Marandin Jean-Marie URA 1028, CNRS & U. Paris-7

Unaccusative inversion in French*

Subject NP inversion is allowed in extraction contexts in French. The phenomenon has been known as *stylistic inversion* since Kayne 1972. It is also allowed in subjunctive clauses; the phenomenon I call *subjunctive inversion* is illustrated in (1):

(1) a. Je voudrais que vienne Marie.

lit. I would like that come Marie
'I would like Mary to come

b. Je voudrais que soient invités d'autres étudiants.

lit. I would like that be invited other students 'I would like other students to be invited'

Stylistic inversion and subjunctive inversion were identified in early generative analyses (Milner 1978, Kayne & Pollock 1978). According to these analyses, the feature that triggers the subjunctive on the complement verb has the same licensing potential as a *wh*-word or a trace. Later, Pollock 1986 distinguished them in a unified framework, binding theory, according to the type of empty category present in subject position: a variable in stylistic inversion, an empty expletive in subjunctive inversion.

In part I, I show that subjunctive inversion is not an instance of stylistic inversion. Subjunctive inversion has the same properties as inversions which occur in the contexts illustrated in (2). It has been known in the grammatical tradition (Le Bidois 1950) that inversion is allowed (under specific conditions) in indicative root clauses (2.a) or in complement clauses (2.b); this fact remained unaccounted for in the generative tradition.

(2) a. [Le silence se fit.] Alors sont entrés deux hommes.

lit. [Silence fell.] Then entered two men

b. Pierre ne savait pas que suivaient d'autres personnes.

lit. Pierre did not know that were following other persons

I claim that subjunctive inversion should be grouped together with the inversions in (2) and that they are instances of an unaccusative construction.

Postverbal NPs in (1) and (2) have subject-like and object-like properties. The postulation of a chain may be a way of accounting for such a hybrid character. In part II, I take up Pollock's 1986 analysis of inversion. I show that the chain he proposes in his analysis of subjunctive inversion "empty expletive [in a preverbal position] ... NP" does not succeed in accounting for the actual properties of postverbal NPs. On the other hand, an analysis which distinguishes between the argumental status and the grammatical function accounts for them in a simple way: the status of first argument

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accounts for the subject-like properties and the functional status accounts for the object properties, like most notably the postverbal placement. In part III, I take up the hypothesis that there is a universal type of verbal realization, the unaccusative one, and that it is available in the lexicon of French. In the unaccusative realization, the verb is subjectless and its first argument is realized as a complement. The analysis is cast in the framework of HPSG.

A word of caution is in order regarding the label *unaccusative inversion*. It would be a contradiction in terms if *inversion* meant "displacement of a constituent": the NPs in (1) and (2) are postverbal just like objects are postverbal. I retain the label *inversion* with the following meaning "postverbal realization of the first argument of the verb".

Part I An unaccusative construction

First, I show that the inversions illustrated in (1) and (2) differ from stylistic inversion along four dimensions: (i) type of the head verb, (ii) triggering of *en*-pronominalization, (iii) subject scrambling, (iv) contextual distribution. The comparison is based on the analysis of stylistic inversion given in Bonami, Godard & Marandin 1999 (henceforth BGM99). In §2, I show that the properties of the inversions illustrated in (1) and (2) are expected if the head verb is analyzed as an unaccusative verb. Anticipating the analysis given in §2, I call the inversion illustrated in (1) and (2) *unaccusative*.

1. Comparison between stylistic and unaccusative inversions

A. Head verb. Stylistic inversion is grammatical with transitive or intransitive verbs.² The only constraint on transitive verbs in stylistic inversion pertains to the form of the direct object: it should not be a full NP (3.a); predicative NPs with light verbs (3.b) and clitic objects (3.c) are fully grammatical:

- (3) a. * la pièce où lit son courrier le professeur de Marie
 - lit. the room in which reads his mail Marie's teacher 'the room in which Marie's teacher reads his mail'
 - a. la pièce où fait cours le professeur de Marie
 - lit. the room where makes lecture Marie's teacher 'the room where Marie's teacher lectures'
 - c. [ses cours] la pièce où les prépare le professeur de Marie
 - lit. [her lectures] the room where THEM-prepares Marie's teacher

c. Le silence se fit. Alors entra Marie.

¹ There is a third type of inversion in the grammar of French (cf. (a) below): it occurs in root or complement sentences and is akin to heavy NP shift. I call it *elaborative inversion* (Marandin, in progress). The unaccusative construction is subject to no weight constraint. Compare (b) and (c):

a. Viendront me voir Marie, Pierre et Paul.

b. * Viendra me voir Marie.

² With one exception: PP-topicalization, in particular the construction which looks like a locative inversion, is restricted to intransitive verbs. Marandin 1977 argues that the restriction is semantic.

No objects are allowed with unaccusative inversion; the verb should be intransitive (i.e. a verb with one argument NP). This is illustrated in subjunctive clauses (4) (Kampers-Manhe 1998) and in indicative clauses (5):

- (4) a. * Je voudrais que chante la Marseillaise la fille de Marie.
 - lit. I would like that sings la Marseillaise Mary's daughter
 - b. * Je voudrais que le chante Marie.
 - lit I would like that IT-sing Marie
 - b. * Je voudrais que fasse cours Marie.
 - lit. I would like that make lecture Marie
- (5) [Le silence se fit]
 - a. * Alors commença son cours le professeur de Marie.
 - lit. Then began his lecture Marie's teacher
 - b. * Alors le rompit le professeur de Marie.
 - lit. Then IT-broke Marie's teacher
 - c. * Alors fit cours le professeur de Marie.
 - lit. Then makes lecture Marie's teacher
- **B.** Triggering of *en*-pronominalization. Indefinite postverbal NPs in stylistic inversion never trigger *en*-pronominalization (so-called quantitative *en*):
- (6) a. * [Des usines] Les ouvriers se mirent en grève le jour où en furent fermées deux de plus
 - lit. [factories] the workers went on strike the day when EN-were shut two more

'The workers went on strike when two more shut down'

b. [Des usines] Les ouvriers se mirent en grève le jour où deux de plus furent fermées

Crucially, indefinite postverbal NPs trigger *en*-pronominalization in unaccusative inversion; this is illustrated in subjunctive clauses in (7) and in indicative clauses in (8):³

(7) [Je trouve qu'il y a trop peu d'étudiants au conseil.]

