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**PLUS IN THE FRENCH NEGATIVE SYSTEM:
A PRESUPPOSITIONAL AND NON-QUANTIFICATIONAL N-WORD***

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1 Introduction

It is generally considered that *plus* belongs to the system of negation in French. When it is used with *ne* it forms a negative sentence, and from this perspective it is similar to *pas* and the French n-words (1).¹ It can also combine in a sentence with other negative words like *rien* (n-thing) or *personne* (n-body) and give rise to a negative concord (NC) reading. From this viewpoint *plus* is comparable with n-words and different from *pas*, since *pas* does not combine easily with an n-word and, when it does, it gives rise only to a double negation (DN) reading. However, *plus* displays several properties which distinguish it from the other n-words: it is presuppositional, not quantificational, it cannot be denied by *pas* (2), and it can occupy various positions in the sentence, either just after the verb, or before an n-word (3).

- (1) Jean *ne* dort *pas* / *plus*.
Jean NE sleep not / n-more
'Jean doesn't sleep (anymore)'
- (2) a. * Jean *ne* voit *pas plus*.
Jean NE sees not n-more
'Jean doesn't see nomore'
- b. Jean *ne* voit *pas personne*.
Jean NE sees not n-body
'Jean doesn't see nobody'

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¹ Convention: n-words like *personne* can be glossed *anybody* or *nobody* depending on the interpretation. To avoid confusion in the glosses, we take inspiration from (Zeijlstra 2010) and translate n-words with a specific notation: n-body for *personne*.

- (3) *Plus personne n' est venu.*
 n-more n-body NE is come
 'Not anymore person has come'

So it seems that the place of *plus* within the system of negation in French is not obvious: should it be seen as contributing a sentential negation like *pas* or rather the same kind of negation as (canonical) n-words?

To answer this question, we will briefly present the system of negation in French (§2). Then we will recall what characterizes n-words (§3). To decide how well *plus* fits in this class, we will provide a description of the uses of *plus* in French and we will see that, when it co-occurs with an n-word in a sentence, *plus* does not bring the same semantic contribution depending on the place it occupies (§4). At the semantic level, the relative scope of *plus* with respect to the n-word changes the presupposition of the utterance. We will then show that making a distinction between two instances of *plus*, one which incorporates a sentential negation and one which has only a presuppositional contribution, allows us to derive the observed interpretations (§5).

2 Negation in French

The lexicon of negation is composed of the particle *ne*, the negation *pas*, and various n-words. One well known property of negation in French is that it forms sentential negation by means of two negative markers (it is called “Embracing Negation” by Zeijlstra (2010)): the preverbal particle *ne* and the negation adverb *pas* (4a). A second interesting aspect is that when an n-word is used, canonical negation is formed without the negative adverb *pas*: the preverbal particle *ne* combines with the n-word to obtain a negative interpretation (4b).

- (4) a. Pierre *ne* mange *pas*.
 Pierre NE eats not
 'Pierre does not eat'
- b. Pierre *ne* mange *rien*.
 Pierre NE eats n-thing
 'Pierre does not eat anything'

These examples are sometimes considered in the literature as instances of negative

concord (NC), since two elements contribute together only one negation but in our view this is rather misleading since the negative particle *ne* has entirely lost its negativity in contemporary French (it only survives in idioms like *je ne sais* (I don't know)); we follow Zeijlstra (2010) in considering that *ne* does not participate in concords.

When more than one negative element combines with *ne*, we can distinguish two cases: either an arbitrary number of n-words combine with *ne* but without the negation adverb *pas*; or both *pas* and (at least) one n-word co-occur in the same sentence. We describe now the various interpretations that obtain in these different cases.

Several n-words but no *pas*. When several n-words have to appear in the same proposition, only one instance of *ne* is necessary, and *pas* is normally not used:

- (5) a. *Personne n'a rien dit.*
 n-body NE has n-thing said
- b. *Personne n'a plus jamais rien dit à personne.*
 n-body NE has n-more n-ever n-thing said to n-body

The most frequent interpretation for such examples is a typical negative concord: the sentence is interpreted as containing only one logical negation (6a).² In addition to this preferred reading, a multiple negation reading can be obtained where each n-word contributes one negation (6b).

