

FLOATING QUANTIFIERS: FRENCH UNIVERSAL QUANTIFIERS AND N-WORDS*

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Canonical quantification describes the configuration of canonical quantificational sentences, (1a), while *non-canonical quantification* occurs when Q and its restriction are not adjacent anymore, (1b)¹. Floating Quantifiers (FQs) are typical instances of *non-canonical quantification*: they involve movement of the noun restriction past the lexical Q (Kayne 1975, Sportiche 1988,²). FQ structures depend on the association of a Q and an associate DP: *toutes* [_{DP} *les filles*] and *chacune* [_{DP} *des filles*]³. *Tous les N* ‘all the N’ and *chacun des N* ‘each of the N’ can overtly reflect (1a) and (1b): (2a)/(3a) exemplify (1a); and (2b)/(3b) illustrate (1b). FQs and non-FQs are truth conditionally equivalent (Doetjes 1997, Bobaljik 2003): *toutes*

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¹ ‘Quantifier’ refers to items that contribute to some quantity/amount meaning. In (1), it doesn’t say anything about its syntactic structures (or category), which is developed below.

² FQs must be distinguished from Split-DP structures, which are characterized by movement of Q stranding the restriction in-situ, (ib) (Obenauer 1994, a.o): FQs and their non-FQ counterparts do not yield different presuppositions, whereas Split and unsplit do

- (i) a. **Combien de toiles** as-tu peint(e)s
How many paintings have you painted.M.PL/F.PL
b. **Combien** as-tu peint(*es) **de toiles**?
How many have you paint. M.PL/*F.PL of. Paintings
Both: ‘How many paintings did you paint?’

³ *Chaque* ‘every’ and *tout* ‘all.sg’ are D^o, selecting NPs, and don’t float. See Baunaz 2008.

and *chacune* quantify over the entities *les filles* ‘the girls’. FQs and non-FQs syntactically agree with the associate DP: in (2), the DP *les filles* is plural/ feminine, just like *toutes* that modifies it. In (3), only gender agreement is displayed. FQ structures also overtly show up with (some) N-words, (4b).

- (1) a. Canonical Quantification: Q– restriction – scope
b. Non-Canonical Quantification: restriction– Q – scope
- (2) a. Juliette a vu **toutes les filles**
J. has seen all.fem.pl the.fem.pl girls
b. Juliette **les** a **toutes** vues
J. them has all.fem.pl seen
- (3) a. Juliette a vu **chacune des filles**
J. has read each.fem.sg of.the girls.fem.pl
b. Juliette **les** a vues **chacune**
J. them has seen each.fem.sg
- (4) a. Juliette a chanté **aucune des chansons**
J. has sang none of.the songs
b. Juliette **en** a chanté **aucune**
J. cl. has sang none ‘Juliette sang none of them’
- FQ is clause-bound: a strict locality restriction rules the dependency of FQ and the DP it modifies: (i) FQ is not licensed in finite embedded clauses, (5a), (5c) and (ii) the modified DP must c-command FQ, (5b):
- (5) a. * **Les filles** pensent que Maya a **toutes** vu les garçons
the girls think that M. has all.F.PL seen the.M.PL boys.M.PL
b. * **Le manager des filles** a **toutes** vu les garçons
the manager of the girls has all. F.PL cured the.M.PL boys.M.PL
c. ***Il en** pensent que Maya a vu **aucune**
he them think that M. has seen none

I first argue that argument N-words resemble semantically and syntactically to \forall Qs⁴. Then I propose that both types of Qs have similar internal structures.

⁴ One difference between *tous les N* and *aucun des N* is the fact that the first one can float from both the subject and the object position, while the latter can only float from the object position. I don’t discuss this in this paper, and leave it for further research.

