense function :

in :   Jean déclare avoir (faim + beaucoup de livres).
                        ———

                        Jean déclare être ridicule.
                        ———————————————————————————

where the reduction occurred, avoir and être are not past tense
auxiliaries.

This reduction appears mostly with que S direct complements;
however, there are a few prepositional examples. V_o's like : avertir,
aviser, informer, enter the frame :

$$N_o \ V_o \ N_1 \ \text{de ce que S.}$$

and by zeroing of de and ce :

the frame : $$N_o \ V_o \ N_1 \ \text{que S.}$$

which may also undergo this reduction :

                        Jean l'avertit de ce qu'il y est allé.
                        ——————————————————————————————————————

              ⟶ Jean l'avertit qu'il y est allé.
                        ——————————————————————————————

              ⟶ Jean l'avertit y être allé.
                        ———————————————————————————

Structures with V_o's like : trouver, estimer, juger, where the que S
complement is not a source for le, may also be reduced.

Basic frames like :

$$N_o \ V_o \ \text{de } N_1 \ \text{que S (E + subj.).}$$

may present an expectancy constraint holding between N_1 and S. In :

Jean dit de Pierre qu'il est sérieux.

il has to be understood as referring to Pierre. There is no reduction when $N_1 = N_2$, and the sentence :

Jean dit de Pierre être sérieux.

has no interpretation, since the rule that operates on the structure requires $N_0 = N_2$ while the expectancy constraint requires $N_1 = N_2$, the case $N_0 = N_1 = N_2$:

Jean dit de lui être sérieux.

is dubious.

In the following case, these two conditions de not conflict :

Jean dit de Pierre qu'il l'a vu.

(il refers to Jean and le to Pierre).

and we have the reduced form :

Jean dit de Pierre l'avoir vu.   (Jean subject of avoir vu

More generally, when a prepositional noun phrase can co-occur with a que S direct complement, the corresponding noun cannot serve as a referent for N_2. Thus when the frames :

$\underline{N_0 \text{ sait (de + par) } N_1 \text{ que S.}}$

$\underline{N_0 \text{ raconte pour } N_1 \text{ que S.}}$ reduce,

$\underline{N_1}$ cannot be the subject of the infinitive complement; it has to be $\underline{N_0}$.

A further extension of this feature could cover the following cases : $\underline{\text{que S subj.}}$ complements of sentences like in :

$\underline{N_0 \text{ compare } N_1 \text{ à } N_2, \text{ (sans + pour + jusqu'à ce + afin + ...) que S subj.}}$

reduce to infinitive complements; in all cases, the subject of the reduced form is $\underline{N_0}$ and not $\underline{N_1}$ or $\underline{N_2}$ (fn 4).

We find the same feature with causative constructions :

$\underline{N_0 \text{ observe que S.}}$

reduces when $\underline{N_2 = N_0}$. After causative transformation, where $\underline{\text{N fait}}$ is attached, and $\underline{N_0}$ moved :

$\underline{N \text{ fait observer à } N_0 \text{ que S.}}$

these constructions reduce when $\underline{N_2 = N}$ and no longer when $\underline{N_2 = N_0}$.

B. A case of reduction which applies to a much smaller number of verbs is found with :

$\underline{V_0 = \text{croire + penser + compter + espérer}}$

These verbs do not impose any class restrictions on $\underline{V_2}$, and the tense constraints are different :

- $\underline{\text{croire}}$ in front of an infinitive V_2 seems to behave like a $\underline{U}$,

imposing its tense on V_2 ;

- penser, compter, and espérer, impose a future on V_2 :

    Il (pense + compte + espère) venir, quand il pourra.

1.3.2 Reduction to : de infinitive complement.

There are structures that reduce in the following way :

V_0 = prévoir	:	N_0 V_0 que S.
[reduction $N_2 = N_0$]	: $\longrightarrow$	N_0 V_0 de $V_2 \Omega$.

V_0 = promettre	:	N_0 V_0 que S à N_1 .
[reduction $N_2 = N_0$]	: $\longrightarrow$	N_0 V_0 de $V_2 \Omega$ à N_1 .

The operation differs from the preceding ones in the following way :

(i)   the preposition de is introduced ;

(ii) the tense restrictions are not the same ;

(iii) the constraints between V_0 and V_2 are not the same either.

(i)   The source of de raises a new question : it is difficult to argue that it stems from a prepositional complement, as one could for V_0 = rêver for example :

although we have :

    N_0 rêve que S.   ($N_2 = N_0$)

and : N_0 rêve de $V_2 \Omega$.

in fact, here, the basic structure is :

N_o rêve de ce que S.

and de $V_2 \Omega$ has many of the properties of de ce que S, for example the corresponding pvp (obtained through pronominalization or detachment) is en and not le :

N_o en rêve (E + # de $V_2 \Omega$ + de ce que P + # que P)

*N_o le rêve (E + # de $V_2 \Omega$ + de ce que P + # que P)

But for prévoir, promettre, the pvp is le and not en :

*N_o en prévoit (E + # de $V_2 \Omega$ + # que P)

N_o le prévoit (E + # de $V_2 \Omega$ + # que P)

We will return to this problem in § 2.

(ii) In a certain way, V_o imposes a future meaning to the embedded sentence :

Paul prévoit que Jean a beaucoup bu hier.

is an odd sentence, that can however be interpreted in the following way : the action of boire, preceded in time the action of prévoir, but at the time that Paul makes his prediction, he does not know yet whether Jean had drunk a lot, the preceding day (hier) (fn 5). A natural paraphrase and perhaps a source where the embedded sentence is in future, is :

Paul prévoit qu'on lui dira que Jean a beaucoup bu hier.

The restrictions for reduction are stronger :

Paul prévoit d'avoir bu cette bouteille hier.

is unacceptable, while :

Paul prévoit d'avoir bu cette bouteille quand Jeanne rentrera.

is correct; the underlying form of avoir is aura.

When prévoir is in present, V_2 is either future or anterior future. Thus, the ungrammaticality of the sentence :

?*Paul prévoit de boire habituellement une bouteille par jour.

excludes pres. and impf. as underlying tenses,

and : ?*Paul prévoit de ne boire que si Marie rentrait.

precludes the conditional. We are left with future, which is confirmed by the correctness of :

Paul prévoit de ne boire que quand Marie rentrera.

(iii) In the case of § 1.3.1, the V_2's were limited to a small number of verbs, mainly :

V_r = avoir + être + devoir + pouvoir + vouloir + savoir.

and a verb like boire was not allowed :

*Jean raconte boire.

we must have : Jean raconte V_r boire (avoir must be : avoir pp, être is not allowed).

In the present case :

Jean prévoit de boire.   is quite correct

but : Jean prévoit de V_r boire.

(with necessary adjustments on V_r) are all odd or unacceptable sentences; for example :

?*Jean prévoit de (devoir + pouvoir + vouloir) boire.

1.4 Reduction of que S subj. direct complements.

1.4.1 Reduction to non-prepositional infinitive.

Corresponding structures were studied in Chapter IV. For verbs B.2.2, we do not find any restrictions on V_2, as in the preceding cases, and the underlying tense cannot be future.

Vouloir, souhaiter, désirer, préférer, reduce in the same manner, but they impose a future on V_2 (Chapter VII, § 1) ; falloir is similar but the referent, instead of being N_o is N_1 :

Il faut que S subj. à N_1. $(N_2 = N_1)$

$\longrightarrow$ Il faut $V_2 \Omega$ à N_1.

1.4.2 Reduction to : de infinitive complement.

Verbs B.2.3, B.6, B.8, and many B.10's, are such examples. As in § 1.3.2 above, de presents a problem of source, de $V_2 \Omega$ phrases being direct objects.

In general the referent N_i is a human noun, which seems to restrict the possibilities of zeroing as in § 1.3.1 (case A). However the study of mériter suggests that the reduction may sometimes have a more general character. The subject of mériter is $N_o = N_{unr} + N_{hum}$ and we have :

$$\text{Que S subj. mérite que S subj.} \quad (N_o = N_2 = \text{que S subj.})$$
$$= \text{Que S subj. mérite de } V_2 \Omega \ .$$

Moreover, sentences with human subjects like :

$$\text{Jean mérite d'amuser Pierre.}$$

are ambiguous because of the double interpretation of the subject.

The position of the referent, depending on V_o, is N_o or N_1 :

$$N_o \text{ dit à } N_1 \text{ que S subj.} \quad (N_2 = N_1)$$
$$\rightarrow N_o \text{ dit à } N_1 \text{ de } V_2^1 \Omega \ .$$
$$N_o \text{ offre à } N_1 \text{ que S subj.} \quad (N_2 = N_o \text{ or } N_2 = N_1)$$
$$\rightarrow N_o \text{ offre à } N_1 \text{ de } V_2 \Omega \ .$$

Various tense restrictions are found : exiger imposes future on V_2, regretter allows only present and past.

1.5 Reduction of <u>que S (E + subj.)</u> in subject position.

Sentential phrases in subject position reduce when $\underline{N_2}$ has for referent a noun phrase in post verbal position :

<u>V_0 = amuser</u>   ;   <u>Que N_2 V_2∿ V_0 N_1</u> $(\underline{N_2} = \underline{N_1})$

$\longrightarrow$ <u>V_2∿ V_0 N_1</u>

<u>V_0 = répugner</u>   ;   <u>Que N_2 V_2∿ V_0 à N_1</u> $(\underline{N_2} = \underline{N_1})$

$\longrightarrow$ <u>V_2∿ V_0 à N_1</u>

<u>V_0 = être facile</u> ;   <u>Que N_2 V_2∿ V_0 pour N_1</u> $(\underline{N_2} = \underline{N_1})$.

$\longrightarrow$ <u>V_2∿ V_0 pour N_1</u>

We noticed that, when [extrap] applies, de appears in post-verbal position, in front of V_2∿ (Chapter V, § 5, remark A). In order to regularize the source of this <u>de</u>, we will assume that the above reductions are made in two steps :

<u>Que N_2 V_2∿ V_0 (E + prep) N_1.</u> $(\underline{N_2} = \underline{N_1})$

[reduction] : $\longrightarrow$ <u>De V_2∿ V_0 (E + prep) N_1.</u>

[<u>de</u> z] : $\longrightarrow$ <u>V_2∿ V_0 (E + prep) N_1.</u>

(the intermediary form appears only in substandard speech).

The advantages of this solution are that [extrap] can apply between [reduction] and [<u>de</u> z] yielding the correct result, while the source of <u>de</u> becomes the same as in 1.4.2. above.

Other places where this de reappears are :

- in sentences like :

Ce qui amuse Jean, c'est de faire cela.

as will be seen in the study of pseudo cleft sentences (§ 2.2.4.A) ;

- in sentences where the infinitive subject is detached (§ 2.2.2) ;

- in the subject of verbs that have restrictions on the partitive :

*De l'argent intéresse Paul.

while :   L'argent intéresse Paul.   (generic subject)

which is conveniently analyzed by means of the transformation $[\text{da } z]$ that relates these two forms.

Reduction in subject position raises the following problem. We have sentences with que S subj. (for example) in object position that reduces to an infinitive predicate :

(1) :   Jean souhaite que N_2 vienne. (N_2 = Jean)

[reduction] :→(2)   Jean souhaite venir.