[I think that the students are too few in the council.]

- a. Je voudrais qu'en vienne au moins un autre.
- lit I would like that EN-come at least another one

'I would like another one to come'

- b. * Je voudrais que vienne au moins un autre.
- (8) [Deux soldats étaient entrés dans la salle.]

[Two soldiers had entered the room]

a. Quelques minutes plus tard en arrivèrent deux autres.

³ Below an example in a complement clause in the indicative:

[des soldats] a. Pierre ne savait pas qu'en viendraient deux autres.

lit. Pierre did not know that EN-were following two others

'Pierre did not know that two others were following'

b. * Pierre ne savait pas que viendraient deux autres.

- lit. a few minutes later EN-arrived two others
- b. * Quelques minutes plus tard arrivèrent deux autres.

The speakers I have consulted are firm in their judgments about (7) and (8); moreover, *en*-pronominalization is attested in written texts. This piece of data contradicts Pollock's (1986) judgments.

- **C. Subject scrambling.** As first noted in Bonami & Godard (to appear), the subject NP in stylistic inversion can be scrambled among the dependents of an embedded verb (9.b); moreover, scrambling can be "unbounded" (9.c):⁴
- (9) a. le livre que veut conseiller aux étudiants [NP mon professeur] cette année
 - lit. the book which wants to recommend to the students my teacher this year 'the book my teacher wants to recommend to the students this year'
 - b. le livre que veut conseiller [NP mon professeur] aux étudiants cette année
 - c. le livre que croyait pouvoir commencer à conseiller [$_{
 m NP}$ mon professeur] aux étudiants cette année

The postverbal NP cannot be scrambled among the dependents of the complement verb of raising verbs in the unaccusative inversion; this is illustrated in indicative clauses in (10) and in subjunctive clauses in (11):⁵

- (10) a. Alors commençèrent à monter sur les tables [NP les soldats avinés].
 - lit. Then began to climb on the tables the drunk soldiers
 - a'. * Alors commençèrent à monter [NP les soldats avinés] sur les tables .
- (11) a. Il faudrait que cessent de disparaître du bureau [NP les dossiers financiers].
 - lit. It would be good that cease to disappear from the office the financial files
 - a'. ?? Il faudrait que cessent de disparaître [NP les dossiers financiers] du bureau du juge.
 - b. Il faudrait qu'ait l'air de s'intéresser au projet [NP la directrice du département].
 - lit. It would be good that seem to be interested in the project the boss of the department
 - b'. * Il faudrait qu'ait l'air de s'intéresser [NP] la directrice du département] au projet de développement informatique.

⁴ This is the main motivation for a domain union analysis of stylistic inversion (BGM 99) and the rationale behind the use of *stylistic* in the label *stylistic inversion*: stylistic inversion affects the linearization of the constituents but not the constituent structure of the clause (cf. this was the meaning of *stylistic* in *stylistic transformation* in the early taxonomy of transformations).

⁵ The example below is not a counter-example: *être* (in the passive) may be an argument composition verb (cf. Abeillé *et al.* 1998). Thus, it allows the interleaving of the subject with the complements of its verbal complement:

a. Il faudrait que soit allouée aux bons étudiants une bourse d'étude.

lit. It is necessary that be allotted to the good students a grant

b. Il faudrait que soit allouée une bourse d'étude aux bons étudiants

D. Contextual restriction. Contextual restrictions on both types of inversion are different: stylistic inversion only occurs in extraction contexts whereas the type of inversion characterized by verbal restriction to intransitive verbs, *en*-pronominalization triggered by postverbal indefinite NPs and the ungrammaticality of the scrambling of postverbal NPs occurs in a variety of contexts which do not show any syntactic unity: complement or root clauses in the subjunctive or the indicative.

Hence, I conclude that the phenomenon called subject NP inversion is not homogeneous in French. There is another construction beside stylistic inversion.

2. An unaccusative construction

Two properties are crucial to the characterization of the other case of inversion: (i) *en*-pronominalization triggered by indefinite postverbal NPs and (ii) the fact that not all intransitive verbs are compatible with the construction.

A. *En*-pronominalization. *En*-pronominalization provides an ambiguous clue about the functional status of the triggering NP. It is ambiguous because it can be correlated to a function (complement) or to a structural position (a VP-internal position). Under the assumption that function and position may not coincide, we may view postverbal NPs as subjects in VP-internal position. Is it possible to determine the trigger of *en*: an NP with a given function or an NP in a given position?

First consider the inability of preverbal and postverbal subjects to trigger quantitative en. When they are preverbal, they have neither the function nor the position to trigger en. When they are postverbal, BGM99 show that their position cannot be analyzed as VP-internal or VP-adjoined: in either case, unbounded extraposition would be required to account for unbounded scrambling (cf. (9.c) above), but unbounded extraposition is not available in the grammar of French. Hence, postverbal subject NPs too lack the functional of the positional ability to trigger en. Accordingly, the analysis of postverbal subjects does not provide us with an argument to identify the crucial property of NPs enabling them to rigger en.