(6) Interpretations for (5a) (P for *personne*, C for *choses* 'things' and D for *dire* 'say'):

- a. NC: $\neg\exists x (Px \wedge \exists y (Cy \wedge Dxy))$
 b. DN: $\neg\exists x (Px \wedge \neg\exists y (Cy \wedge Dxy))$

This double negation reading is much rarer, but can be forced by intonation, or by specific syntactic or semantic contexts (Corblin et al. 2004). For instance, as an answer to a negative question, (5a) and the corresponding fragment answer in (7) can easily be interpreted as a DN. The dialog situation in (8) also clearly favours a DN reading.

- (7) A: *Qui n'a rien dit ?*

² A reasonably good paraphrase in NC can be obtained by translating one n-word with a negation (*personne* → *nobody*) and all the other n-words by their negative polarity version (*personne* → *anybody*):

- (i) a. *Personne n'a rien dit.* = (5a), NC
 'Nobody said anything'
 b. *Personne n'a plus jamais rien dit à personne.* = (5b), NC
 'Nobody ever said anything to anybody anymore'

‘Who said nothing?’

B: *Personne*.

‘Nobody’

(8) A: Jean *n’a rien* dit.

‘Jean said nothing’

B: C’est faux! *Personne n’a rien* dit !

‘It is not true! No one said nothing!’

When more than two n-words appear together, as in (5b), it is clearly still possible to get a concord reading (9a), and also a DN reading (9b), in which two n-word become negative, while the others remain in a concord relation; in principle other multiple negation readings could be obtained like (9c) among others, but the cognitive load required to process three negations within one single proposition is probably sufficient to explain that such examples are not found in the wild.

(9) Interpretations for (5b):

a. Nobody ever said anything to anybody anymore. NC

b. Nobody ever said anything to nobody anymore. DN

c. Nobody ever said nothing to nobody anymore. MN

Sentential negation *pas* along with one additional n-word. All authors agree that such combinations are very rare, but quite a number of exceptions have also been documented, like the ones in (10).

(10) a. Ce *n’ est pas rien*.

It NE is not n-thing

b. Il *ne va pas nulle part*, il va à son travail.

He NE goes not n-where, he goes to his work

‘He is not going nowhere, he is going to work’ (Muller 1991)

The most frequent interpretation of such examples is that of double negation (DN): for instance, (10a) is interpreted as meaning *it is not the case that it is nothing*, and as pointed out by Muller (1991) and Corblin et al. (2004), it has a special meaning effect, associating the value of ‘something important’ with it.

An additional interpretation seems to be available in Standard French, very similar

to what is called negative concord in most Romance languages: a mononegative interpretation that we will call, following Larrivée (2016), Negative Doubling (ND). We do not use the term Negative Concord because it would be confusing, since all the literature insists on the fact that *pas* in French does not participate in NC (a.o., De Swart and Sag 2002: 403). In a corpus study, we found a number of interesting cases (11). However the status of such very rare examples is still under discussion, from dysfluencies to archaisms, from regionalisms to pragmatic marking; we refer the reader to the recent study by Larrivée (2016) on this question which we will leave aside in the rest of this paper.

- (11) a. Marine Le Pen ment aux Français, elle n’a *pas* *aucune* réponse
concrète.

Marine Le Pen lies to French, she NE has not no answer concrete.

‘Marine Le Pen is lying to the French, she hasn’t got any concrete answer’

France Inter, 10.3.2011, 7h52, in (Larrivée 2016)

- b. — mais je sais *pas rien* faire mon oncle...

— but I know not n-thing do my uncle....

‘but I can’t do anything my uncle...’ *Céline L-F, Mort à crédit, 1936*

At this point, we can summarize the observations about the combinations of negative terms in French. Embracing negation requires that sentential negation is marked by both the particle *ne* (quite often but not always dropped in informal registers) and either *pas* or an n-word. When several negative terms appear in the same clause, we distinguish two cases. (A) When two or more n-words co-occur, at most one occurrence of *ne* is required to get a well formed sentence, and the sentence is preferably interpreted as NC, but can also be, context permitting, interpreted as DN.³ (B) The combination of *pas* with one or more n-words is generally considered as ill-formed, but can still be found in rare cases. Most of the time, the interpretation is a double negative, but a small number of cases interpreted mononegatively have been found (ND). Some authors include *plus* in the list of n-words (called *semi-négations* (“half-negations”) by (Muller 1991)), while others don’t (Corblin & Tovenà 2003). We address this issue in the following section.

³ Not exactly all n-words can combine with one another: the combinatorial possibilities are thoroughly described by Muller (1991).

3 The class of n-words

We present in this section various definitions that have been proposed for the class of n-words in general or half-negations in French, and we try to determine how well the distributional properties of *plus* make it a typical or marginal member of those classes.