Each of these sentences has a passive form :

(3) :   Que N_2 vienne est souhaité par Jean.

(4) :   Venir est souhaité par Jean.

These sentences are more natural in past tense, and in detached forms :

(que N_2 vienne + venir)$\neq$cela a été souhaité par Jean.

A priori, we have two solutions for the passive reduced forms : either reduction operates on (1) yielding (2), and then passive operates on (2) yielding (4), or we can use the path (1), (3), (4), as shown by the diagram :

$$(1) \quad [\text{reduction}] \quad (2)$$

$$[\text{passive}] \qquad [\text{passive}]$$
$$[\text{reduction}]$$

$$(3) \qquad (4)$$
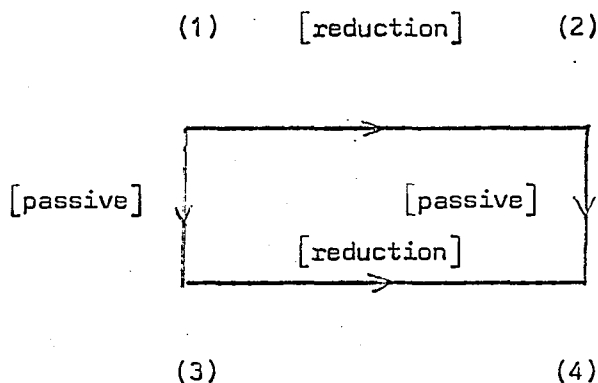
(4) is not ambiguous. It might be undesirable to have two derivations for (4). Moreover, the meaning of (4) does not include a subject-verb relation between Jean and venir. Since we do not have any examples where a sentential subject would reduce with N_2 having as referent the prepositional complement par N_1, we have to say : that passive operates between (1) and (3), that on (1), reduction operates under the condition $N_2 = N_0$, and that on (3) the reduction that operates zeroes an indefinite N_2. (We can take $N_2 = $ on, for example). We thus have the diagram :

$$(1) \quad [\text{reduction}] \; (N_2 = N_0) \quad (2)$$

$$[\text{passive}]$$
$$[\text{reduction}] \; (N_2 = \text{on})$$

$$(3) \qquad\qquad (4)$$
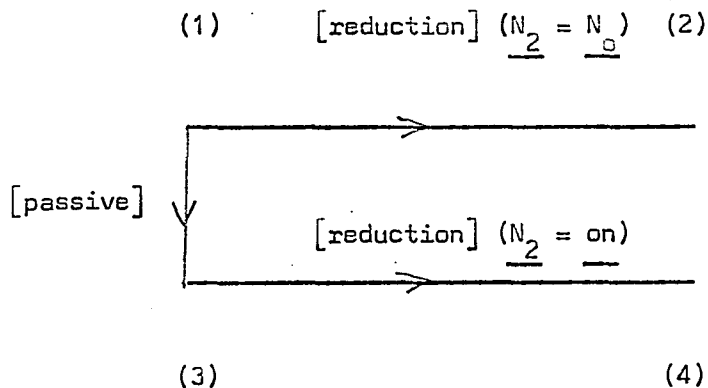
This diagram is confirmed by structures with que S direct complements. For V_o = constater + raconter + ..., reduction and passive apply to :

$$N_o \ V_o \ \text{que } \dot{S} \ (E + \text{à } N_1). \quad \text{yielding when } N_2 = N_o :$$

$$N_o \ V_o \ V_2\Omega \ (E + \text{à } N_1).$$

but there are no forms like :

$$V_2\Omega \ \text{est } V_o \ \text{pp } (E + \text{à } N_1) \ \text{par } N_o.$$

The fact that sentences of the type :

Jean raconte avoir fait cela.

have no passive is presumably related to the fact that $V_2\Omega$ cannot be pronominalized, nor detached :

*Jean le raconte (E +#avoir fait cela).

In this case of reduction (§ 1.3.1.A.), $V_2\Omega$ seems to have no nominal properties, while in other cases the infinitive complement retains the nominal status of its corresponding sentential complement.

1.6 Remarks on the reduction processes.

1.6.1 Classifying properties.

Most of the properties we considered are independent in the following sense : if we try to oppose the notions : subjunctive vs.

indicative, de $V_2 \curvearrowright$ in direct object positions vs. $V_2 \curvearrowright$, projection of future on $\underline{V_2}$ vs. projection of present or past, we find verbs that have almost all possible combinations of properties :

- subjunctive
  - de $V_2 \curvearrowright$
    - future : exiger
    - present : regretter
  - $V_2 \curvearrowright$
    - future : vouloir
    - present : haïr
- indicative
  - de $V_2 \curvearrowright$
    - future : prévoir
  - $V_2 \curvearrowright$
    - future : espérer
    - present : croire
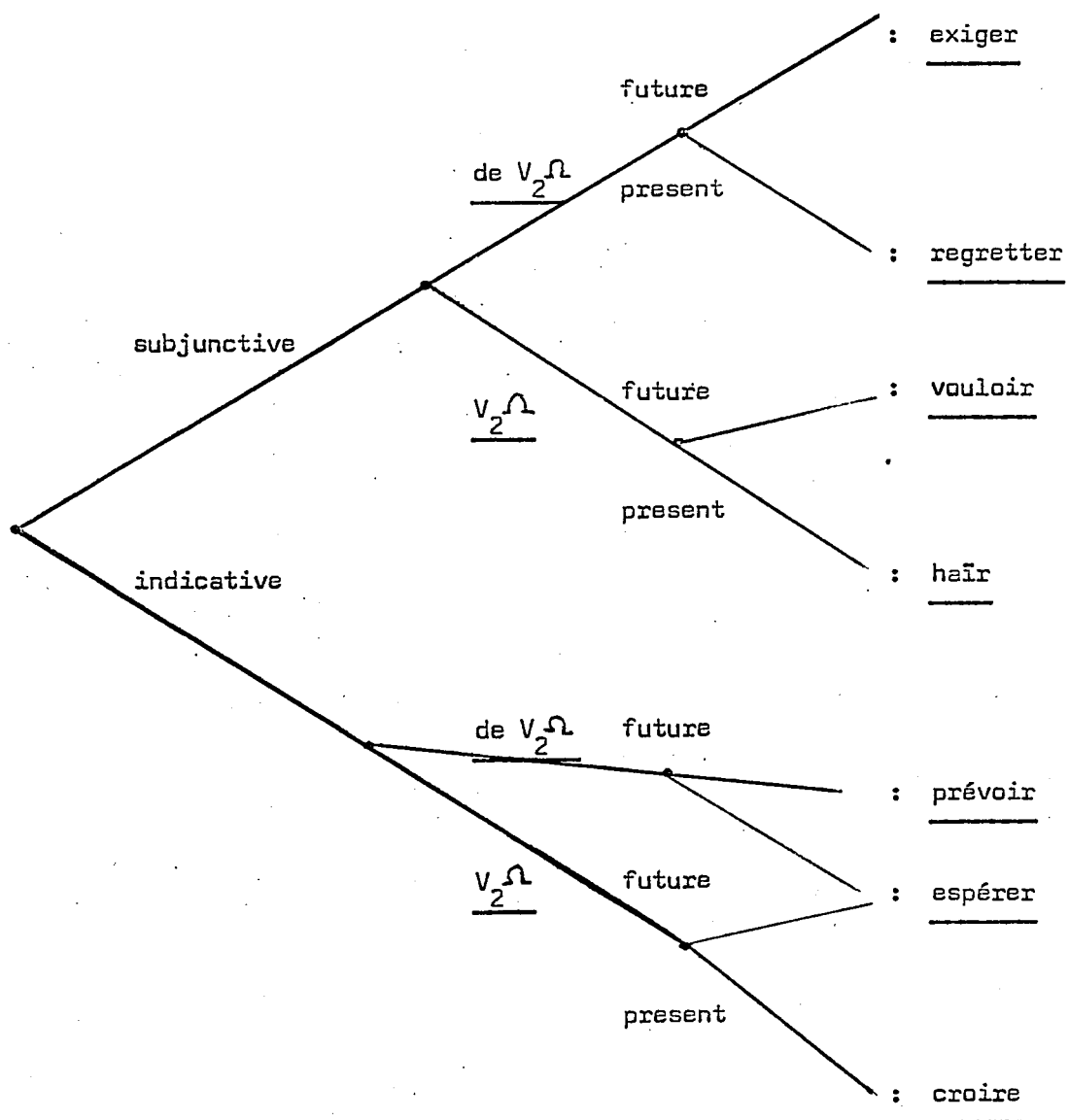
As can be seen from this classification, the only gap is a V_o whose que S complement would reduce to de V_2 ⌐ imposing present on V_2 (when V_o is in present). Since no principial reason justifies the use of such a redundancy in the classification, it seems preferable to think of this gap as being purely accidental.

In the same way we could try to correlate the position of N_i to one of the properties : mood, preposition, tense, formation of pronouns (pvp, and ce (ci + la)), or to combinations of them, but again, we cannot give any justification for doing so, that would go beyond more constatation of facts. Moreover, such statements would have a certain validity only if an exhaustive study of operator verbs in French had been accomplished.

We can only remark that combinations of these syntactic properties seem to classify all operator verbs into semantically natural families.

We summarize the facts we observed about reduction :

- the position of the referent N_i may vary (N_o or N_1) ;

- the nature of the referent may vary (N_{hum} or N_{unr}) ;

- there are various tense constraints ;

- there are various cases where reduction is restricted to certain V_2's ;

- there are cases of direct complements with the preposition de, and others without (fn 6).

All these features will be considered as independent. They are in fact much more complex, and each of them should be refined into several, which could then correspond to "batteries" of transformations (Hiz).

Whatever the difference occurring with the various types of verbs, we find a common operation in the reduction process :

ce, que, N_2, and T are zeroed, and replaced by : inf. or by : de inf.

1.6.2 Operator verbs with conjunctional properties.

A verb like équivaloir behaves very much like a conjunction does. Sentences like :

La peinture équivaut à la musique.

Que Jean vienne équivaut à ce que Pierre parte.

are acceptable, because subject and complement have a certain similarity, but the sentences :

Que Jean vienne équivaut à la musique.

or :   La peinture équivaut à ce que Pierre parte.

are very hard to accept. Their restrictions remind of the ones that can be found with conjunctions :

Paul aime la peinture et la musique.

Paul aime que Jean vienne et que Pierre parte.

but :   ?*Paul aime la musique et que Pierre parte.

A phenomenon similar to comparative, is found with préférer :

    Paul préfère la peinture à la musique.

    Paul préfère que Jean vienne à ce que Pierre parte.

but : *? Paul préfère la peinture à ce que Pierre parte.

Préférer is such that its two sentential complements can reduce with its subject as referent, in :

    Paul préfère venir à partir.

Paul is understood as subject of both venir and partir.

With reconnaître which has a related structure, we have for example :

    Paul reconnaît que Jean est venu à ce que Pierre est parti.

   In both cases à ce que S is not a source for y. But here we do not find these conjunctional properties :

    Paul reconnaît Jean à ce que Pierre est parti. is acceptable,

and only the direct que S complement is reducible.

   The verbal expression : aimer mieux as in :

    Paul aime mieux la peinture que la musique.