Fortunately, a correlation can help in settling the issue. Abeillé 1997 points out that object NPs are the only constituents which trigger *en* and take the form "de N" in negative contexts. Attributive NPs may trigger *en* but do not take the form "de N"; postverbal subjects may take the form "de N" but do not trigger *en*. According to this criterion, postverbal NPs pattern like objects since they trigger *en* and may take the form "de N" in negative contexts:⁶

- (12) a. Je regrette que ne viennent plus d'étudiants.
 - lit. I regret that come no longer DE-students
 - b. Paul craignait que n'en viennent plus d'autres.
 - lit Paul feared that EN-come no longer DE-others
 - c. ? [Le peuple se révolta et perdit la foi.] Alors n'apparut pas d'homme providentiel.

⁶ (12.c) is uneasy for a semantic reason: the expression of negative event contradicts the presentative character of the construction.

lit. [The people rebelled and lost faith.] Then dit not appear DE-providential man

Moreover, BGM99 point out that objects may take the form "de N" when associated with a floating quantifier (cf. *beaucoup* in 13.a); postverbal NPs may have the same behavior:⁷

- (13) a. Pierre a beaucoup vu de films.
 - lit. Pierre has many seen DE movies

'Pierre saw many movies'

- b. Qu'aient été beaucoup condamnés d'innocents, ça te laisse indifférent ?
- lit. that have been many condemned innocent persons, this leaves you unconcerned?
- 'It leaves you unconcerned that many innocent persons have been condemned?'
- c. [des malheurs] Paul craignait qu'en soient beaucoup arrivés d'autres.
- lit. Paul feared that EN have many happened DE-others
- d. ? Les réfugiés se pressaient à la frontière. La situation empira. Alors en sont beaucoup arrivés d'autres.
- lit. refugees were crowding at the border. Things got worse. Then EN have many arrived DE-others

Finally, if the HPSG perspective -- which subsumes under combianison the function/position opposition -- is accepted, *en* is no longer ambiguous: *en* is triggered by NPs which combine with the verb as complements; NPs which combine with the verb as subjects never trigger *en*.

Hence, I conclude that the triggering of *en*-pronominalization may be interpreted as a clue about the functional status of the NP. In this respect, postverbal NPs in unaccusative inversion combine with the verb as complements.

- **B. Head verb**. Among intransitive verbs, only verbs denoting a non-Actor relation are grammatical in the construction⁸. For example, agentive verbs do not yield grammatical inversion; this is shown with prototypical agentive verbs in subjunctive clauses (14) and in indicative clauses (15):
- (14) a. * Je voudrais que travaille Marie.
 - lit. I would like that work Marie
 - b. * Je voudrais qu'agisse Marie.
 - lit. I would like that act Marie
- (15) [Le silence se fit]
 - a. * Alors passa à l'action le commando.
 - lit. then took action the commando
 - b. * Alors commencèrent à travailler les candidats.

⁷ (10.b) is an example given by Pollock (ibid.: 243).

⁸ I take up Davis' 1996 taxonomy of relations denoted by verbs. I consider the notion Actor to be equivalent to the notion Immediate cause of an eventuality (Levin *et al.*, 1995: 135).

lit. then began to work the candidates

Split behavior of intransitives along the Actor/Undergoer dimension is a received clue for unaccusativity (i.a. Zaenen 1993, Levin *et al.* 1995).

3. Conclusion

There are two types of inversion. In stylistic inversion, the postverbal NP is a subject (BGM99). In unaccusative inversion, it is a syntactic object. Moreover, unaccusative inversion is restricted to intransitive verbs which denote a non-Actor relation. Unaccusative inversion is not restricted to extraction contexts: in fact, there is no syntactic restriction on its distribution even if there are semantic restrictions which explain why it is not felicitous in all contexts (see III.§1.2 below and Marandin, in prep.). I take the correlation of the two features "object properties of the NP" and "nonagentive denotation" as the crucial evidence for analyzing head verbs as unaccusative verbs.

Part II Against postulating a chain in unaccusative inversion

In this part, I focus on the properties of postverbal NPs in unaccusative inversion. At first blush, they have mixed properties: object properties (e.g. triggering of *en*-pronominalization) and subject properties (agreement with the verb). This seems to require some kind of mixed analysis. An analysis which resorts to the notion of chain may be such an analysis: the postverbal NP constitutes a single entity with an empty category in subject position. This is the kind of analysis Pollock 1986 proposes for subjunctive inversion (cf. (1) above): the postverbal NP constitutes a chain with an expletive empty subject. In Pollock's framework, subjunctive inversion differs from stylistic inversion in only one respect: the type of empty category (henceforth ec) in subject position. It is a variable in the scope of a *wh*-word and an expletive elsewhere:

(16) a. Inversion in the scope of WH: $ec_{VARIABLE\ i}$ AGR_i V NP_i b. Elsewhere: $ec_{EXPLETIVE\ i}$ AGR_i V NP_i

We could extend the analysis schematized in (16.b) to unaccusative inversion in general. I show that such an extension is not supported by the analysis of three phenomena: (i) control of participial *en*-adjunct or infinitival *sans*-adjunct, (ii) agreement with the finite verb and (iii) *en*-pronominalization of the NP. The postulation of a chain "ec_{EXPLETIVE} ...NP" either makes wrong predictions or leads to a contradiction. On the other hand, the contrasts we observe between unaccusative objects and objects in IMPERSONAL-*il* or transitive constructions are expected if we accept another way of accounting for the mixed properties of postverbal NPs: postverbal NPs in unaccusative inversion are first arguments and syntactic objects.