3.1 “Half negations” (Muller 1991)

In his work on negation in French, Muller (1991: 53 & seq.) proposes an inventory of the vocabulary of negation and distinguishes on one side syntactic negation operators that allow to build, from a positive statement, the corresponding negative statement (as does *ne... pas*) and on the other side negative words, like *incroyable* ‘unbelievable’ or *rarement* ‘rarely’ which can enter a natural paraphrase relation with a negative statement. For any negative word *X*, there is a term *Y* such that *X* gets as a natural paraphrase *ne...pas Y* (Muller 1991:56). This paraphrase relation can have a morphologic support: *in-croyable* = *pas croyable* ‘not believable’ or not: *rarement* = *pas souvent* ‘not often’.

Among those negative words, Muller (1991: 250 & seq.) distinguishes a subset, which he calls half-negations and which he analyses as amalgamations of a negation and an operator *Y*. The property that distinguishes a half-negation from another negative word is that a half-negation *X* combines with *ne* and without *pas* exactly in the same contexts as those where its positive counterpart *Y* combines with *pas* (12).

(12) Jean *ne* voit *rien* (X) = Jean *ne* voit *pas* *quoi que ce soit* (Y)
Jean NE sees nothing (X) = Jean NE sees not anything (Y)

According to Muller (1991: 250, 281 & seq.), the class of half-negations is made up of indefinite pronouns (*personne, rien*), determiners (*aucun, nul*) which can also have pronominal uses, adverbs (*jamais, nulle part, nullement, aucunement, plus, guère*), the conjunction *ni* and the restrictive adverb *que*. This class is very heterogeneous, grouping terms of various syntactic categories. According to Muller (1991), the members of the class share several other properties:

They can be used alone, in elliptical contexts for instance, or as an answer, and receive a negative interpretation (13) (which is not the case for *pas*).

(13) A. Est-ce que Jean est absent ?
‘Is Jean absent?’

B. *Jamais / # Pas*
'Never / Not'

They combine with *ne* and without *pas*, except in (rare) cases of double negation reading (14).

- (14) a. Jean *n'*aime *personne*.
'Jean loves no one'
b. Jean *n'*aime *pas personne*. Il s'aime lui-même.
'Jean loves not no one. He loves himself'

They can be used with a positive interpretation: *aucun* 'no' in (15) means *un* 'one'.

- (15) Au malaise que lui apporte le paysan, il refuse de donner *aucun* sens religieux.
'To the embarrassment that the peasant brings him, he refuses to give any religious meaning'
J. Favret-Saada (Les Mots, la Mort, les Sorts, p. 18)

They can be combined with one another, giving rise to a mononegative interpretation, called concord reading (16a) = (16b).

- (16) a. Personne *ne* dit *jamais rien*.
n-body NE says n-ever n-thing
b. Personne *ne* dit à quelque moment que ce soit quoi que ce soit.
Nobody NE says at any moment anything

In sum, the crucial thing is that n-words in certain configurations can induce a semantic negation, but in other configurations cannot. The definition proposed by Muller (1991) is meant only for French negative words, but the class of n-words is obviously relevant cross-linguistically, and before coming back to *plus* and its place within the system of French n-words, let's briefly consider the more general class of n-words as it has been defined cross-linguistically.

3.2 Giannakidou's definition

According to Giannakidou (2007), the term n-word was coined by Laka (1990) to refer to nominal and adverbial phrases that appear in NC structures. Cross-linguistically the class is wide and heterogeneous, and it is better to use distributional criteria to define it,

rather than semantic features. Here is Giannakidou's definition (slightly corrected). An expression α is an n-word iff:

- (a) α can be used in structures containing sentential negation or another n-word yielding a reading equivalent to one logical negation; and
- (b) α can provide a negative fragment answer.

This definition is not very appropriate for French, because it treats on a par the combination of an n-word with sentential negation (considered impossible in French) and the combination of an n-word with another n-word. However, thanks to the disjunction in the definition, we can say that French n-words fit with the first part of the definition. Most French n-words, in addition, also fit with the second part of the definition: *rien*, *personne*, *nullement* can be used in isolation to answer a question and they get then only a negative interpretation. Thus the class of French n-words would be defined by two properties:

- (a) They can combine and give rise to a negative concord reading
- (b) They can provide a negative fragment answer.

Does *plus* verify these two properties? It can combine with other n-word and gives rise to negative concord. But it does not satisfy the second property: it cannot be used alone as a fragment answer (17).