    Paul aime mieux dîner que dormir.

is intermediary between préférer and the general comparative construction with plutôt.

2. Pseudo cleft sentences.

Following Rosenbaum, we will call pseudo cleft sentences, sentences of the type :

Ce qui amuse Jean, c'est que Pierre vienne.

Ce que je raconte à Jean, c'est que Pierre est venu.

Ce que je veux, c'est (qu'il vienne + venir).

Ce que je dis de Pierre, c'est qu'il doit venir.

Ce à quoi je tiens, c'est à (ce que S subj. + $V_2 \Omega$).

Ce dont je rêve, c'est (de (ce que S + $V_2 \Omega$) + que S).

Sentences obtained by extracting a phrase from S in : C'est que S were called cleft sentences by Lees; the motivation for the name pseudo cleft is the presence of the morphemes ce, être, que in the corresponding sentences, and also some feeling of "emphasis" attached to them.

2.1 Properties.

These sentences can be described in the following way :

2.1.1 The first member has the structure of a relative clause with no antecedent. The main verb of this relative clause is an operator verb, and we have to make a distinction with respect to U's and to W's.

U's cannot appear alone as main verb of the relative clause :

*Ce que Jean doit, c'est travailler.

---

*Ce (que + à quoi) Jean continue, c'est à travailler.

?*Ce (que + dont) Jean se hâte, c'est de travailler.

---

but we have (Klima [1]) :

> Ce que Jean doit faire, c'est travailler.
> _____
>
> Ce que Jean continue à faire, c'est à travailler.
>
> Ce que Jean se hâte de faire, c'est de travailler.
> _____

These sentences with the pro-verb faire are not restricted to U's; we find them with W's :

> Ce que je (veux + aime) faire, c'est travailler.
> _____
>
> Ce que je tiens à faire, c'est à travailler.
> _____
>
> Ce que je rêve de faire, c'est de travailler.
> _____

but here the first member is a relative clause of the direct object type, and the second member only contains the infinitive predicate; sentential complements are not allowed :

> *Ce que je (veux + aime) faire, c'est qu'il vienne.
>
> *Ce que je tiens à faire, c'est à ce qu'il vienne.
> _____
>
> *Ce que je rêve de faire, c'est (de ce + E) qu'il viendra.
> _____
>
> *Ce à quoi je tiens à faire, c'est è (ce qu'il vienne + venir):
> _____
>
> *Ce dont je rêve de faire, c'est de (ce qu'il viendra + venir).
> _____

The study of pseudo-cleft sentences with faire presents various problems connected with the nature of the pro-verb faire. Faire in such positions is also found in connection with ne...que restriction; we have pairs like :

> Jean travaille.
> _____

> Jean ne fait que travailler.
> _____

where Jean is the subject of travailler. The sentence :

> Jean fait travailler.
> _____

cannot be taken as a source for the restricted one, since here Jean
is not the subject of travailler, the subject being understood
as undefined.

The reason for calling here faire a pro-verb is that with
respect to our analysis, we find that faire appears as a superfluous
element; very much like in sentences where a noun is detached,
a corresponding redundant pronoun takes its place. Another sentence
type that also contains the pro-verb faire is :

> Jean fait autre chose que travailler. (Jean subject of tra-
> _____
>   vailler.

We will restrict ourselves to the study of pseudo cleft
sentences without the pro-verb faire; their operator verb will be
a W.

2.1.2 The second member is composed of c'est (not restricted to present
       tense) and of a sentential complement that corresponds to the
       operator verb of the first member. All constraints we found between
       operator verbs and their sentential complements are again found in
       pseudo cleft sentences :

- mood :   *Ce que je raconte, c'est qu'il vienne.

               *Ce que je veux, c'est qu'il vient.

- expectancy in :

               Ce que Jean dit de Pierre, c'est qu'il doit venir.

il is understood as referring to Pierre, and the sentence :

               Ce que Jean dit de Pierre, c'est que Paul doit venir.

is very odd ;

- tense agreement is the same ;

- constraints of difference between N_o and N_2 :

      'the sentence : Ce que tu veux, c'est que tu viennes.

is very odd, if grammatical at all ;

- reduction properties are all the same : same conditions $N_2 = N_i$, same tense constraints, same prepositions, etc.

2.2 Structure.

2.2.1 Detachment of noun phrases.

As a first step to analyzing pseudo cleft sentences, we will consider an operation of detachment somewhat different from the one described in Chapter II, and which always involved a pvp. Here, when a noun phrase is detached from its position, the pronoun cela (less

comfortably ceci) replaces it. An immediate consequence is that only non-human nouns can be detached in this way, but there are further restrictions. We have for example :

Le travail est important.

$\longrightarrow$ Le travail $\#$ cela est important.

In the resulting sentence we find again the same special pattern of pause-intonation, and le travail can be permuted. In such sentences le travail is always understood with generic meaning, which is even clearer in :

? Le livre est important.

$\longrightarrow$ Le livre $\#$ cela est important.

where again the meaning of le livre is generic, and can by no means refer to an already mentioned book.

This operation of detachment applies as well, when the article is indefinite :

?* Un livre est important.

$\longrightarrow$ Un livre $\#$ cela est important.

with a related type of generic meaning, and a sentence like :

Un des livres $\#$ cela est important.

is rather difficult to interpret.

This detachment is not restricted to subjects of sentences with
être and adjective; we have for example :

<div style="text-align:center">(le + un) livre intéresse Jean.</div>

<div style="text-align:center">——→ (le + un) livre ≠ cela intéresse Jean.</div>

nor is it to singular :

<div style="text-align:center">les livres ≠ cela intéresse Jean.</div>

In non-subject positions, nouns with the same generic meaning are
detached in the same way :

in : Jean pense à cela ≠ au livre.

livre may have a generic meaning. Sentences like :

<div style="text-align:center">Jean pense à cela ≠ (à un livre + au livre qu'il a acheté).</div>

acceptable too, have a different interpretation.

The fact that a generic meaning is imposed to definite and indefinite
noun phrases may be something restricted to subject positions, and that
cannot be accounted for, without studying other related cases; for
example, the sentences :

<div style="text-align:center">(mon + ce) travail ≠ cela est important.</div>

do not involve any generic meaning.

In the position subject of : être Adj. we have the following
peculiarities :

- rather than sentences with cela we find sentences with c'

> (le + un) (travail + livre) # c'est important.

c' (or ce) is here a reduction of cela :

> cela very often is contracted into ça independently of the position :

> Ça amuse Jean.

> Jean pense à ça.

but ça is not allowed in front of est, était :

> *Ça est important.

In this case a becomes /ǝ/(cheva), which is a rule that also applies to la
(article or pvp) in front of a vowel :

	*la étreinte	;	*Je la étonne.
but :	l'étreinte	;	Je l'étonne.

The rule : /a/ —→ cheva, is obligatory in front of the forms of être
that begin with a vowel, but optional, depending on style of speech, in
front of a consonant; we find both :

> (ce + ça) n'est pas important.

> (ce + ça) sera important.

Sentences with ça are colloquial, with ce they have a literary
flavour.

In other cases ça and not ce has to appear in front of a vowel :

> Ça a été difficile.

- the agreement rules for gender and number present the following feature :

> La culture # c'est important.

but :   *La culture # c'est importante.

> Les livres # cela intéressera Jean.

but :   *Les livres # cela intéresseront Jean.

> Les hommes # c'est brutal.

but :   *Les hommes # c'est brutaux.

These facts are accounted for, by ordering the rules in such a way
that detachment applies before agreement.

In the position subject of être N, we find forms where the agreement
is kept through detachment :

> Les hommes sont de curieux animaux.

⟶   Les hommes # ce sont de curieux animaux.

The form with no agreement :

> Les hommes # (cela + ça) sont des animaux curieux.

is ungrammatical.

2.2.2 Detachment of sentential phrases.

Not only nouns can be detached :

> Que S subj. est (intéressant + une bonne idée).
> ──

[detach] :→ Que S subj.#(cela +c') est (intéressant + une bonne idée)
──

[detach p] :→ (cela + c') est (intéressant + une bonne idée#que S subj
──

> Que S subj. amuse Jean.
> ──────────────────────

[detach] :→ Que S subj.# (cela + ça) amuse Jean.

[detach p] :→   (cela + ça) amuse Jean # que S subj.
                             ──────────────────────────────────────

In all these examples, que S subj. is subject, and can be replaced by its reduced form : $V\Omega$ in preverbal position, de $V\Omega$ in post verbal position,

(i.e. before and after [detach p] applies). (fn 7)

In complement positions we find :

> Jean (sait + dit) que S.
> ───────────────────────

⟶ Jean (sait + dit) cela # que S.
     ──────────────────────────────

que S when permuted in front position yields less natural sentences. We also have :

> Jean tient à cela # à ce que S subj.
> ──────────────────────────────────────
> Jean rêve de cela # de ce que S.
> ──────────────────────────────────

but in these cases the detached phrases are not permutable.

2.2.3 Detachment and pseudo cleft sentences.

A. Non-prepositional cases.

The detached phrase does not seem to be permutable in the following sentence :

$$\underline{\text{L'idée est que S subj.}}$$

$\longrightarrow$ (1) : $\underline{\text{L'idée} \neq \text{c'est que S subj.}}$

$\longrightarrow$?* $\underline{\text{C'est que S subj.} \neq \text{l'idée.}}$

(1) has a description very similar to the description of pseudo-cleft sentences that was given in § 2.1 : the first member l'idée is a noun phrase, and the second member is c'est followed by a sentential complement (fn 8). The two members of pseudo cleft sentences are difficult to exchange :

$$\underline{\text{?*C'est que Jean viendra, ce que je sais.}}$$

We will analyze pseudo cleft sentences in the following way :

- the feeling one has about the fact that these sentences are made of two separate members, is described as a consequence of detachment as in :

(2) : $\underline{\text{Ce que N}_o\text{W est que S (E + subj.).}}$

$\longrightarrow$ $\underline{\text{Ce que N}_o\text{W} \neq \text{c'est que S (E + subj.).}}$

- the relative clause ce que $\underline{\text{N}_o\text{W}}$ is of the type that we described

in Chapter V § 2.2.2.III : the head is the zeroed pronoun $\underline{lui}_{+z}$.

Que S (E + subj.) phrases in operator structures were considered as modifiers of the zeroed pronoun : $\underline{lui}_{+z}$ preceded by the determiner $\underline{ce}$ possibly zeroed. Our description of (2) is compatible with this analysis :

(2) is composed of two elementary structures :

(3) : $\underline{N_0 \ W \ celui_{+z}}$ and (4) : $\underline{celui_{+z} \ est \ que \ S \ (E + subj.)}.$

(2) is the result of relative clause embedding of (3) into (4) $\underline{lui}_{+z}$ being relativized (fn 9).

We will analyze operator structures like :

(5) : $\underline{N_0 \ W \ que \ S \ (E + subj.)}.$

in the same way :

(3) and (4) are the elementary components of (5),
(4) is embedded into (3) and $\underline{lui}_{+z}$ is zeroed.

The same applies to sentential subjects.

We omit various details (zeroing of $\underline{ce}$, etc.) that belong to the corresponding pronominalization and relativization processes.