1. Universal Quantifiers: Internal Structures

I adopt the idea that *tous* are not heads, but modifiers (Fitzpatrick 2006). Two structures are available: either no selection between Q and its restriction is involved (contra Giusti 1997) (6a), or there is (6b):

- (6) a. Adjoined structure: [DP tous [DP les [NP garçons]]] ‘all the boys’
 b. Specifier structure: [DP tous (of) [D° the [NP garçons]]] ‘all the boys’

Selection is an argument in favour of (6a): no predicate selects for Qs alone, yet some verbs select for DPs. An argument against (6b) is (7): if demonstratives are maximal projections in [Spec, DP] (Giusti 1997), then no room in Spec is available for *tous* in (8b) (vs. (8a)).

- (7) tous ces garçons ‘all these boys’

- (8) a. Adjoined structure: [DP tous [DP ces [D° [NP garçons]]]]
 b. Specifier structure: [DP ces [D° [NP garçons]]]

I adopt the structure in (6a) (Fitzpatrick 2006)⁵: *tous* is adjoined to DP. Let’s now turn to the floating property of \forall Qs.

Two major approaches address the issue of FQs: the movement (syntactic) approach considers that the lack of semantic differences between FQ and non-FQ reflects a lack of syntactic differences (Sportiche 1988, a.o). FQ is a pure adnominal Q (9a). The adjunction (semantic) approach argues for the adverbial status of FQ (Dowty and Brodie 1984, a.o), (9b).

- (9) a. [Les infirmières]_i ont [VP [toutes/chacune t_i] fait des points de sutures]
 b. Les infirmières ont [VP toutes/chacune [VP fait des points de sutures]]
 The nurses have all/each made stitches

The syntactic approach doesn’t account for the unavailability of postverbal FQs with passives / unaccusatives (vs. intransitives), nor does it treat object and subject related Qs equivalently (see Kayne 1975). The semantic approach doesn’t account for the Det-like behaviour of FQ.

I adopt an approach that accounts for both the adverbial positioning of these elements and their agreement behaviour: Doetjes 1997:202 claims that FQ is a genuine quantified noun phrase. iT is dependent on the presence of an associate DP with whom it agrees: she argues that FQ is an adnominal Q, selecting *pro* (of type *e*) as its restriction (and domain of quantification), (10a). The locality effects observed with FQ, as well as the rise of agreement is accounted for by *pro*, which syntactically and semantically mediates the relationship between the FQ and its

⁵ I refer the reader to Fitzpatrick 2006 and Baunaz 2008 for more developed arguments in favor of the adjunction analysis.

associate DP. FQ binds the trace of the moved DP and syntactic agreement arises⁶. Fitzpatrick 2006:66 claims that ‘this pronominal element contributes a coreference-like relationship to the nominal associate’, in a A position. He proposes that FQ is semantically (and syntactically) equivalent to [all of them]. *Pro* is incorporated into the semantics of Dowty and Brodie 1984 for adverbial FQs. This semantics is similar to that of its non-floated counterpart: both are fully-fledged \forall Qs.

Because its distribution is that of adverbs⁷, the complex [_{FQ}Q + *pro*] is generated in an adjoined position from where it c-commands *ec*, a member of its chain, the A-trace of the DP over which it (indirectly) quantifies, (10b).

- (10) a. FQ: [_{QP} tous [_{DP} *pro*]]
 b. [_{XP} FQ_i [_{XP} ... *ec*_i...]] (Doetjes 1997:202, (5))

FQ and non-FQ have similar structures: Q adjoin to the DP hosting *pro* in FQ (its restriction); and to the overt DP restriction in non-FQs. In both cases, agreement comes from binding with the restriction (and the associate DP)⁸.

The aim of section 2 is to explore the internal structure of argument N-words (*personne* ‘nobody’, *rien* ‘nothing’, *aucun des N* ‘none of the N’).

2. N-words

Two issues arise as to the nature of N-words: (i) their negative status; (ii) their quantificational status. Based on Giannakidou 1998 (and subsq.) for Greek, I show that French N-words are inherently negative (Mathieu 2002 (a.o)). N-words can be translated by two truth conditionally equivalent formulae: either \neg scopes over \exists , (15a); or \forall scopes over \neg , (11b).