- (17) A. Est-ce que Jean est absent ?
 ‘Is Jean absent?’
 B. # *Plus*.
 n-more (Intended meaning : not anymore)

Let us now have a closer look at semantic and distributional properties of *plus* to get a better view on what separates it from the other n-words on one side and from the sentential negation on the other.

4 Specificities of *plus*

4.1 *Plus* is not quantificational

Most authors merge more or less implicitly the class of n-words and the class of negative quantifiers (see Corblin & Tovena (2003) for instance). And the most representative n-words in French, be they indefinite pronouns (*rien*, *personne*), determiners (*aucun*), or

adverbs (*nulle part*, *jamais*) indeed combine semantically a negation and an existential quantification. Across syntactic categories, the compositional contribution of these words (when they are interpreted negatively) shows a remarkable regularity, the only aspect varying being the domain of quantification (objects, people, locations, times, etc.):⁴

- (18) *rien* ‘nothing’: $\lambda W. \neg \exists x (Ox \wedge Wx)$
personne ‘nobody’: $\lambda W. \neg \exists x (Px \wedge Wx)$
nulle part ‘nowhere’: $\lambda W. \neg \exists x (Lx \wedge Wx)$
jamais ‘never’: $\lambda W. \neg \exists x (Tx \wedge Wx)$
aucun (N) ‘no (N)’: $\lambda N \lambda W. \neg \exists x (Nx \wedge Wx)$

The n-word *plus* does not correspond to this pattern: its asserted contribution is reduced to a sentential negation. As for its presupposed contribution, it cannot be put into a form similar to what we have in (18) (see section 4.3).

Thus, *plus* has to be distinguished from the most central and canonical subset of n-words (across languages) which all share this property of being quantificational — see for instance the list of n-words for Romance languages proposed by Corblin & Tovena (2003). From this perspective, *plus*, along with a number of more exotic negative items (like *sans* ‘without’), needs a place of its own in the system of negation in French.

4.2 *Plus*+n-word as phrases

Plus can occupy two positions when it co-occurs with another n-word in a sentence. It can either occur immediately after the finite verb, in the canonical position of the sentential negation *pas*, or appear just before the n-word in a way such that they form together a single phrase. This positional property is very visible when *plus* combines with *rien* or *personne* which can easily occupy a preverbal position (19b). It is more difficult to show with the negative adverbs *nulle part* and *jamais* whose canonical position is postverbal. But it still shows when those adverbs are moved ahead, as in (20).

- (19) a. *Personne ne dort plus.*
n-body NE sleeps n-more

⁴ We chose the “negative existential” version : $\leftarrow \exists x (Rx \wedge Sx)$ of those formulae, which are logically equivalent to a “universal negative” version $\forall x (Rx \rightarrow Sx)$. This equivalence makes it irrelevant to distinguish the two formulae, even though it is sometimes done in the literature — see for instance Giannakidou (2007) who wants to draw from the fact that two logical representations exist (dubbed “universal negation” vs. “existential negation”) the hypothesis that “some n-words would correspond to existential quantifiers under negation, some others to universal quantifiers, and some others perhaps to both”.

- b. *Plus personne ne dort.*
 n-more n-body NE sleeps
 ‘Nobody sleeps anymore’ (preferred reading)
- (20) a. *Après cela, jamais Jean n’est plus venu.*
 After that, n-ever Jean NE is n-more come
- b. *Après cela, plus jamais Jean n’est venu.*
 After that, n-more n-ever Jean NE is come
 ‘After that, Jean never came anymore’

The (a) and (b) sentences are not strictly equivalent. The (a) sentences are semantically ambiguous and can receive either a NC or a DN interpretation. On the contrary, the (b) sentences can be interpreted only as NC instances. For example, (19b) would not be appropriate in the context (21) which induces a double negation reading. In fact *plus* can combine in this way with many n-words (*rien/personne/nulle part/aucun...*) always giving rise only to a double negation reading.

- (21) A: *Il faudrait être trois. Qui pourrait nous aider? Qui ne dort plus ?*
 We need to be three. Who could help us? Who is no longer sleeping?
- B: a. *Personne ne dort plus. Il est encore très tôt.*
 b. # *Plus personne ne dort. Il est encore très tôt.*
 ‘Nobody sleeps no more. It is still very early’

We propose to associate the (a) versions, which have two distinct readings, to two distinct syntactic analyses. In the case of NC reading, we assume that *plus* is not negative. We analyse it as a modifier of the quantificational n-word, which is moved on surface, exactly as do other floating adverbs like *tous* ‘all’ (22) or *beaucoup* ‘many’ (23).