1. Control of participial en-adjunct, infinitival sans-adjunct

Expletives subject are not appropriate controllers of *en*-adjuncts or infinitival *sans*-adjuncts. This is illustrated in (17):

⁹ To my knowledge, Legendre is the only author who does not share the judgments in (17). I have checked the examples she gives in defense of her analysis of controlled

- (17) a. * Il est entré deux hommes avinés sans frapper.
 - a' * Il est entré sans frapper deux hommes avinés.
 - lit. IMPERSONAL-IL has entered without knocking two drunk men
 - b. * Il est entré deux hommes avinés en riant.
 - b'. * Il est entré en riant deux hommes avinés.
 - lit. IMPERSONAL-IL has entered EN laughing two drunk men

Accordingly, a chain analysis of inversion predicts that adjuncts should be ungrammatical in unaccusative inversion since overt and silent expletive subjects have the same properties. The prediction is not borne out as (18) and (19) show:

- (18) a. Alors sont entrés sans frapper deux hommes avinés.
 - lit. then has entered without knocking two drunk men

'Then two drunk men entered without knocking'

b. Alors sont entrés en riant deux hommes avinés.

'Then two drunk men entered laughing'

- (19) a. Que soient condamnés tant d'innocents sans être jugés me révolte.
 - lit. That have been condemned many innocent persons without being judged outrages me
 - b. ? Que soient condamnés tant d'innocents en étant privés de tout droit me révolte.
 - lit. That have been condemned many innocent persons while being deprived of all rights outrages me

Examples (18) and (19) are plain counter-examples to the chain analysis. But they too appear to be counter-examples to an analysis in which the NPs in (18) and (19) are analyzed as objects since object NPs are not licit controllers of adjuncts.

1.1. Adjunct control in inaccusative constructions

Controlled adjuncts are anaphors. We know that anaphors can be exempt from Principle A (Pollard & Sag 1994: 257): this is the case when no proper antecedent appears in the relevant context. In such contexts, anaphors are free to be bound in discourse, subject to various non syntactic factors.

Let us adopt the same hypothesis for the control of en/sans-adjuncts. If we admit that there is no subject in (18) and (19), the adjuncts are exempt. They are coindexed with

adjuncts: "Only a nominal which heads a 1-arc controls an *en/sans* phrase" (Legendre 1990). The results are the following:

a. [Les étudiants]; ont été dispersés par [la police]; [en hurlant] 2;/*;

lit. the students have been scattered by the police EN yelling

b. Il mangeait [beaucoup de linguistes]; [en riant/sans payer] *; dans ce restaurant.

lit. IL ate a lot of linguists EN laughing/ SANS pay in this restaurant

c. * Il a été procédé à un vote sans discuter le contenu.

lit. IL was proceeded to a ballot without disussing the content Many informants consider (b) and (c) worse than (a).

the closest or most prominent NP.¹⁰ The following observation supports the analysis. Non-controlled unexpressed subjects receive an arbitrary interpretation; one feature of the arbitrary interpretation is the restriction to [+Human] individuals. If adjuncts in unaccusative inversion are not controlled and thus receive an arbitrary interpretation, it should not be possible to coindex them with [- Human] NPs in the clause. The prediction is borne out as (20) shows:

- (20) a. ?? Alors s'éleva un grand feu en crépitant.
 - lit. Then rose a big fire while crackling
 - b. ?? Alors se déclara une épidémie sans avoir donné de signes avant-coureurs.
 - lit. Then broke an epidemic without giving forerunners

Notice that an analysis which postulates the mere absence of a subject does not have the same consequences as one which postulates an empty subject category. The former makes possible the explanation of the grammaticality of adjuncts in (18), (19) in terms of exemption from Principle A, while the latter prevents it.

1.2. More on the control of adjuncts

The control of adjuncts in inversion challenges the whole analysis summarized in (16) above. According to Pollock's analysis, an empty expletive is involved whenever inversion occurs in a non-wh context. It should be the case in PP-topicalization: (21.a) should be analyzed as (21.b):

(21) a. Dans le salon bavardait un groupe de femmes.

'In the lounge were chattering a group of women'

b. Dans le salon cv_{expl}_i bavardait [NP un groupe de femmes]

This predicts that adjuncts should not be well-formed in such a construction. The prediction is not borne out. Marandin 1977 shows that some semantic condition controls the well-formedness of the adjunct in the construction; when it is enforced, the adjuncts are well-formed:¹¹

(22) a. Dans le salon bavardait tout en travaillant un groupe de femmes.

lit. while working

¹⁰ The phenomenon is similar to that which picture nouns give rise to: in *Johni found [a picture of himselfi]*, the apparent obligatoriness of the coindexation is not due to binding principles (Pollard & Sag, *ibid*.: 267).

- (i) a. Sur le quai se promenaient plusieurs voyous en riant.
 - a'. Sur le quai riaient plusieurs voyous.
 - b. ?? Sur le quai se promenaient plusieurs voyous en se riant des contrôleurs.
 - b'. * Sur le quai se riaient des contrôleurs plusieurs voyous.

The locative inversion is not sensitive to the [+/- Human] dimension of the subject as the example below shows:

- (ii) a. Du plancher montait en s'élevant par palier jusqu'au plafond une chaire en bois.
 - b. Du plancher montait une chaire en bois en s'élevant par palier jusqu'au plafond. lit.from the floor rose a wooden pulpit EN rising gradually to the ceiling

¹¹ The verb of the adjunct should yield a (semantically) well-formed PP-topicalization when used as a head verb:

- a'. Dans le salon bavardait un groupe de femmes tout en travaillant.
- b. Dans le salon travaillait sans relever la tête un groupe de femmes. without holding up her head
- b'. Dans le salon travaillait un groupe de femmes sans relever la tête.

This piece of data indicates that the core of the analysis summarized in (16) is incorrect. PP-topicalization does not involve any *wh*-word, but nonetheless is an instance of extraction: it licenses stylistic inversion. Because the NP is a subject, it has the ability of controlling the adjuncts (BGM99: 36).