B. Prepositional cases.

Pseudo cleft sentences corresponding to $\underline{W}$'s that take

prepositional sentential complements present a new problem. Consider the exemple of :

$$\underline{\text{tenir à ce que S subj.}}$$

If we follow the line of analysis that we adopted for $\underline{\text{que S}}$ (E + subj.) in non-prepositional positions, we could say that the kernel strings are :

(6) : $\underline{\text{N}_o \text{ tient à ce lui}_{+z}}$ and : (4) : $\underline{\text{Celui}_{+z} \text{ est que S subj.}}$

- embedding of (4) into (6) and zeroing of $\underline{\text{qui}}$, $\underline{\text{T}}$, $\underline{\text{être}}$ would yield the operator structure : $\underline{\text{N}_o \text{ tient à ce que S subj.}}$;

- embedding of (6) into (4) and detachment would yield :

$$\underline{\text{Ce à quoi N}_o \text{ tient, c'est que S subj.}}$$

which is a dubious form.

The important point here is that this process cannot yield the form :

$$\underline{\text{Ce à quoi N}_o \text{ tient, c'est à ce que S subj.}}$$

where two identical prepositions appear.

In order to account for these constructions, we are lead to assume kernel structures of the forms :

$$\underline{\text{Celui}_{+z} \text{ est (à + de) ce que S (E + subj.).}}$$

The $\underline{lui}_{+.z}$ that appears here is of a new type, differing from the others we met by the fact that it imposes a preposition ($\underline{à}$ or $\underline{de}$) to its attribute.

In the case A, part of our motivation for using such kernel structures was the parallelism between sentences like :

<div style="text-align:center">

C'est que S.

L'idée est que S (E + subj.).

</div>

In the case of prepositional complements, the analogy is weaker; we do not find in French, isolated sentences of the types :

<div style="text-align:center">

(N + ce) est (à + de) ce que S (E + subj.).

</div>

Sentences like :

<div style="text-align:center">

Son entêtement est à (ce que S subj. + V_2⌒) are not

</div>

grammatical. However, we already met noun phrases like :

<div style="text-align:center">

la (crainte + nécessité) de ce que S subj.

</div>

and we also have, with the preposition $\underline{à}$:

<div style="text-align:center">

le (renoncement + entêtement) à ce que S subj.

</div>

In order to analyze these phrases we have to attach to a noun, complements of the forms : ($\underline{à}$ + $\underline{de}$) $\underline{ce}$ $\underline{que}$ S (E + subj.). The attachment through relativization seems natural. We find it with various prepositional phrases that are attributes. For example, we have the pairs :

l'homme qui est de Rio,   and : l'homme de Rio

les skis qui sont en métal,   and : les skis en métal

le citadin qui est à la

campagne,   and : le citadin à la

                     campagne.

We have now the following types of derivations, starting from :

(6) : N_0 tient à celui$_{+z}$.   (7) : Ce lui$_{+z}$ est à ce que S subj.

-embedding of (6) into (7) and detachment yields :

Ce à quoi tient N_0, c'est à ce que S subj.

When allowed by W, à ce in the second member can be zeroed through [pc z].

- embedding of (7) into (6) followed by zeroing of qui, T, être yields the string :

N_0 tient à ce lui$_{+z}$ à ce que S subj.

In order to obtain the correct structure, one of the two strings à ce would have to be zeroed.

This zeroing of a repeated preposition will not be limited to V_0's like tenir, but will have to be defined for all verbs that have complements of one of the types : (à + de) ce que S (E + subj.).

In general, this phenomenon does not occur with relative clauses; the antecedent may have any preposition, and the relative pronoun retains any preposition found in the embedded sentence. Thus we find at the juncture of the two components, sequences like :

(à + de + par + pour + sur + ...) l'homme (à + de + par + pour + sur + ...) qui.

(à + de + par + pour + sur + ...) la chose (à + de + par + pour + sur + ...)quoi.

However, there are cases where the two prepositions have to be identical, and one of them is zeroed. Consider the following cases of relative clauses without antecedent (nilpotent sharing in Harris' terminology) to be distinguished from the superficially identical strings found with indirect questions.

Je frappe qui (m'ennuie + Jean ennuie).

Qui (m'ennuie + Paul ennuie) amuse Pierre.

We have the four cases of attachment of a subject or an object, to a subject or an object.

Prepositional complements cannot be attached to subjects or objects:

*Je frappe (à + de) qui je parle.

*(à + de) qui je parle amuse Pierre.

To prepositional complements it is possible to attach :

(i)   subjects :   Je ne parle pas (à + de) qui m'ennuie.

(ii) objects :   Je ne parle pas (à + de) qui il ennuie.

(iii) prepositional complements with identical prepositions :

<div style="text-align:center">

Je ne renonce pas à qui je tiens.

Je ne tiens pas à qui je renonce.

J'ai parlé de qui tu as rêvé.

</div>

But prepositional complements with a different preposition cannot be attached : there is no way to combine in a manner similar to what we have in the preceding examples sentences like :

<div style="text-align:center">

Je tiens à quelqu'un,   and :   Je parle de ce quelqu'un.

</div>

where quelqu'un is to be relativized, they would yield :

<div style="text-align:center">

*Je tiens à de qui je parle.

*Je parle de à qui je tiens.

</div>

Although this type of relativization is limited to the human relative pronoun qui, it seems to us that these phenomena make plausible our analysis of pseudo cleft sentences. The fact that we need pronouns $\underline{lui}_{+z}$ with special properties that restrict the type of modifiers to be attached to them is not an ad hoc feature; we find it with nouns, for example fait, événement do not accept, for example, "possessive" complements : *son (fait + événement).

2.2.4 Consequences of the analysis.

The same device enables us to treat various features that otherwise are difficult to cope with.

A. Source of prepositions.

Depending on the V_o, when que S (E + subj.) in subject or object position is reduced to an infinitive predicate, we saw that we could have de or no preposition in front of it. We will analyze the sentential direct objects as follows :

- for verbs without preposition de, que S (E + subj.) will be considered as an adjectival attached to lui $_{+ z}$ direct object ;

- for verbs with preposition de, que S (E + subj.) will be considered as a noun complement of lui $_{+ z}$, and it will have the under-
lying shape : de ce lui $_{+ z}$ que S (E + subj.), and to which [pc z] applies.

The fact that this noun complement cannot become a source of pronoun (pvp en or relative pronoun dont) is a consequence of the fact that the head of the phrase is already a pronoun. While we have :

Je vois le toit de cette maison.

$\longrightarrow$ J'en vois le toit.

we cannot have :

Je vois celui de cette maison.

$\longrightarrow$ *J'en vois celui.   (fn 10)

We will treat in exactly the same way, various verbs that have a direct object infinitive complement with preposition à. Sources for :

$\underline{N_o \text{ apprend } (E + \text{à } N_1) \text{ à } V \curvearrowright .}$

will be : $\underline{N_o \text{ apprend } (E + \text{à } N_1) \text{ à ce que S subj.}}$

which corresponds to sentences actually found in French.
They will have in turn for sources :

$\underline{N_o \text{ apprend ce lui}_{+z} \text{ à ce que S subj. } (E + \text{à } N_1).}$

We can describe <u>chercher</u> in the same way by considering that
its basic structure is :

$\underline{N_o \text{ cherche ce lui}_{+z} \text{ à ce que S subj.}}$

which explains why <u>à ce que S subj.</u> is not a source for <u>y</u> while
it can be one for <u>le</u>.

We will consider that sentential subjects are of the type :

$\underline{\text{ce lui}_{+z} \text{ de ce que S subj.}}$

and that they reduce to : <u>de</u> $V \curvearrowright$. <u>De</u> is found in pseudo cleft
sentences, in detached phrases, and impersonal constructions, but
is zeroed in the basic operator structure :

<u>De faire ceci amuse Jean.</u>	is substandard;
<u>Faire ceci amuse Jean.</u>	is correct ;
<u>Ce qui amuse Jean, c'est de faire ceci.</u>	is correct ;
<u>Ce qui amuse Jean, c'est faire ceci.</u>	is less natural.

B. Properties of lui $_{+z}$.

Our analysis relies heavily upon a number of properties that the reconstructed pronoun lui $_{+z}$ carries. Among these we find :

- reductibility of que S (E + subj.) ;

- lui $_{+z}$ carries the "address" of the referent needed for zeroing the subject of its sentential complement. (fn 11).

- lui $_{+z}$ has to "transmit" tense and mood constraints ;

- lui $_{+z}$ has restricted modifiers ;

All these properties are the "operator" properties that motivated the present study, and the result is that operator properties are attached to nouns rather than to verbs. Verbs are associated with them in the same way that class restrictions on subject and complements are attached to verbs.

As a matter of fact, most of the operator properties are found with actual nouns :

- que S (E + subj.) in the position attribute of l'idée, l'impression reduces :

(l'idée + l'impression) est que S (E + subj.)

$\longrightarrow$ (l'idée + l'impression) est de $V_2 \Omega$.

que S attribute of la preuve does not reduce :

$\longrightarrow$ *La preuve est de $V_2 \Omega$.

- nouns like espoir, crainte, allow a future V_2 (when être in present)

while nouns like habitude do not allow futurefor V_2 :

*L'habitude est que Jean y aille demain.

*L'habitude est d'y aller demain.

- there are various kinds of que S (E + subj.) noun complements :

we find the phrases : la crainte (E + de ce) que S subj.

and the sentence : la crainte est que S subj.

but not the sentence : la crainte est de ce que S subj.

We also find other types of phrases :

le fait que S (E + subj.) are correct

but : *le fait de ce que S (E + subj.)

and the sentence :

Le fait est que S.

seems to be an idiom unrelated to the preceding phrases ;

- various types of positions for the referent of N_2 can be found according to the noun that que S (E + subj.) modifies; for example :

in : Jean donne à Pierre l'idée de s'en aller.

Pierre is the subject of s'en aller, not Jean ,

in : Jean donne à Pierre l'impression de s'en aller.

Jean is the subject of s'en aller, not Pierre.

A verb like promettre can have for object lui_{+z} with a marker
that indicates N_o as referent for the reduction of its modifier
que S. But when instead of lui_{+z}, promettre has moyen for object,
then the referent for que S subj. modifier of moyen is N_1.

in : Jean a promis à Pierre de partir, Jean is subject of partir.

in : Jean a promis à Pierre les moyens de partir, Pierre is subject
of partir.

These properties are kept with the corresponding analogs of
pseudo cleft sentences :

L'idée que Jean donne à Pierre, c'est de s'en aller.

L'impression que Jean donne à Pierre, c'est de s'en aller.

Here $celui_{+z}$ is replaced by l'idée, l'impression, but the
analysis would be entirely similar (embedding, detachment) (fn 12).

To broaden the scope of the study of operator properties it
will be necessary to examine "operator nouns" as well as "operator
adjectives". Some properties are more general than the ones we
found for "operator verbs" :

in : J'ai trouvé chez Jean une envie furieuse de s'en aller.

the infinitive has for subject a noun with preposition chez, which
has not been found for operator verbs.

Reduction of que S (E + subj.) does not seem to occur without preposition (in most cases : de).

There are problems of determiners, for example : le fait que S (E + subj.) is correct but not : un fait que S (E + subj.). The nature of the definite article (generic ?) is not clear.