- (22) a. *Tous les enfants sont malades.*
 All the children are sick
- b. *Les enfants sont tous malades.*
 The children are all sick
 ‘All the children are sick’
- (23) a. *Jean a lu beaucoup de livres.*
 Jean has read many of books

- b. Jean a *beaucoup* lu de livres.
 Jean has many read of books
 ‘Jean has read many books’

In the case of DN reading, on the contrary, *plus* is indeed negative, it occupies the same position as the one *pas* would occupy in a simple negative sentence, and it brings a presuppositional content in addition to its negative asserted content. Since it combines with a sentence already bearing a negation induced by an n-word, we get a DN reading.

Let’s consider now sentences where *plus* occurs in a non-verbal position. We claim that in this configuration *plus* occupies the same syntactic position as other adverbs such as *presque* ‘almost’ or *absolument* ‘absolutely’ and that it forms a phrase with the n-word.

- (24) a. *Presque* *personne* *n’* a réussi.
 Almost n-body NE has succeeded.
 ‘Almost nobody succeeded’
 b. *Absolument* *rien* *ne* change.
 Absolutely n-thing NE changes
 ‘Absolutely nothing changes’

Nevertheless, there are important differences between *plus* and these adverbs. Depending on whether they occur in a pre- or post-verbal position, the meaning of the whole sentence changes radically. When the adverb scopes on the n-word, it changes the meaning of the quantifier, and when it scopes on the verb, it modifies the verb meaning. *Almost nobody* means *somebody* while *almost succeed* means *fail*.

- (25) a. *Personne* *n’* a *presque* réussi.
 n-body NE has almost succeeded.
 ‘Nobody has almost succeeded’
 b. *Rien* *ne* change *absolument*.
 n-thing NE change absolutely
 ‘Nothing changes absolutely’

Nothing similar happens with *plus*. In the case of the NC reading, the position of *plus* has no effect on the assertive content. It only has an effect on the presuppositional content: when *plus* occurs in pre-verbal position, the presupposition is existential, while when it occurs in post-verbal position, the presupposition is underspecified and can be either

universal or existential, depending on the speakers. We will come back in detail on this point in §4.3.

At this point, we distinguish two uses of *plus*.

- An instance of *plus* which modifies an n-word, and can appear on its left, as in (19b), or adjoined to the finite verb, as in (19a). It is not negative in the sense that it can only give rise to a NC reading.
- An instance of *plus* which is the presuppositional variant of the sentential negation *pas* and occurs in the adverbial position where *pas* occurs. Like *pas*, this instance of *plus* can also be used in phrasal negations like in (26) (one typical property of phrasal negation in French is that it cannot occur with the particle *ne*).

- (26) a. Jean a bu du vin (*pas / plus*) très bon.
 Jean has drunk of wine (not / n-more) very good
- b. *Jean *n'* a bu du vin (*pas / plus*) très bon.
 Jean NE has drunk of wine (not / n-more) very good
 'Jean drunk wine that is not very good (any more)'

It is important to observe that these two uses can coexist in the same sentence and then the double negation reading becomes the preferred reading (27).

- (27) Grâce à ce médecin, Jean *n'* a *plus* vu *plus* personne.
 Thanks to this doctor, Jean NE has n-more seen n-more n-body
 'Thanks to this doctor, Jean has no longer seen no one anymore'

On the contrary, (28), in which several quantificational n-words co-occur, is ambiguous between a NC and a DN reading, with a preference for the NC reading. The NC reading is also preferred in (29), where there are as many occurrences of *plus* as occurrences of other n-words.

- (28) *Personne n'* a *jamais rien* dit à *personne*.
 n-body NE has n-ever n-thing said to n-body
 'No one has (n)ever said anything to anybody'
- (29) *Plus personne ne* dort *plus nulle part*.
 n-more n-body NE sleeps n-more n-where
 'No one sleeps (no/any)where anymore'

4.3 *Plus* is presuppositional

The combination *ne... plus* is usually considered as a presupposition trigger: an utterance like (30) comes along with contents of two different types: an asserted content (31a), and a presupposed content (31b).

(30) Jean *ne* dort *plus*.
Jean NE sleeps n-more.
'Jean doesn't sleep any more'

- (31) a. Assertion: Jean is not sleeping now
b. Presupposition: Jean was sleeping (before)

Let us consider now what happens when the trigger *ne... plus* interacts with a negative quantified expression, like the n-words *rien*, or *personne*.