2. Agreement

Postverbal NPs agree in number with the verb as illustrated in (23) below. At first blush, this is an obvious difference between objects and NPs in unaccusative inversion and a piece of data which should favour a chain analysis. If one postulates the existence of a chain, the agreement pattern in (23) is no exception to the general principle "verbs agree with subjects": in (23), subjects happen to be discontinuous entities -- chains of the form: "empty expletive ... NP". Thus, it seems that the postulation of a chain in (23) provides a unified and regular account of agreement.

- (23) a. Alors *est / sont *venu/ venus des soldats.
 - lit. Then *SG-is/ PL-are *SG-come / PL-come soldiers 'Then some soldiers came'
 - b. Je voudrais que *vienne / viennent les enfants de Marie.

2.1 Problem

In fact, (23) does not present a complete picture of agreement. Verbs agree in number with postverbal NPs, but not in person; the sentences of (24) contrast with (25):

- (24) a. Je voudrais que viennent Marie et toi.
 - lit. I would like that come-3pl Marie and you
 - b. * Je voudrais que veniez Marie et toi.
 - lit. I would like that come-2pl Marie and you
- (25) a. * Je voudrais que Marie et toi viennent.
 - b. Je voudrais que Marie et toi veniez demain matin.

In other words, the agreement pattern of postverbal NPs in unaccusative inversion is not the same as that of the preverbal subjects.

There is an easy parry for an analysis postulating a chain. All it takes is to say that the empty expletive is 3rd Person. Nothing shocking: there may be 3rd person expletives with variable feature-values. For example, English *there* can receive such an analysis.¹² The analysis schematized in (26) yields the right result for (24):

(26) $[ec_{3Pers, \alpha Num, \alpha Gend}]_i$ AGR_i V NP[$\alpha Num, \alpha Gend$] i

The problem is that the same agreement pattern holds in stylistic inversion (Marandin 1997). the sentences of (27) contrast with (28):

¹² This is the content of the analysis given to *there* by Pollard & Sag (1994: 147).

- a. l'hôtel où habitaient Marie et moi qui étions amants à cette époque lit. the hotel where lived-3pl Marie and I who were-1pl lovers at that time b. * l'hôtel où habitions Marie et moi qui étions amants à cette époque lit. the hotel where lived-1pl Marie and I who were-1pl lovers at that time
- (28) a. * l'hôtel où Marie et moi habitaient b. l'hôtel où Marie et moi habitions

If one admits Pollock's analysis summarized in (16), the putative variable in (27) should receive the same analysis as (26). The empty category would have to disagree in person with the moved NP, which is not allowed, the trace sharing all its features with the moved constituent.¹³ This adds up to the analysis of PP-topicalization in §2.2 above: the overall approach summarized in (16) is in trouble. We could keep the analysis sketched in (26) for unaccusative inversion but we would loose a unified account for agreement.

2.2. Agreement in unaccusative inversion

Verbal agreement in unaccusative inversion and in stylistic inversion can be captured by the following principle:

(29) Verbs agree in number with their first argument; they agree in person with their nominative argument.

The actual patterns of agreement follow from (29) without ado. Verbs agree with preverbal subjects in number and person since preverbal subjects realize the first argument of the verb and are nominative. Verbs agree in number, not in person, with postverbal subjects in stylistic inversion and with objects in unaccusative inversion since both of them realize the first argument and are not nominative.¹⁴

2.3. Conclusion.

Postulating an empty category would have received strong empirical support if the agreement was the same with preverbal subjects and in inversion construction. Since it does not, postulating an identity between preverbal subjects and postverbal constituents realizing first arguments of the verb runs into trouble. Principle (29) states that the the key factor of agreement in number is the argumental status and that the key factor of agreement in person is case. Such a factorization yields a unified theory of agreement.

3. En pronominalization

En-pronominalization of postverbal NPs is ungrammatical in unaccusative inversion whereas it is fully grammatical in impersonal-*il* or transitive constructions:

(30) [des soldats] a. * Alors en arrivent.

¹³ Kampers-Manhe's (1998) analysis of the subjunctive inversion, cast in the minimalist program, faces the same difficulty. She postulates a silent expletive *there*, analyzed as in Chomsky 1995, with no agreement features, just a D feature (which satisfies the EPP): the verb agrees with the postverbal NP "as if it were in preverbal subject position" (Kampers-Manhe, 1998: 136). This wrongly predicts person agreement.

¹⁴ Voir BGM99 for the analysis of postverbal subjects as accusative NPs.

- b. Il en arrive.
- c. J'en vois.
- (31) [des soldats] a. * Je voudrais qu'en viennent. b. Je voudrais qu'il en vienne.

Pollock resorts to binding theory to explain the contrast between (30/31.a) et (30/31.b) He postulates two configurations of indices linking the expletive (the overt il or the ec) and the postverbal NP:

(32) a.
$$[S ec_i en_i V NP_i]$$

b. $[S il_j en_i V NP_i]$

Examples (30/31.a), analyzed as (32.a), violate Principle B: the pronoun en is bound in its governing category by the ec in subject position. Examples (30/31.b) are grammatical since the pronoun en is free according to (32.b). If one is ready to accept the stipulation encoded in (32), the chain analysis fares well so far.

3.1. Problem

En-pronominalization out of postverbal NPs is grammatical in unaccusative inversion as it is in impersonal-*il* or transitive constructions; (33) repeats the observation in (7), (8) above:

- (33) [Des soldats] a. Alors en arrivèrent deux autres.
 - b. Il en arriva deux autres.
 - c. J'en vis deux autres.