There are problems of transformations of verbs and adjectives into nouns, and perhaps vice versa.

The questions we just raised are all more or less connected with the verb être that appears between an operator noun and a sentential phrase. A study of these nouns will presumably introduce the verb avoir that is also related to the problem. For exemple : avantage has properties that idée has too :

	L'(avantage + idée) est (que S subj. + de $V_2 \Omega$).
and :	Jean a l'(avantage + idée) (que S subj. + de $V_2 \Omega$).
but :	*Que S subj. a l'idée que S subj.
while :	Que S subj. a l'avantage que S subj. is correct.

A pour N_1 complement may occur with avantage but not with idée.

It is not always clear how to express these differences. One could say for example that avoir together with an operator noun, with definite article, form an operator verb that can have various types of subject :

N_{hum} for avoir l'idée, and N_{unr} for avoir l'avantage.

and various types of complements.

C. Related forms.

The following types of sentences are also related to pseudo cleft sentences :

Que S (E + subj.) est ce (qui étonne Jean + que Jean veut).

Que S (E + subj.) est ce à quoi Jean pense.

Que S (E + subj.) est ce dont Jean rêve.

They have the general form :

Que S (E + subj.) est ce Relative clause.

We also find the "mirror" corresponding forms :

Ce Relative clause est que S (E + subj.).

and the detached forms :

Que S (E + subj.) ≠ c'est ce Relative clause.

C'est ce Relative clause ≠ que S (E + subj.).

The same kernel structures and relativization operations that were used for operator structures and pseudo cleft sentences, are also used for analyzing these sentences, which gives further support to our analysis.

3. Remarks on operator structures.

3.1 Zeroing of N_2.

In order to zero N_2 the following operations are needed.

- a referential operation connects N_2 to its N_i ;
- then, que, N_2, and T are zeroed.

To perform the zeroing of these items, we will use operations that we defined previously :

extraction of N_2

zeroing of N_2

zeroing of que and T, noted [que T z] in the preceding chapter.

The reasons for operating via extraction are, first that the result is such that [que T z] as previously defined can apply, second that the zeroing of N_2 is no longer a special case of zeroing, but is exactly the same as the one that occurs in relative clause formation : two nouns being identical (same reference), one of them is extracted, placed left of a que, and then zeroed or pronominalized.

There are a few cases where N_2 is not zeroed but submitted to further transformations like relativization as in :

? l'homme que je (sais + dis) qui a fait cela,

which is a somewhat substandard phrase; when [que T z] applies to it, we obtain the more natural corresponding form :

l'homme que je (sais + dis) avoir fait cela.

3.2 Determinacy of the reduction process.

The reduction process has various degrees of freedom :

- with verbs like croire, dire, craindre, it is entirely optional, when
the condition $N_2 = N_i$ is met ;

- with verbs like, aimer, vouloir, the process is obligatory when $N_2 = N_i$;

- with U's, one could imagine a third type of conditions. In the two
preceding cases, the condition $N_2 = N_i$ is only optionally met; it would be
possible to say that U's have in fact a sentential complement (i.e. they
are W's),   that, for these verbs, the condition $N_2 = N_i$ has to be
obligatorily met, and that the reduction is also obligatory. Such a
condition $N_2 = N_i$ is not new, and occurs with relative clauses as well : it
is not possible to embed a sentence into another if they do not share a
common noun.

This solution does not, in general, bring any new element to our
description of U's. In particular, there would not still be any explanation for
the absence, from the infinitive part, of nominal properties (pronominali-
zation, pseudo cleft sentences, absence of corresponding non-sentential
complements, etc.). In certain cases the clear cut properties of the
infinitive part, together with the absence of sentential complement make this
solution quite reasonable :

- for V_{mt}'s, the infinitive complement has place adverbial properties; as a
consequence it could enter the following type of pseudo cleft sentences :

?Ce où il court, c'est voir Pierre.

- for commencer, finir, with preposition par, we find :

Ce par quoi elle (commence + finit), c'est par boire.

which confirms that the infinitive complement has nominal properties.

3.3 Problems related to the subjunctive.

3.3.1 Subjunctive and operator verbs.

We have seen that certain verbs require subjunctive complements, while others do not. The facts are however less simple than this : .croire for example does not allow subjunctive :

> Jean croit que Pierre peut arriver.

and :   *Jean croit que Pierre puisse arriver.

but the sentences with subjunctive :

Jean (croit-il + ne croit pas + ne croit-il pas) que Pierre puisse arriver.

are all correct. The subjunctive can be induced by interrogation and negation,but not for all operator verbs :

> *Jean ne sait pas que Pierre puisse arriver.

Induction of subjunctive may occur in certain compositions of operator structures :

> Jean veut que ce soit Pierre qui vienne.

while :   *Jean veut que ce soit Pierre qui vient.   (fn 13)

In this example vouloir imposes the subjunctive on être which in turn induces it on venir. Not all verbs transmit subj. like être does here :

*?Je veux qu'il sache que Jean vienne.

is odd because of the subjunctive form of venir; the sentence :

Je veux qu'il sache que Jean vient.

is entirely correct.

This type of transmission could be restricted to C'est que S, and Il y a que S sentences only.

3.3.2 Subjunctive and relative clauses.

The verb of a relative clause is in general in indicative form. In certain positions it can be subjunctive, for example :

J'exige une secrétaire (qui sache recevoir mes collègues + que mes collègues puissent apprécier).

while :   *J'exige la secrétaire qui sache recevoir mes collègues.

These examples show the influence of the determiner of the head of the relative clause, but the phenomenon also depends on the main verb :

*Je mange un rôti qui soit saignant.

Similarly to what we found for operator verbs, the form (interrogative negative) of the verb plays a rôle :

Il connait un cuisinier qui sait le faire.

*Il connait un cuisinier qui sache le faire.

but the sentences :

(connait-il un + il ne connait pas de + ne connait-il pas un)

cuisinier qui sache le faire.

are all correct.

The influence of the determiner is not such that subjunctive is associated with indefinite, and indicative with definite; this is shown by the following examples :

Je mange le seul gâteau qui soit bon.

seul (and also unique) have to be incorporated in this study. We also have :

*Je vois Jean qui puisse le faire.

and : Je ne vois que Jean qui puisse le faire.

In all these examples, associated with subj. we find a semantic flavour of existential quantifier, with quantified elements that are restricted to a particular set. This is also felt in the following Il y a que S sentences :

Il y a Jean qui peut le faire.

*Il y a Jean qui puisse le faire.

Il n'y a que Jean qui puisse le faire.

Il n'y a que (deux + trois + ...) personnes qui puissent le faire.

Tenses, and, presumably, more general elements than tenses could be involved, as can be seen from :

J'ai trouvé une secrétaire qui fait l'affaire.

---

but :   *J'ai trouvé une secrétaire qui fasse l'affaire.

---

while :   J'espère trouver une secrétaire qui fasse l'affaire.

---

and :   *Je crois trouver une secrétaire qui fasse l'affaire.

It is not clear whether similar facts may occur with relative clauses attached to other positions than direct objects. Further facts about subjunctive induction are given in the next chapter, § 5.

3.4 Operator structures and embedding.

The analysis of operator structures presented here, shows a certain similarity between sentential phrases and relative clauses; however, there are important differences.

The transformations : [extraction], [relativization], and [question] share a common property : roughly speaking they involve a permutation that takes a phrase in a sentence and puts it at the left boundary of the sentence, this left boundary being marked by the morpheme que, for example :

C'est que Jean achète ce gâteau.

⟶   C'est ce gâteau que Jean achète.

---

and from :   Jean achète ce gâteau.   (or something similar)

---

we have :   le gâteau que Jean achète.

---

and : Qu'achète Jean ?

It has been noticed by Lees that there are restrictions on such a permutation : it is not possible to take a phrase of a relative clause, and to put it at the left of the sentence : starting with :

Jean achète le gâteau que Jeanne lui a montré.

we cannot have the corresponding forms :

*(C'est Jeanne que + Jeanne qui + qui) Jean achète le gâteau que lui a montré.

But it is possible to take a phrase of a sentential complement and to permute it, from :

Jean croit qu'elle pense à Pierre.

we obtain the correct forms :

C'est à Pierre que Jean croit qu'elle pense.

l'homme à qui Jean croit qu'elle pense.

A qui Jean croit-il qu'elle pense ?

The same transformations are allowed on reduced sentential complements, often more comfortably :

?C'est à Paris que Jean dit qu'elle aille.

C'est à Paris que Jean dit à Jeanne d'aller.

It is a problem how to state these differences between the two types of embedding. In particular it is not possible to restrict the phrases that can be permuted by some condition that would state that domination (in a tree structure) by the symbol S precludes such a permutation ; presumably a complex rule schemata is needed, of the type mentioned in Chapter II, footnote 4. Another way to proceed would be by saying that permutation can apply only once to an S. In a relative clause, the permutation has already applied, but not in a sentential complement (except perhaps for infinitive complements).

3.5 Infinitive indirect questions".

We mentioned such forms (Chapter IV, § 1.2.2) as :

Jean sait (comment + quoi + ...) faire.

They occur with various operator verbs; we have :

Jean lui demande (comment + quoi + ...) faire.

Jean lui dit (comment + quoi + ...) faire.

These two sentences are understood differently; with demande, Jean is the subject of faire, while with dit, the pronoun lui is the subject.

The corresponding direct questions :

Comment faire ?

(Quoi + que) faire ? ...

are understood with the speaker as subject of faire, which supports Harris'

analysis of questions, where je demande, (I wonder) or (dis + dites) moi, (tell me) is zeroed.

The infinitive indirect questions retain the direct object properties of their sentential source, as for instance, in :

Ce que Jean lui (dit + demande), c'est comment faire.

Notes

Fn 1   In examples like :

que S subj. dépend de N_1.

reduction of que S subj. to $V_2 \Omega$ does not involve the condition $N_2 = N_1$.

The sentences are understood with undefined subject for $V_2 \Omega$. The way to treat such cases is not clear. We could either use this class marker, or use a property needed for que S in direct positions : unrestricted positions (here $N_1 = N_{unr}$) cannot be used as referent for N_2.

Fn 2   As Harris pointed out, a mirroring operation is needed for obtaining stylistic variants of sentences of the type : X est Y, the result being : Y est X. In this case, if this operation is to apply, it will have a more complicated effect than this simple transposition :

| que S subj. | in : | Que S subj. est la solution. | can be a source for ce (ci + la). |
| while in : | | La solution est que S subj. | it cannot. |

Moreover, there is a problem about the direction in which the transformation operates.

Fn 3   The case of compter is exceptional in many respects; we do not have :

$$N_0 \text{ compte sur ce que S.}$$
$$\longrightarrow *N_0 \text{ compte sur } V_2 \curvearrowright.$$

the same is true for the preposition en.

Fn 4   The condition $N_2 = N_0$ where N_2 is the subject of a sentence complement is also found in the following type of zeroing :

$$\text{Jean mange (quand + où) il peut manger.}$$
$$\longrightarrow \text{Jean mange (quand + où) il peut.}$$

Sentences like :

$$\text{Jean mange (quand + où) tu peux.}$$

with $N_2 \neq N_0$ are very odd or unacceptable.