Before going into more details, it is worth recalling that independently of the case of *plus*, the question of the right presupposition when a trigger is in the scope of a universal quantifier has not received a satisfactory answer in the literature, and both the empirical and the theoretical sides of the question are still under a lively debate (Chemla 2009, Sudo et al. 2012, Zehr et al. 2016). To summarize very briefly the situation, a sentence like (32) may be interpreted, as far as presupposition is concerned, in three different ways (32a-c). In this example, the verb *to win* is a presupposition trigger, it presupposes a participation.

- (32) None of the bears won the race. (Zehr et al. 2016, ex (5))
a. existential: At least one of the bears participated.
b. universal: All of the bears participated.
c. presuppositionless:⁵ No commitment as to whether some, all or none of the bears participated.

Empirically, there is no consensus on which of these options prevail in general, and indeed several experimental studies have shown variation among speakers: some seem to prefer universal readings, while others seem to never access to universal presupposition (Sudo et al. 2012). It has not been established yet how consistent speakers are in fact, and what contextual factors influence their interpretation. On the theoretical side, theories of presupposition projection in quantificational sentences can be roughly grouped into three

⁵ Zehr et al. (2016) unfortunately call 'presuppositionless' a situation in which there is in fact the presupposition that none of the bears participated. We leave aside the case of a lack of presupposition in the rest of the paper.

camp: theories that only predict universal projection, theories that only predict existential projection, and theories that allow for both projection options (Zehr et al. 2016: 757). In any case, the accepted view is that quantified sentences of the form in (33) (of which (32) is an instance) give rise to quantified presuppositions, independently of the specific quantifier Q. These presuppositions may be either existential (33a) or universal (33b) and they cannot be trivially predicted compositionally: appropriate projection rules have to be postulated.

- (33) [Qx : R(x)] S_{p(x)}(x)⁶
 a. [∃ x : R(x)] p(x)
 b. [∀ x : R(x)] p(x)

Let us come back now to the case of *plus*. We have seen in section 4.2 that it can occupy two distinct positions, and since in one of these positions there is an ambiguity between two readings, we have three different cases to consider. When *plus* is in a post-verbal position, we get either a DN or a NC reading (34a-b); when *plus* is preposed, it can only give rise to a NC reading (34c).

- (34) a. *Personne ne danse plus*. DN - 'Everybody is still dancing'
 b. *Personne ne danse plus*. NC - 'Nobody dances anymore'
 c. *Plus personne ne danse*. NC - 'Nobody dances anymore' (lit. n-more n-body)

Let us start with the DN reading (34a). We expect *plus*, as a presupposition trigger, to behave similarly to the other triggers: we do get either a universal or an existential presupposition depending on speakers. This variation is exactly the same with (35), the positive equivalent of (34a): the presupposition trigger *encore* is under the scope of a positive universal quantifier, and it triggers an underspecified quantified presupposition *somebody danced* or *everybody danced*.

- (35) Tout le monde danse encore.
 'Everybody is still dancing'

As for NC readings, the situation is slightly less straightforward: out of context, it is quite easy for (34b) and (34c) to get either an existential or a universal presupposition reading.

⁶ This notation is taken from Chemla (2009). Q is a quantifier, R its restrictor, S its scope, p a presupposition triggered inside S.

It is however possible to find examples where a stronger preference seems to be at stake. For instance, (36) is a case where the most plausible presupposition is universal (all men were bachelors at some point). Our native speaker impressions about this example is that the version with preposed *plus* is degraded, precisely because the existential presupposition that would be preferred with this word order is pragmatically infelicitous.

- (36) a. *Aucun* homme marié *n'* est *plus* célibataire.
 n-no man married NE is n-more bachelor
- b. # *Plus aucun* homme marié *n'* est célibataire.
 n-plus n-no man married NE is bachelor
 ‘No married man is a bachelor any more’

On the contrary, at least for some speakers, it seems that when the universal presupposition is highly implausible, as in (37), the version with *plus* in the post-verbal position is slightly degraded.

- (37) a. ? *Personne ne* lit *plus* Proust.
 n-body NE reads n-more Proust
- b. *Plus personne ne* lit Proust.
 n-plus n-body NE reads Proust
 ‘Nobody reads Proust any more’

At this stage, we can say that the two possible positions of *plus* each come with a preferred presupposition: pre-verbal *plus* prefers an existential presupposition, while post-verbal *plus* prefers the universal presupposition. Our claim is that the preference for an existential presupposition with pre-verbal *plus* is predicted by the fact that the presupposition has a wide scope over the quantified negative sentence, while the preference (for some speakers) for a universal presupposition in post-verbal position is not semantic but pragmatic and comes from the competition between the two positions. We spell out in the next section the compositional analysis that we hypothesize.