Pollock (ibid.: 223) extends the analysis schematized in (32.b) to explain the grammaticality of (33.b): he admits that the NP shares its index with its subnominal part:

(34) a.
$$[S cv_i en_i V [NP_i e_i]]$$
.
b. $[S il_j en_i V [NP_i e_i]]$.

The analysis, schematized in (34.b), correctly predicts that (33.b) is grammatical and the analysis in (34.a) predicts that (33.a) should be ungrammatical. The latter prediction is incorrect.¹⁵ The analysis faces an internal contradiction: the silent expletive should be coindexed with the postverbal NP in order to rule out *en*-pronomominalization of postverbal NPs in unaccusative inversion and should not be coindexed in order to accept *en*-pronomominalization out of postverbal NPs. Once again, the chain analysis leads to a contradiction.

'it would surprise me that two have left'

As stated above, the speakers I have consulted disagree with these judgments.

¹⁵ In fact Pollock (ibid.: 122) follows the prediction of his analysis ruling out examples such as:

^{*} Qu'en soient sortis deux, de spectateurs, ça m'étonnerait. [Pollock's judgement]

lit. that EN-be gone two, of spectators, that would surprise me

3.2. Pronominalization of postverbal NPs

A simple generalization --which is due to Kayne 1972-- accounts for (30/31/33.a): inversion in general is restricted to canonical NPs. No pronouns (34)¹⁶ nor gaps (35)¹⁷ are grammatical in inversion:

- (34) a.* Je voudrais que viennent ils.
 - a'. * Je voudrais que les viennent.
 - b. * la lettre que lisent ils
- (35) a. ? Combien faudrait-il qu'arrivent de policiers?
 - b. * Combien de policiers faudrait-il qu'arrivent?

The grammar of French has the following constraint on inversion, stylistic or unaccusative: 18

(36) Postverbal first arguments (either subject or object) must be canonical (i.e. NPs).

The mechanism of chains claims to be an explanation of (36); we have seen that the implementation proposed by Pollock runs into troubles. Alternative accounts are conceivable.¹⁹ In a framework such as HPSG, (36) is naturally analyzed as the effect of a constraint on the realization of the arguments of the verb. "Languages differ in

Notice that practitioners of GB take definiteness effect to be an argument in favour of an expletive subject. Such an argument cannot be invoked in the analysis of French unaccusative inversion.

¹⁶ There may be an exception if *voici* is analyzed as an unaccusative predicate: the clitic pronoun is grammatical: *voici les enfants / les voici*.

¹⁷ Note that examples (35) may be analyzed as instances of stylistic inversion, which explains the inversion in the matrix. Examples without inversion (below) in the matrix are worse than those in (35):

a. * Combien de policiers Pierre voulait que viennent.

b. * Combien de lois Pierre voulait que soient votées.

¹⁸ I rely on the following taxonomy of types of argument (Miller & Sag, 1997: 586): canonical arguments contrast with noncanonical ones; noncanonical arguments are divided into gaps ("triggering extraction") and affix ("triggering morphological realization of the argument onto the verb").

¹⁹ Notice that there is no readily explanation in terms of information structure. It would have been the case if Lambrecht's following generalization had been true: "any grammatical construction which crucially involves the presence of a full lexical NP, i.e. which in principle excludes pronominal NPs, must be interpreted as presentational. The presentational character of SF sentences is confirmed by the fact that in many languages some or all SF constructions are limited to, or at least are preferred for, "indefinite" NPs, i.e. NPs whose referents are assumed to be unknown to, or unidentifiable by, the addressee" (Lambrecht, 1987: 373). Such a generalization is not correct either for stylistic or for unaccusative inversion. They are not presentational and none of them is linked to a definiteness or specificity effect. This has been illustrated by the examples above which stage definite NPs and is confirmed below by examples which stage quantified NPs:

a. Alors sont entrés tous les élèves de Marie.

b. Je voudrais que soit invité chaque élève de Marie.

how the arguments of a word can be realized; variations exist with respect to argument drop (so called 'PRO drop'), extraction, and --crucially-- pronominal affixation (given that cliticization is in fact lexical affixation)" (Miller & Sag, 1997: 582). In such a perspective, French types of inversion are marked constructions where *marked* is used in Pollock's sense (1983): "the expressive power of a construction is not optimal [in a language]". Marked constructions do not license all the realizations licensed by their canonical counterparts: in French the non canonical placement of the subject in the stylistic inversion and the non canonical realization of the first argument as an object in the unaccusative inversion is marked. As examples (37) of unaccusative inversion in Italian show, this is not the case in the grammar of Italian:

(37) a. Ne sono venuti
lit. Ne-are come
'Some have come'
b. Chi credi che verra
'who do you believe will come'

4. Conclusion

I have examined three contrasts the analysis of which could have brought support for the postulation of a chain "empty expletive ... NP". The first pertains to the control of adjuncts. It turns out that the postulation of an empty expletive would wrongly predict the ungrammaticality of adjuncts in unaccusative inversion. On the contrary, an analysis assuming that unaccusative inversion is subjectless, enables us to analyze the adjuncts as exempt anaphors. The second pertains to the agreement of the finite verb. I showed that agreement with the preverbal subject differs from agreement with the postverbal NP in stylistic and unaccusative inversions. This difference undermines the relevance of a chain whose primary objective is to erase the difference between preverbal and postverbal placement. The agreement principle I propose in (29) subsumes the whole pattern of agreement without resorting to an ancillary device. The third pertains to en-pronominalization. Pollock's implementation of the chain device wrongly predicts that en-pronominalization out of postverbal NPs is ungrammatical in unaccusative inversion. This last contrast reveals a difference between unaccusative objects and objects in the impersonal-il or the transitive constructions: they must be canonical.