Fn 5   The same type of interpretation can be given to :

$$\text{Pierre promet à Jean que Paul a bu cette bouteille hier.}$$
$$= \text{Pierre promet à Jean qu'on lui dira que Paul a bu cette bouteille hier}$$

and to other verbs that "project" future on their sentential complements.

Fn 6   We find the same groups of reduction with subordinate sentences; some like :

(pour + sans) que S subj.   reduce to :

(pour + sans) V⌁.

others like :

(à condition + à force + afin) que S subj.   reduce to :

(à condition + à force + afin) de V⌁.

and a third type does not reduce at all : pourvu que S subj, si bien que S for example.

In the case of reduction with introduction of de, since the forms :

(à condition + à force + afin) de ce que S subj.   are not

correct, we are faced with the problem of the source of de that we have for operator verbs.

Fn 7   In traditional grammars, sentences like :

C'est intéressant, (que S subj. + de V⌁).

are often considered as impersonal constructions, variants of :

Il est intéressant (que S subj. + de VΛ).
_____

The analysis we gave for these sentences shows in what sense they are related :
for both cases there is a common source :

Que S subj. est intéressant.
_____

but the transformations are different.

Fn 8   The sentence :

L'idée # cela est que S subj.
_____

is not correct; the same is true for pseudo cleft sentences :

*Ce que je sais, cela est que Jean viendra.
_____

Fn 9 We could question the nature of que S (E + subj.) in post être position,
in the following way : why do we call it adjective, rather than adjective
attached to : ce lui $_{+ z}$ with these two items zeroed ? An answer is that it
allows us to attach the adjective through qui, T, être zeroing, while nouns
are in general not attached to nouns in this way. Moreover, the presence of
ce lui $_{+ z}$ would entail various nominal properties (pronominalization, question,
...) which are not always found (§ 2.2.4.A).

Fn 10 We already described a similar fact in Chapter II § 2.2.3. How to
formalize its description is not clear; we could, for example, say that
obligatory rules apply to :

celui de soi

yielding :   le sien.

Fn 11 This is one of the main points of departure from Rosenbaum's analysis.
Instead of this "adress" marker, Rosenbaum uses a general principle of
minimal distance defined on tree structures. Our motivation was that, unlike
in English where to promise was given as the only exception to his principle,
in French there is a very large number of such verbs.

Fn 12 Since complements of possession are attached through relativization,
and since in sentences of the type :

L'idée de Jean est s'en aller.

Jean has to be the subject of s'en aller, these sentences can also be
analyzed by the same method.

Fn 13 In some dialects (more or less substandard) such sentences without
subjunctive may occur.

VII - IMPERATIVE CONSTRUCTIONS

1. Description

Characteristic features of imperative sentences are exhibited by the following examples :

	Present	
	Singular	Plural
1st person	*	venons
2nd person	viens	venez
3rd person	que N vienne	que N viennent

	Past (Auxiliary : avoir)	
	Singular	Plural
1st person	*	ayons mangé
2nd person	aie mangé	ayez mangé
3rd person	que N ait mangé	que N aient mangé

	Past (Auxiliary : être)	
	Singular	Plural
1st person	*	soyons arrivés
2nd person	sois arrivé	soyez arrivés
3rd person	que N soit arrivé	que N soient arrivés

(i)   a gap is found everywhere in the first person   singular ;

(ii)   we find indicative present forms in the first and second persons (singular or plural) ;

(iii) we find subjunctive forms in all third persons, and in first and second persons of past tense. These subjunctive forms are not limited to avoir and être considered as tense auxiliaries, but are found also in all other uses of these verbs :

(ayons + aie + ayez) (de l'argent + peur + à travailler + ...).

(soyons + sois + soyez) (gentils + prêts à travailler + professeurs + ...).

(gender and number have to be adjusted).

An important exception to the preceding remarks is found with the verb savoir which has the forms :

	Present	
	singular	plural
1st person	*	sachons
2nd person	sache	sachez
3rd person	que N sache	que N sachent

The root of these forms corresponds to subjunctive, but the endings correspond to indicative present : we do not have in the 1st and 2nd persons of plural the vowel i which is the mark of subjunctive. The subjunctive forms of savoir are : sachions, sachiez (fn 1). This fact questions the nature of the corresponding forms of avoir and être in the case of 1st and 2nd persons ; 3rd persons are always real subjunctive.

For :

ayons , ayez ;

soyons , soyez ;

we have now two possible analyses :

(a) : # subjunctive root # subjunctive marker # present ending #

(b) : # subjunctive root # conjugation vowel # present ending #

-(a) is the analysis of current subjunctive forms ;
-(b) is analogous to the analysis of : sachons, sachez, but there is no conjugation vowel i for savoir and for most of the verbs. This conjugation vowel appears in indicative present in verbs like traire :

trais, trayons, trayez

these forms are analogous to the imperative forms of avoir :

aie, ayons, ayez,

and in verbs like croire, voir :

crois, croyons, croyez

these forms are analogous to the imperative forms of être :

sois, soyons, soyez ;

We will thus analyze the imperative forms of avoir and être in the same way as those of savoir;

(iv)   the imperative has future tense features. This can be seen from the tense agreement between imperative verbs, and verbs occurring in a time complement adjoined to them; we have :

Qu'il vienne quand il le voudra.

and :   Il viendra quand il le voudra.

but :   *Il vient quand il le voudra.

Since we have, for reasons independent from imperative, a rule that requires for a main V to be future, when it has a time complement in future (Chapter IV § B.1.3), we are lead to assume that the imperative has a zero marked future tense.

Imperative past forms have this same feature:

we have :   (soyez installés + ayez mangé) dans quatre heures.

and :   Vous (serez installés + aurez mangé) dans quatre heures.

but :   *Vous (êtes installés + avez mangé) dans quatre heures.

2. Analysis

It has often been remarked in traditional grammars (fn 2) that imperative sentences are elliptic, and that they can be paraphrased by sentences like :

(1) : Je (veux + désire + exige + ordonne + demande + ...) que (nous mangions + tu sois installé dans quatre heures + vous veniez + Jean vienne).

Sentences (1) correspond to the imperative sentences :

(2)   Mangeons.

Sois installé dans quatre heures.

Venez.

Que Jean vienne.

Harris [6] gave a transformational analysis of English imperative constructions based on the idea that (1) is the source of (2). We propose to strengthen this point of view. We will precise and justify the rule :

Imperative sentences (2) are derived from sentences of type (1) by using transformations which erase the operator verb (veux, désire, ...) its subject Je, and grammatical constants, and which introduce a special intonation (noted : $\boxed{i}$).

Several independent facts support this analysis :

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(i)   The gap of the first person   singular is a consequence of a more
general constraint occurring between certain operator structures and their
embedded sentence (Chapter III § 3.3.3) : the two subjects must have different
referents; we have then :

> *Je (veux + désire + ...) que je (mange + vienne).
> _____

In :

> Je (veux + désire + ...) que (nous + tu + vous + N) VX.
> _____

the two subjects have different referents; the sentences are correct.

Various constraints hold between the operator verb and the embedded one,
corresponding restrictions are found in imperative sentences. For example, we have
(fn 3) :

*Je (veux + désire + ...) que vous (deviez + puissiez + vouliez + veniez de) V X.
_____

and correspondingly :

> *(devez + pouvez + voulez + venez de) V X.
> _____

(ii)   The future tense value is a consequence of the fact that the tense of
the container verb is restricted to indicative present. This can be seen from
the restrictions which appear on the tenses that certain time complements may have.
We will use the tense reconstruction technique based on tense agreement rules that
we already described in Chapter IV § 2.1.
We have :

> (3) : *Venez quand vous le pouviez.
> _____

but the sentences :

Je (voulais + (ai + aurai + avais + aurais) voulu) que vous veniez quand vous le pouviez.

are all acceptable. They cannot serve as sources for imperative sentences, since by our rule they would allow (3) to be correct. This authorizes for the operator verb the forms :

Je (veux + voudrai + voudrais) que S subj.

from which we can derive a correct sentence like :

Venez quand vous le pourrez.

and from which we cannot derive the incorrect sentence (3).

Conditional has special tense restrictions; the sentence :

Je voudrais que vous l'ayez fait hier.

is acceptable, while :

?*Je veux que vous l'ayez fait hier.

and : *Ayez le fait hier.

These examples. allow us to reject conditional, as a possible tense for the imperative operator.

For semantic reasons, we do not wish to retain an operator verb in future tense as a possible source :

Je désire que vous veniez.   and : Venez.

are reasonable paraphrases of each other, but :

Je désirerai que vous veniez.   and : Venez.

are not.

(iii)   We will then restrict the operator part to the sequence :

(4)   Je V_i pres que

V_i is the imperative container.

We exclude from (4) any modifier, like adverbs of time for example :

in the sentence :

(5)   Aujourd'hui, j'exige que vous veniez.

aujourd'hui is attached to : j'exige, but in the sentence

Aujourd'hui, venez.

aujourd'hui is attached to : venez.

The source of (6) is not (5) but :

(7) :   J'exige que vous veniez aujourd'hui.

We also want to restrict the part of the embedded sentence that will be dropped by the imperative transformation, in the case of 1st and 2nd persons. We consider the following sentences :

(8) : Toi, Jean, surveille le pot au feu.

(9) : Lui, qu'il vienne immédiatement.

where the subject is emphasized by a name and/or a pronoun. That this noun or this pronoun refers to the elliptic subject is clearly felt and confirmed by the impossibility of sentences like :

*Nous, Jean, surveille le pot-au-feu.

Possible sources for (8) are :

(10) : Je veux que toi, Jean, tu surveilles le pot-au-feu.

(11) : Toi, Jean, je veux que tu surveilles le pot-au-feu.

Adopting (10) forces us to specify in the domain of the imperative transformation the sequence between que and the embedded verb. To avoid this, we can use (11) as a source for (8), and describe the sequence toi, Jean as being at the left of a boundary marker # which can be interpreted as a pause, and which has another independent use (§ 4).

(iv)   In connection with constructions which can be related to imperative, we now describe a device involving pronominalization and used for emphasizing a whole sentence. In the sentence :

Je dis qu'il est venu, je l'affirme !

- an exclamation intonation is present ;
- the pronoun l' proposed to affirme refers to the sentence :

<p style="text-align:center">il est venu.</p>

- although dire and affirmer have many syntactic features in common, they cannot be permuted :

<p style="text-align:center">?*J'affirme qu'il est venu, je le dis !</p>

Semantically, affirmer is related to dire, and to be compatible, the two sentences have to be such that a relation holds between their main verb. A similar effect is found with conjunctions like plus exactement, plus précisément :

<p style="text-align:center">Je dis qu'il est venu, plus (exactement + précisément) je l'affirme.</p>

while :   *Je dis qu'il est venu, plus (exactement + précisément) je le sais.

where the relation does not hold between dire and savoir.

Such a relation holds between V_i's

<p style="text-align:center">Je veux que tu viennes, je te l'ordonne !</p>

while :   *Je veux que tu viennes, je le raconte !

(raconter is not a V_i),

(12) : Je veux que tu viennes, je te (l'ordonne + en (prie + conjure + supplie))!