5 Analysis

We summarize in Figure 1 the various readings that are obtained when *plus* interacts with a quantificational n-word like *personne*. When *plus* is in postverbal position, the two readings we get differ on the asserted dimension (DN vs. NC) but not on the presupposed dimension: in both cases we get an underspecified presupposition that can be either universal or existential. When *plus* forms a phrase with an n-word, then we get only a NC reading (labelled NC₂), which has the same asserted content as the other variant of NC reading (labelled NC₁), but gives rise only to the existential presupposition.

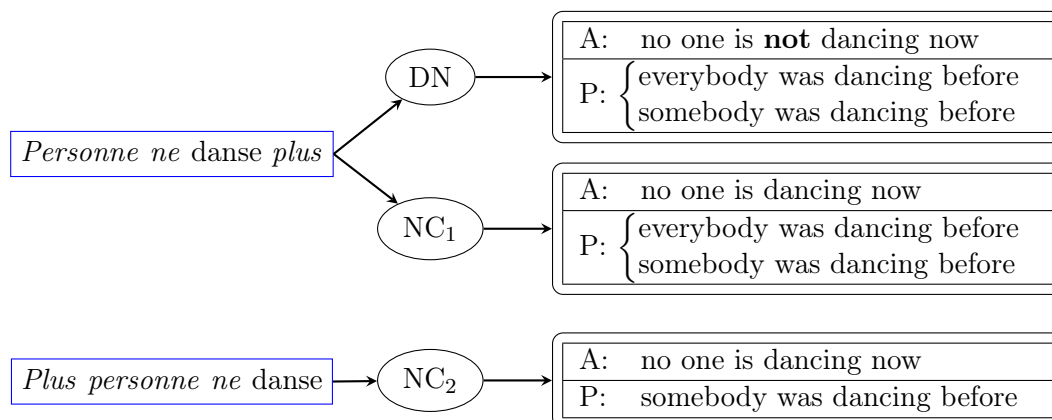


Figure 1: Possible readings for (34).

We have proposed in § 4.2 to associate different syntactic structures to sentences built with *plus* and an n-word. We assume that when *plus* occurs just before a quantificational n-word, it forms a phrase with it. It is analysed as a presuppositional adverb, which adds only a presuppositional content to the rest of the sentence. When *plus* occurs in the post-verbal position, the sentence is syntactically ambiguous. Either *plus* bears on the VP, which is dominated by a NegP, exactly as in the case of utterances built with the sentential negation *pas*. The only difference between *pas* and *plus* is that in the case of *plus*, a presupposition is conveyed in addition to this negative content. Since the sentence involves an n-word and a plain negation, it gives rise to the DN reading. Or *plus* occupies a post-verbal position, but is indeed a floating adverb: it forms a phrase with the n-word, even if it moves at the surface level.

Let us try now to predict these various readings, on both the assertion and presupposition sides. To represent the semantic contributions of *plus* in the different cases, we introduce two semantic operators, labelled *plus_p* and *plus_s*. The letters p and s

are used to refer respectively to the phrasal and the sentential version of *plus*. These operators are defined on the two assertive (A) and presuppositional (P) dimensions in the following way: they bring the same content on the presupposed level (the negation of the fact that the argument of *plus* was the case in the past), but they bring either no contribution on the asserted level (in technical terms, it is associated with the identity function) or a negation (38).

- (38) $plus_p$ A: $\lambda P. P$
 P: $\lambda P. \exists t (t < n \wedge \neg P(t))$
- $plus_s$ A: $\lambda P. \neg P$
 P: $\lambda P. \exists t (t < n \wedge \neg P(t))$

The intuition that stands behind this proposal is that the presuppositional contribution of *plus* (whether full negative adverb or concord n-word) can be seen as operating on a description of the present state-of-affairs, stating that the present state-of-affairs was not holding at at least one temporal point in the past.⁷

Let us now see how this proposal allows to account for the various interpretations that were observed.