One may consider adding a metagrammatical argument to these empirical arguments. Carme Picallo 1998 concludes from an analysis of postverbal subjects in Catalan, cast in the minimalist program: "this element [the expletive pro_{there}] has no PF or LF effects. [...] It can be dispensed with" (Carme Picallo, 1998: 221). The conclusion extends to the French unaccusative construction and it holds either when one abides by economy principles or by straightforward simplicity principles. Hence, I conclude that the postulation of a chain and of an empty expletive subject is pointless.

Part III An HPSG analysis

Dini (1995) proposes to distinguish two realization patterns for Italian intransitive verbs: the unergative and the unaccusative one. Realization refers to the mapping of arguments onto grammatical functions; more precisely in HPSG grammars, the mapping between the valency lists SUBJ and COMPS and the ARG-ST (Manning & Sag,

1998: 124). In the unaccusative pattern, the first argument of the verb is realized as an object and no subject is "projected" in the clause (38.a) below. In the unergative pattern, the first argument is realized as the subject (38.b). The thrust of Dini's proposal is that unaccusativity is defined in the dimension of realization and not at the level of argument-structure as is the case in GB (through the opposition between external vs internal arguments) or in LFG (through the taxonomy of arguments based on features such as [+/- restricted] and [+/- nonobjective] (Bresnan & Zaenen 1990)).

(38)

a. Unaccusative verb:

b. Unergative verb

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unergative-vb
| SUBJ <[1]>
| COMPS [2]
| ARG-S < [1] NP> + [2] list (synsem) |
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In the spirit of Manning & Sag 1998, I propose to consider the unaccusative pattern of realization as a universal type. I claim that verbs in French unaccusative inversion instantiate such a type. In §1, I make this claim explicit. In §2, I present the analysis of raising verbs selecting an unaccusative verb.

1. Definition of the unaccusative verb

A new HEAD verb value --*unacc*-v -- should be defined. This is achieved through constraint (39) below holding for words. A word of category V and subcategory *unacc*-v is constrained to realize its first argument as an object; constraint (39) has the same content as constraint (38.a):

1.1. Further restrictions

Constraint (39) is further constrained in order to capture the generalization (36) pertaining to the realization of the first argument in unaccusative inversion; it must be canonical:

If (39) is adequate in the grammar of Italian, (40) is specific to the grammar of French. Constraint (40) makes explicit the claim underlying (36): the universal type,

unaccusative verb, may be affected by restrictions (arbitrary or semi-motivated) along each one of its defining dimensions in individual languages.

Finally, constraint (40) has to be further restricted to the appropriate lexical forms. Only verbs denoting a non-Actor relation (cf. I.§2.B) may have an unaccusative realization. This is achieved by specifying the type of relation lexically associated with the verb form (the KEY relation) which is part of the semantic contribution of the sign (its CONTENT):

1.2. Justification

The unaccusative character of verbs is defined as a HEAD feature because it should be available for subcategorization and selection. For example, it is subcategorized by raising verbs (see §2. below). More generally, it should be available to account for the restrictions on the distribution of unaccusative inversion. Here, I take only one example: its distribution in complement clauses in the subjunctive.

Unaccusative inversion is grammatical in clauses subcategorized by verbs like *regretter* (*regret*) or *vouloir* (*want*) --respectively E-predicates and W-predicates:²⁰

- (42) a. Je regrette que soient fermées deux nouvelles usines.
 - lit. I regret that be shut down two new plants
 - b. Il veut que soient fermées deux nouvelles usines.

It is not grammatical in polarity contexts; (44) is the polarity context *par excellence*, the induced subjunctive clause:²¹

- (43) a. * Je ne pense pas que soient fermées deux nouvelles usines.
 - b. * Crois-tu que soient fermées deux nouvelles usines ?
- (44) a. * Marie est persuadée que Paul vienne.
 - lit. Marie is convinced that Paul SUBJ-come
 - b. Je ne pense pas que Marie soit persuadée que Paul vienne.
 - lit. I do not think that Marie SUBJ-be convinced that Paul SUBJ-come
 - c. * Je ne pense pas que Marie soit persuadée que vienne Paul.

Moreover, it is not felicitous in all subcategorized clauses in the subjunctive: a relation of temporal connexity should hold between the eventuality denoted by the matrix clause and that denoted by the complement clause (Marandin, in prep). This is illustrated in (45):

²⁰ I resort to the usual taxonomy of subjunctive clauses: i.a. Huot 1985, Quer 1998.

²¹ As noted by Kampers-Manhe (1998), this distributional fact is the strongest argument against any analysis which tries to set up the subjunctive mood as a licensing factor of inversion *per se* (in particular the original analyses of Milner 1978 or Kayne & Pollock 1978).

- (45) a. Paul regrettait que vienne Marie.
 - lit. Paul regretted that come Marie
 - b. * Paul regrettait que soit venue Marie.
 - lit. Paul regretted that have come Marie

2. The raising verb selecting an unaccusative verb

Raising verbs are grammatical in unaccusative inversion when they select a VP headed by an unaccusative verb.²² (46) show that the verbs selected by raising verbs in unaccusative inversion are verbs denoting a non-Actor relation and (47) that the postverbal NP is an object:

- (46) a. * Je voudrais que commencent à travailler les enfants de Marie.
 - b. * [Le silence se fit.] Alors commencèrent à agir les soldats.
- (47) a. Je voudrais que commencent à en arriver d'autres.
 - a'. * Je voudrais que commencent à arriver d'autres.
 - b. [Le silence se fit.] Alors commencèrent à en arriver d'autres.
 - b'. * [Le silence se fit.] Alors commencèrent à arriver d'autres.