This leads us to postulate an imperative semantic feature which is common to all these verbs and independent of the structure defined for the application of the imperative transformation, which is anyway different from the structure of verbs like prier, supplier. The V_i's that can be zeroed possess this feature.

When the imperative rule applies to (12) we obtain :

(13) : Viens, je te (l'ordonne + en (prie + conjure + supplier))!

while : *Viens, je le raconte !

That the relation holds between semantically negative verbs and syntactically negated ones, can be seen from :

Je ne veux pas qu'il vienne, je le lui interdis !

Je ne veux pas qu'il vienne, je l'en empêcherai !

but : *Je veux qu'il vienne, je le (lui interdis + en empêcherai)!

Certain restrictions on persons are found in sentences of type (13); we have :

(14) : Qu'il vienne, je l'exige !

but : (15) : *Qu'il vienne, tu l'exiges !

(15) can be correct but with a "detachment" intonation, not with an imperative intonation ; (14) can have both. This fact is a consequence of the restrictions due to this particular type of conjunction, and not to the imperative. Thus

(15) would be derived from :

*Je veux qu'il vienne, tu l'exiges !

which has the same type of oddity as :

*Je veux qu'il vienne, plus exactement tu l'exiges.

*Je vais manger, plus exactement tu vas manger.

3. Reconstruction of the container.

The different justifications (i) to (iv) we gave in the preceding section allow us to reconstruct precisely the segment which is zeroed by the imperative rule :

(i) shows only that the container verbs are restricted to a class : vouloir, exiger, ordonner, demander, ... However aimer, détester, ... which have also the restriction on the reference of the two subjects are still allowed ;

(iv) excludes aimer, détester, ... ;

(i) and (iv) show that the subject of the operator verb is : Je ;

(ii) shows that the operator verb is in present ;

(ii) and (iv) restrict the class of possible containers V_i, instead of using specific verbs, which are semantically heavily loaded; we will rather use the feature i carried by V_i ;

(iii) restricts the domain of the imperative transformation.

The difference existing between 1st - 2nd persons and 3rd persons is

natural, if we think in terms of recoverability of the deleted elements :

- for 1st and 2nd persons, the subjects are unique elements : nous, tu, vous. They are recoverable from the endings of the verb, and are independently asserted by the reflexive pronouns :

amusons-nous, amuse-toi, amusez-vous ;

- for 3rd persons, the subject is a noun phrase. If it were deleted, only a pronoun could be recovered, so that the general principle of recoverability of deleted element does not apply here. An unclear point is the fact that que is not deleted :

instead of forms like :   Qu'il parte !

why don't we have forms like : *il parte !   which used to be correct in 17th French century for example (Haase)?

4. The imperative rules.

We give here a more formal description of the rules needed for imperative.

The special forms :   sachons, sachez

lead to postulate that the marker subj does not appear in these forms, while we find it in :

sachions, sachiez

If we assume that subj has also been zeroed in avoir and être, and that the association of present tense endings to subjunctive roots follows the rules of the present tense conjugation used for traire and voir respectively, then we can adopt a uniform description for : avoir, être, savoir by ordering the root

selection rule, and the imperative rule :

- 1st - 2nd person :

(a)
$$V_2 = \text{avoir} + \text{être} + \text{savoir} :$$

[root selection]

[imperative] :   je V_i pres que N_2 subj $V_2 \longrightarrow$ #[i] V_2.

(b)
$$V \neq \text{avoir} + \text{être} + \text{savoir}$$

[imperative] :   je V_i pres que N_2 subj $V_2 \longrightarrow$ # [i] V_2.

[root selection] (case of faire and aller).

- 3rd persons :

[imperative] :   je V_i pres que $\longrightarrow$ # [i] que.

After these rules apply, pvp's are moved to the left of V_2, (fn 4) unless ne (of the negation) is present (fn 5) :

we have :	Donnez le lui.
and :	Ne le lui donnez pas.
but :	*le lui donnez.

moreover, other adjustments ("tonic" shape of pronouns) take place, in order to account for :

<div align="center">

Donnez le moi   vs. :   *Donnez le me.

Ne me le donnez pas   vs. :   *Ne moi le donnez pas.

</div>

The rules we just gave are essentially syntactic rules (i.e. they account only for shapes). The fact we used the term "imperative" should not mislead the reader; the notion "imperative" is semantic, and involves some notion of request. Although we used, in our examples, verbs of request as container verbs, suggesting that they project their meaning in some sense on the imperative sentences, we want to emphasize that the reconstruction of the container verb did not lead to a particular verb but only to a class. We expected this result since we did not try to describe the various shades of meaning covered by "imperative" but only the shapes. Some of these meanings are close to requests, others are very different although the shapes are the same. For example we have sentences like :

<div align="center">

Que vous veniez, et Jean partira.

</div>

and with exactly the same meaning (close to the one of if...then...sentences) :

<div align="center">

Venez, et Jean partira.

</div>

Similarly we have :

<div align="center">

Que (nous y allions + tu y ailles), et Jean partira.

</div>

with equivalent reduced forms :

<div align="center">

(allons-y + vas-y), et Jean partira.

</div>

We find a gap in first person   singular :

*Vais-y, et Jean partira.

while :   Que j'y aille, et Jean partira.   is correct.

Third persons do not have reduced forms either.

An analysis similar to the one given for imperative constructions could be considered. An operator verb with a meaning close to supposer, ... has to be reconstructed. The rule that deletes subjects is optional here, while it was obligatory with the imperative. The tense and class constraints between verbs are not the same as with imperative.

5.   Subjunctive induction.

We noticed (Chapter IV, § 3.4) various facts connected with presence or absence of subjunctive. In particular, we saw that negation and interrogation could induce the subjunctive on sentential complements and on relative clauses. Similar facts can be observed with imperative.

We have the following examples (Togeby) :

                          Vous faites que Pierre viendra.

while :   *Vous faites que Pierre vienne.

and :   Faites que Pierre vienne.

                          ?Faites que Pierre viendra.

(supposer seems to have similar properties).

With relative clauses attached to nouns with indefinite determiner, we have :

Vous mangez des pommes qui sont mûres.

but :   *Vous mangez des pommes qui soient mûres.

while :   Mangez des pommes qui sont mûres.

Mangez des pommes qui soient mûres.

and both correct.

These facts are a consequence of our analysis; we have :

Je veux que vous fassiez que Pierre vienne.

?Je veux que vous fassiez que Pierre viendra.

Je veux que vous mangiez des pommes qui soient mûres.

Je veux que vous mangiez des pommes qui sont mûres.

where the constraints are the same as in the derived imperative forms. Subjunctive induction is limited to certain verbs; for example, it does not occur with savoir :

Je veux que vous sachiez que Pierre viendra.

*Je veux que vous sachiez que Pierre vienne.

as a consequence we have :

Sachez que Pierre viendra.

*Sachez que Pierre vienne.

<center>Footnotes</center>

fn 1.   I am indebted to S. Shane for attracting my attention to this fact.

fn 2.   It should be remarked that this analysis is not consistent with orthography. If one agrees that the 2nd person   singular of the imperative as the form :

<center>root ≠ present tense ending</center>

then the written present tense ending should carry the letter s. In numerous instances, it does not appear (verbs of the 1st group, for example). As a matter of fact this s has to be reintroduced in certain cases like :

<center>penses y, manges en,</center>

where it is necessary for liaison, between verb and pronoun.

fn 3.   The sentence :

<center>(a) : Je veux que Jean puisse venir.</center>

is acceptable, with the meaning "authorization" of pouvoir. We can relate (a) to the sentences :

<center>(b) : Jean puisse-t-il venir !</center>

<center>Puisse-t-il venir !</center>

which express a strong wish, and that contain pouvoir, in subjunctive.

The sentence (b) could be derived from (a) by using transformations that are anyway needed for the analysis of imperative and question sentences : zeroing of an

operator structure, and permutation of the subject pvp.

fn 4   Expletive pvp's also follow the rules :

Regardez moi ça !

Ne me regardez pas ça !

fn 5   The boundary marker $\#$ is not sufficient for defining the position of the pvp's. If we say that in the context : $\#V$, the pvp's occur on the right of V, since voi(ci + la) have to be described as having the structure : $\# V$, the rule would lead to :

*Voi(ci + la) (le +la + les + en + ...).

Other examples suggest a different solution : pvp's would always be moved left of V, but in certain conditions (absence of ne) they are moved back to the right of the pn carrier :

Rendez vous en compte !

Faites lui dire que S !

Ayez en peur !

The sources of the pvp's are the complement parts of

se rendre compte de cela,

faire dire à N que S,

avoir peur de cela,

where the complements may not appear inside the verbal expression :

*faire à N dire que S, etc.

C O N C L U S I O N

The main procedure that we have been using is the following : we contrasted
sets (pairs) of constructions that presented various syntactic properties in common.
Very often, by studying pairs of strings that were superficially identical, we could
show that they differed with respect to some other syntactic property. This
procedure seems very general, and has enabled us to raise many new questions. We were
led to it, as a consequence of the following observation : there is not a single
definition (or part of speech, for example), or a single rule that does not have
some "exception". Our attitude is not to consider such items as exceptional, but we
rather think that syntactic properties (either part of definitions, or of rules) have
a classificatory function that should have some relation to semantics. In general,
the study of a property (say verbal or sentential) with respect to the lexicon, has
for result the following situation. For certain verbs (or sentences) the property
has no meaning : for example reduction to the pvp lui of an à N_{hum} complement is
irrelevant to the structure of a verb like geler in an impersonal construction. Among
verbs for which the property is relevant, there are verbs which have the property
under study, and verbs which do not (e.g. there are à N complements that reduce to
the pvp lui, and others that do not).

Most of our results could be summarized by building a matrix whose rows would
correspond to verbs, and columns to properties. A + sign at the intersection of a
row and a column would state that the corresponding verb has the corresponding
property; a - sign would assert the contrary.

Such a classification when performed on a large number of verbs has various
properties. For example, it can be easily observed that semantically related verbs
often have common syntactic properties (we gave the examples of the verbs of movement,
and of the causatives of movement; many other semantically natural classes can be

named in such a way).

Such matrices could also be a convenient basis for the classification of various types of transformations, and of the conditions in which they operate. In the sample we give hereafter, we try, for example, to separate local transformations from more global ones, but many refinements could be easily brought to this table which does not even use all the data we discussed. Also these matrices come very close to a formalized system that includes both a dictionary and grammar rules.