- In the simplest case, where *plus* occurs without quantified n-words, we analyse *plus* as a sentential negation. It scopes over the positive proposition corresponding to the sentence without *plus*. Semantically, it contributes the operator $plus_s$, which conveys the same assertive content as *pas*, and in addition a presuppositional content:⁸

- (39) a. Jean *ne* danse *plus*.
 'Jean dances no more'
- b. $plus_s$ (Jean danse)
- c. A: Jean is not dancing now
 P: Jean used to dance before

- In the case where *plus* is preverbal and modifies the n-word, it corresponds to the operator $plus_p$. It doesn't bring a negation, but only a presupposition that adds up to

⁷ Technically, this requires that state-of-affairs be represented by functions from time points to truth values.

⁸ Diachronically, the modern form *ne... plus* comes from a time when *ne* was strong enough to express sentential negation, so that the old French version of *Jean ne danse plus* was to be analysed exactly as modern *Jean ne danse pas plus*.

the assertive content conveyed by the rest of the sentence (which is negative thanks to the other n-word) (40). The asserted part is directly computed compositionally (the identity function applying on the semantic content of *nobody dances now*), and the presupposed part is an existential presupposition, obtained through a computation that could be paraphrased as in (41).

- (40) a. *Plus personne ne danse.*
 b. $\text{plus}_p (\text{personne}_x (x \text{ danse }))$
 c. A: Nobody is dancing now
 P: Somebody used to dance before

(41) There is a time t before *now* where it was not the case that no one is dancing at t .

- In the two remaining cases, *plus* is in a post-verbal position, and falls within the scope of a negative quantifier. We can then predict an underspecified presupposition (existential or universal) in the way it happens in the general case of interaction between quantification and presupposition. The DN and NC₁ cases differ only on the asserted content, which is obtained compositionally by making the following assumptions. In the case of a DN reading, we assume that the word *plus* corresponds to the sentential negation plus_s and we derive the right content (42). In the case of a NC reading, we assume that *plus* contributes the operator plus_p , and in this way we can also derive compositionally the correct asserted content (43).

- (42) a. *Personne ne danse plus.* (DN)
 b. $\text{personne}_x (\text{plus}_s (x \text{ danse }))$
 c. A: Nobody is **not** dancing now
 P: $\left\{ \begin{array}{l} \text{Everybody was dancing before} \\ \text{Somebody was dancing before} \end{array} \right.$

- (43) a. *Personne ne danse plus.* (NC)
 b. $\text{personne}_x (\text{plus}_p (x \text{ danse }))$
 c. A: Nobody is dancing now
 P: $\left\{ \begin{array}{l} \text{Everybody was dancing before} \\ \text{Somebody was dancing before} \end{array} \right.$

So the ambiguity of sentences combining the post-verbal *plus* and an n-word comes from two different syntactic forms, sketched in (42) and (43). In both cases the quantifier scopes over *plus*, but in one case, it is interpreted as plus_s and in the other case as plus_p . Let's now say a few words about our view on the syntax of these various configurations. We can adopt Zeijlstra's 2014 analysis on French negation. We just have to add that there are two different *plus* in French. The first one corresponds to plus_s , it would be analysed syntactically in a similar way as *pas*, and it gives rise to a DN reading when combined with n-words. The second one (plus_p) is not an n-word, but a simple floating adverb, which only adds a presupposition to the assertive content conveyed by the sentence it combines with. There is no need to include it in the set of n-words: since it doesn't introduce any variable in itself, it has no reason to participate in a system of unselective binding by a negative operator.

6 Conclusion

In this work, we have shown that *plus* turns out to be unique in the system of negation in French. On the one hand, *plus* is comparable to the negative adverb *pas*, since it contributes a negation to the assertive content of the sentence. But unlike *pas*, it can co-occur with n-words. On the other hand, *plus* is similar to n-words, with which it can combine, yielding a concord reading. But unlike most n-words, it isn't quantificational, and it can form a phrase with a n-word, which it then modifies by adding only some presuppositional content. These leads us to assume that *plus* contributes two different operators, which share however a central property: both trigger the same presupposition.

Our proposal that the operator plus_s brings both a sentential negation and a presupposition is in line with what is suggested by diachrony: at one point in the history, the combination *ne... plus* was composed of the sentential negation *ne* and a comparative adverb only in charge of the temporal presupposition. But while the weakening of *ne* as a full negation lead to *pas* becoming the main term for sentential negation, the adverb *plus* took over partly the role of *pas* so that instead of the combination *ne... pas plus* (which corresponds to what we find in other languages: e.g., It. *non più*, Ge. *nicht mehr*) we ended up with the present version *ne... plus*. This fact also explains why it is impossible to find in contemporary French a combination of *plus* with the negative adverb *pas*, while, even if this type of combination remains quite rare, it is possible for the other

n-words.

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