In this case, raising verbs do not agree with their first argument (the VP), but with the first argument of their complement verb:

- (48) a. * Alors sembla résonner des cris d'animaux.
 - lit. Then SG-seemed to resonate screams of animals
 - b. Alors semblèrent résonner des cris d'animaux.
 - lit. Then PL-seemed to resonate screams of animals

'Then screams of animals seemed to resonate'

A raising verb shares its subject with its complement VP which calls for a subject. A raising verb selecting an unaccusative verb takes over the unaccusative character of its complement: it shares its object with its complement VP which calls for an object. I posit a lexical rule which links "Subject-to-Subject raising" verbs to "Object-to-Object" verbs:²³

(49).

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In Belletti's analysis, "there is a relation between the expletive pro subject of the matrix clause and the object of the ergative [unaccusative] verb in the infinitival clause" (1988: 24); in (49), the relation directly holds between the complement verb and the matrix verb through object sharing.

²² I keep the descriptive labels *raising*, *Subject-raising* etc. for convenience. In HPSG grammars, raising is analyzed as the sharing of SYNSEM values (Pollard & Sag, id.: 136).

²³ Compare with Belletti's (1988) analysis of the Italian analog (i) schematized in (ii):

⁽i) Sembrano essere arrivati tre ragazzi lit. seem to have arrived three boys

⁽ii) [NP pro]^j; sembrano [IP [NP e]; essere arrivati [NP tre ragazzi]^j

```
raising-vb
 SUBJ <[1]>
 COMPS [2]
ARG-S <[1]NP, [2]VP [inf, SUBJ <[1]>]>
unacc-raising-vb
 LOC SUBJ <>
       COMPS < [1] > + [2]
       COMPS <[1]NPcan, [2]VP[unacc-v, COMPS <[1]>]>
 NLOC | SLASH <>
```

The restriction that the value of SLASH should be the empty list is added in order to rule out examples like (50) below.²⁴ I adopt here an analysis of quantitative en pronominalization parallel to that of prepositional en given in Miller & Sag (1997).

- (50)a. * Je voudrais qu'en commencent à arriver d'autres.
 - b. * [Le silence se fit.] Alors en commencèrent à arriver d'autres.

The relative order of NP and VP is fixed (51.a/a') unlike the order in "Subject-to-Object" raising construction (51.b/b'):25

- a. * Alors semblèrent des cris d'animaux résonner lugubrement.
 - a'. Alors semblèrent résonner lugubrement des cris d'animaux.
 - b. Pierre vit le fils de Marie sortir du cinéma.
 - b'. Pierre vit sortir du cinéma le fils de Marie.

The LP [Linear Precedence] constraint (52.a) yields the correct order; comprehensive approach should unify it with the LP constraint (52.b) which is effective in stylistic inversion (BGM99: 35); in (52.b), extr-inv-vb (extraction-inverted-verb) is the value of HEAD verb licensing stylistic inversion.

(52) a.
$$unacc-v < NP[acc]$$

b. $extr-inv-vb < NP[acc]$

Data pertaining to word order bring support to the lexical rule (49). According to (49), the constituent structure of (53.a) is that which is schematized in (53.b). It predicts that the object cannot scramble with the dependents of the complement verb. The prediction is borne out as illustrated in (53.c) below and (10), (11) above.

a. Alors semblèrent résonner lugubrement des cris d'animaux (53)b.[S [VP [V semblèrent] [VP résonner lugubrement]] [NP des cris d'animaux]] c. * Alors semblèrent résonner des cris d'animaux lugubrement.

Conclusion

²⁴ Thanks to Danièle Godard for reminding me of these examples.

²⁵ I take up the analysis of perceptual verbs as "Subject-to-Object raising" verbs from Abeillé (ibid.: 15).

There is an unaccusative inversion in French. The main implication for the grammar of French is that the phenomenon analyzed in traditional and in generative grammar under the heading "subject inversion" should be split into two types. I summarize the main differences and resemblances between them in the following table:

	Stylistic inversion	Unaccusative inversion
Type of head verb	All	Intransitive verbs denoting a non-Actor relation
Function of the postverbal NP	Subject	Object
Postverbal NP scrambling	yes	no
Syntactic licensing	yes (extraction)	no
Agreement of the verb	In number only with the subject in the accusative	In number only with the object in the accusative

Typological consequences ensue. Contrary to what is accepted since Burzio 1986, inversion which can be considered as the French counterpart of the Italian unaccusative inversion is not the IMPERSONAL-il construction. French IMPERSONAL-il construction is not an instance of unaccusative realization: (i) it has a subject (il), (ii) it is not restricted to intransitive verbs (cf. Il a été mangé beaucoup de caviar à la fête) and (iii) it is not sensitive to the contrast Actor/Undergoer (cf. the grammaticality of agentive verbs such as procéder à (to proceed to), discuter de (to discuss), etc.: Il a été procédé à un vote/ il a été discuté de ton projet ce matin). Such a counterpart is to be found with the case of inversion I have isolated here. From a syntactic point of view, unaccusative inversion is essentially the same in French and in Italian except for the realization of the NP (restricted in French, unrestricted in Italian). The licensing of each construction in both languages is certainly different and the definition of the family of verbs which are compatible with it might not be the same. This should be the object of further research.

Postverbal NPs in unaccusative inversion have subject-like and object-like properties. This is not adequately captured by a chain relating an empty expletive in a preverbal subject position and the postverbal NP. Instead, I have shown that it follows from the non canonical mapping of the argumental status of first argument onto the syntactic function of object.²⁶ Such a mapping is the core of the notion of unaccusativity defined as a type of realization in the framework of HPSG.

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Le dictateur réclamait qu'ait lieu un sursaut national. Alors prit forme une étrange idée dans son esprit.

²⁶ If correct, the analysis I propose should take care of "exceptional impersonals" (Pollock): *prendre forme*, *avoir lieu*,. They are well-formed in the unaccusative construction:

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