N₀				V	N₁										à N₂								Non local transformations			
hum	-hum				hum		-hum								hum		-hum										
		que S	→ cela			nous	S	S subj	→ cela	pvp le →	V⁰V ↑	de V⁰V ↑	de V²V ↑	si S		pvp lui →	cela ↑	pvp y ↑	S	S subj	V⁰V ↑	V¹V ↑	[passive]	[extrap]	[passive][extrap]	conjunction (N₁, N₂)
+	+	+	+	dire	-	+	+	+	+	+	+	+	+	+	+	+	-	-	-	-	-	-	+	-	+	-
+	-	-	-	raconter	-	+	+	-	+	+	+	+	-	?	+	+	-	-	-	-	-	-	+	-	+	-
+	-	-	-	promettre	?+	+	+	-	+	+	-	+	-	-	+	+	-	-	-	-	-	-	+	-	+	-
+	+	+	+	montrer	+	+	+	-	+	+	+	-	-	+	+	+	-	-	-	-	-	-	+	-	+	-
+	+·	+	+	autoriser	+	-	-	-	-	-	-	-	-	-	?	+	+	-	+	-	+	+	-	-	-
+	-	-	-	passer	-	+	-	-	-	-	-	-	-	+	+	+	-	-?	+	-	-	-	-	-	-
+	-	-	-	préférer	+	+	-	+	+	+	+	-	-	+	+	+	-	+	+	-	+	-	+	+	
+	-	-	·	reconnaître	+	+	+	-	+	+	+	-	-	+	+	+	-	+	-	-	+	-	+	-	

(The description holds only for verbs entering the frame N_0 V N_1 à N_2 ; some of these verbs enter other frames with other properties : promettre and autoriser in que S V que S for example ; we did not indicate either certain sequences of transformations).

Most of these data could be formalized, in terms of generative grammar; however, a device which to our feeling is quite unnatural would have to be repeatedly used. It should be clear from the number and variety of properties that were studied, that labelled trees are inadequate for carrying all this information. One could, of course, include in the non-terminal vocabulary a large number of symbols, but this would hide the similarity that many of them present. The use of binary features attached to terminal, or possibly to non-terminal vocabulary, seems to be more adequate. However, their use raises delicate questions in many cases ; a typical instance is the following : the reducibility of an à N complement to a pvp is both a property of the main verb, and of the complement, i.e. both have to be marked in order to have the relevant transformations apply. But clearly one of the two markers is redundant. What is generally done is to mark one the two items in the dictionary, and to derive the other marker by means of a redundancy rule. The definition, and the meaning of such rules is far from being obvious. Notice that when a grammar is presented in the form of the table we gave, such redundancy rules no longer appear.

We will conclude by insisting on the need for clarification of the nature of syntax : why are there syntactic properties, what is precisely their role ? We are confident in the fact that studies of the distribution of these properties over the whole lexicon of a language should shed some light on this problem.

Bibliography

- ARNAUD, A. ; LANCELOT, C.   - Grammaire générale et raisonnée.
                                       Paris, (1660).

- BEAUZEE, N.   - Grammaire générale ou exposition raisonnée des
                                       éléments nécessaires du langage. (1767).

- BENVENISTE, E.   [1]   - Les relations de temps dans le verbe français.
                                       B.S.L. (54), pp. 59-82, (1959).

- BENVENISTE, E.   [2]   - Le pronom et l'antonyme en français moderne.
                                       B.S.L. (60), pp. 71-87, (1965).

- BESCHERELLE   - L'art de conjuguer, Hatier, (1959).

- BIERWISCH, M.   - Grammatik der deutschen Verb. Studia grammatica
                                       n°II AKADEMIE VERLAG, Berlin, (1965).

- BONNARD, H.   - Grammaire française des Lycées et des Collèges.
                                       S.U.D.E.L., Paris, (1950).

- BRUNOT, F.   - Histoire de la langue française.
                                       ARMAND COLIN, Paris (1924).

- CHEVALLIER, J-C, ;
  BLANCHE-BENVENISTE, C. ;
  ARRIVE, M. ; PEYTARD, J.   - Grammaire Larousse du français contemporain.
                                       Larousse, Paris (1964).

- CHOMSKY, N.   [1]   - Syntactic Structures. Mouton, The Hague, (1957).

- CHOMSKY, N.   [2]   - Formal Properties of Grammars, Handbook of
                                       Mathematical psychology (D. Luce, E. Bush, E.
                                       Galanter Eds), Vol. II, John Wiley & Sons Inc.
                                       New York, (1963).

- CHOMSKY, N.   [3]   - Current issues in linguistic theory. Mouton, The Hague, (1964).

- CHOMSKY, N.   [4]   - Aspects of the Theory of Syntax. M.I.T. Press, Cambridge, Mass., (1965).

- CHOMSKY, N. ;
  SCHUTZENBERGER, M.P.   - The Algebraic Theory of Context - Free languages, in : Computer Programming and Formal Systems, (Brafford, Hirschberg Eds) North Holland Publ. Co., (1963).

- CLEDAT, L.   [1]   - Grammaire raisonnée de la langue française. LE SOUDIER, Paris, (1894).

- CLEDAT, L.   [2]   - La préposition et l'article partitifs. Revue de Philologie française, Tome 15, (1901), pp. 81-131.

- COHEN, M.   [1]   - Grammaire et style. EDITIONS SOCIALES, Paris (1954).

- COHEN, M.   [2]   - Le subjonctif en français contemporain, S.E.E.S., Paris (1964).

- CULIOLI, A.   - Introduction à la sémantique formelle. (To appear).

- DARMESTETER, A.   - Cours de grammaire historique de la langue française. DELAGRAVE, Paris.

- DUBOIS, J.   [1]   - Grammaire transformationnelle et morphologie. Le français moderne. (Avril, Juillet 1965).

- DUBOIS, J.   [2]   - Grammaire structurale du français. Vol I et II LAROUSSE, Paris (1966, 1967).

- de FELICE, Th.   - Eléments de grammaire morphologique. DIDIER, Paris (1950).

- FILLMORE, C.   - Entailment rules in a semantic theory. Pola n°10, The Ohio State University (1965).

- FOULET, L.

- Petite syntaxe de l'ancien français. Champion, Paris, (1930).

- GOUGENHEIM, G.

- Système grammatical de la langue française. D'Artrey, Paris, (1939).

- GREVISSE, M.

- Le bon usage. Duculot, Gembloux, 8e ed., (1964).

- GROSS, M.

[1]

- Linguistique et documentation automatique. Revue de l'enseignement supérieur, Paris (1967).

- GROSS, M.

[2]

- Sur une règle de cacophonie. Langages, M. Arrivé and J-C. CHEVALIER eds, 7, (1967).

- GROSS, M.

[3]

- On grammatical reference - (to appear).

- GROSS, M. ; LENTIN, A.

- Notions sur les grammaires formelles. Gauthier-Villars, Paris, (1967).

- HAASE, A.

- Syntaxe française du XVIIe siècle. Delagrave, Paris, (1935).

- HALL, B.

- The auxiliary in English sentences with "IF" mimeographed, M.I.T. MITRE (July 1964).

- HARRIS, Z.S.

[1]

- From Morpheme to Utterance. Language, 22, pp. 161-183,(1946).

- HARRIS, Z.S.

[2]

- Methods in Structural Linguistics. Chicago, (1951).

- HARRIS, Z.S.

[3]

- Discourse Analysis, Language, 28, (1952).

- HARRIS, Z.S.

[4]

- Cooccurrence and Transformations in Linguistic Structure. Language, 33, pp. 283- 340, (1957).

- HARRIS, Z.S.

[5]

- Discourse Analysis - Reprints. Mouton & Co, The Hague, (1963).

- HARRIS, Z.S.

[6]

- Elementary Transformations. T.D.A.P. n°54, University of Pennsylvania, Philadelphia, 1964.

- HARRIS, Z.S.   [7]   - Mathematical structures of language.
                               to appear (1968).

- HIZ, H.   - Congrammaticality and Batteries of Transformations
                               In : XII Symposium on Applied Mathematics, A.M.A.,
                               Rhode Island, (1961).

- KLIMA, E.S.   [1]   - Structure at the lexical level and its implications
                               for transfer grammar.
                               "International Conference on Machine Translation
                                of Languages and Applied Language Analysis".
                               Vol. I, Teddington (1961).

- KLIMA, E.S.   [2]   - Current Developments in Generative Grammar.
                               Kybernetica Cislo, Rocnik 1, (1965).

- KURODA, S.-Y.   [1]   - Causative forms in Japanese. Foundations of
                               Language 1, (1965), pp. 30-50.

- KURODA, S.-Y.   [2]   - Attachment Transformations. Mimeographed M.I.T.
                               (1965).

- KURODA, S.-Y.   [3]   - Doctoral Dissertation, M.I.T, (1965) (Revised
                               version to be published).

- LANGACKER, R.   - Doctoral Thesis. University of Illinois, (1966).

- LASSERRE, E.   - Est-ce à où de ? Payot, Lausanne, (1962).

- LE BIDOIS, G. et R.   - Syntaxe du Français moderne. (2 vol.). Picard,
                               Paris (1935-1938).

- LECERF, Y.   - Une représentation algébrique de la structure des
                               phrases dans diverses langues naturelles.
                               C.R. Acad. Sci., 252, n°2 pp. 232, Paris (1961).

- LEES, R.B.   - Analysis of the "Cleft Sentence" in English.
                               Zeitschrift für Phonetik, Sprachwissenschaft und
                               Kommunikationsforschung. 16. 371-388 (1963).

- MARTINET, A.   [1] - De l'économie des formes du verbe en Français par-
                              lé. In : Studia phil. et litter. in honorem L.
                              Spitzer, pp. 309-226, Berne.

- MARTINET, A.   [2] - La linguistique synchronique. Paris, P.U.F. (1965).

- MATTHEWS, G.H.   - Analysis by Synthesis of Sentences of Natural
                              Languages First International Conference on
                              Mechanical Translation, Teddington, (1961).

- NYROP, Kr.   - Grammaire historique de la Langue Française.
                              Picard, Paris (1889-1936).

- ROSENBAUM, P.S.   - The Grammar of English Predicate Complement
                              Constructions.
                              Doctoral thesis M.I.T. (1965).

- ROSS, J.R.   [1] - A proposed rule for tree pruning (mimeographed)
                              M.I.T. (1965).

- ROSS, J.R.   [2] - Adjectives as Noun Phrases, mimeographed, M.I.T.
                              (1966) presented to the Meeting of the L.S.A.
                              New-York. Dec 1966.

- RUWET, N.   - La grammaire générative, Langages, Didier-Larousse
                              (1966).

- SANDFELD, Kr.   - Syntaxe du Français contemporain.
                              I   Les pronoms, Champion, Paris (1928).
                              II Les propositions subordonnées, Droz, Paris
                              (1936).
                              III L'infinitif, Droz, Paris (1943).

- SCHANE, S.   - French Morphology and Phonology. M.I.T Press,
                              Cambridge, Mass. (1967).

- SCHUTZENBERGER, M.P. [1] - Un problème de la théorie des automates.
                              Séminaire Dubreil-Pisot, Institut Henri Poincaré,
                              Paris, (1959).

- SCHUTZENBERGER, M.P.   [2]   - On Context - Free Languages and Pushdown Automata. Information and Control, 6.3, (1963).

- STEFANINI, J.   - (personal communication).

- STEINBERG, N.   - Grammaire française, Vol I et II. Outchedgiz - Leningrad (1962, 1963).

- TESNIERE, L.   - Syntaxe Structurale. Klincsieck, Paris, (1960).

- TOGEBY, K.   - Structure immanente de la langue française. Larousse, Paris, (1965).

- VENDLER, Z.   - Verbs and Time. Philosophical Review (66) pp 143-160 (1957).

- WAGNER, R.L.   - Introduction à la Linguistique Française. Droz, Genève (1947). Supplément bibliographique, (1955).

- WAGNER, R.L. ; PINCHON, J.   - Grammaire du français classique et moderne. Hachette Paris, (1962).