⁶ *-un* in *chacun* lexicalizes *pro*: *chac-* distributes over its restriction *-un* (Fitzpatrick 2006).

⁷ FQ is not of category ‘adverbs’ (Doetjes 1997). FQ must be distinguished from Q time adverbs which range over times and take scope over an event argument in the VP and from adverbial *beaucoup* ‘a lot’, which can appear clause medially, quantifying over an event argument and occupying VP-adjoined positions (Obenauer 1994). Doetjes treats adverbial *beaucoup* and FQ *tous* as occupying adverbial positions, yet states that whereas *beaucoup* can function as an adverb, floated *tous* cannot: adnominal Qs do not theta-select their host, rather they select the category of their host, i.e., DPs and *tous* quantifies over individuals.

⁸ Adopting the adjoined structure for both constructions is advantageous, and the strict correlation between semantics and syntax is kept. Another advantage is that object and subject FQs are treated in a uniform way: what counts is the direct relation between FQ and the DP-trace (Doetjes 1997). It also accounts for the unavailability with unaccusatives / passives, and their availability with intransitives (iff the verb is followed by some material; FQ adjoins to a postverbal XP). I refer to Fitzpatrick 2006 for objections and his solutions.

- (11) a. $\neg\exists x [P(x) \wedge Q(x)]$ (Existential negation)
 b. $\forall x [P(x) \rightarrow \neg Q(x)]$ (Universal negation)

According to (11), N-words combine \neg plus either $\exists Q$ to its right or $\forall Q$ to its left. Languages vary as to which logical translations they allow: Greek N-words are $\forall Q$ s (Giannakidou 1998 (a.o)); Italian N-words combines $\forall Q$ s with sentential negation (Zanuttini 1991); and French N-words are construed existentially (11a) (Déprez 1997, Mathieu 2002).

I focus on constructions involving the overt negative operator (Op) *pas* + an adjacent Q (unemphasized *un N* ‘a N’ and unemphasized *tous les N* ‘all the N’). In section 2.1, I discuss the status of *pas un* as well as *pas tous* and show that although *pas* modifies an adjacent *un N*, it takes sentential scope, building an anti-additive Op, while *pas* in *pas tous les N* only takes phrasal (*local*) scope (vs. sentential scope), building a monotone decreasing Op only in its VP argument. I show that *pas un* lexicalizes (11a) and that N-words lexicalize the inverse (scope) pattern of the sequence *pas tous les N*, (11b), which never gives rise to universal negation. In section 2.4, I argue for the \forall status of French N-words, using semantic and syntactic diagnostics, indicating contrasts between $\exists Q$ s and $\forall Q$ s, elaborated by Zanuttini 1991 and Giannakidou 1998. Further evidence in favour of this treatment is the fact that they may overtly display FQ structures. I show that N-words can (c)-overtly realize FQ, resulting in a structure *à la Doetjes* (section 2.5).

2.1. Monotonicity : *pas un N* vs *pas tous les N*

2.1.1. *pas un N* ‘not a single N’

pas un N ‘not a single N’ involves the (unemphasized) Det *un* ‘a’. *Un* can have a numeral reading. *pas + un* can also be idiomatic. Besides a numeral and an idiomatic reading, *un N*s is potentially ambiguous between an indefinite and a specific reading (see Ihsane 2006, a.o). I claim that *un N* in *pas un N* is an indefinite that is locally licensed by the negative Op *pas*.

First the numeral reading is available if *un* is focalised, receiving heavy stress. *pas un* is not contrastive in (12): it doesn’t mean that *not one single student bought flowers, but two (or more)*. Yet *pas* can hardly negate a numeral, unless focalizer *même* ‘even’ is inserted: in (13), ten boys is focalised, shading doubts on the numeral status of *un* in *pas un N*, (12):

- (12) Pas un étudiant a amené de roses
 not a student has brought flowers
- (13) *(même) pas dix garçons ont bu du coca
 Even not ten boys have drank of.the coke
 ‘not even ten boys drank coke’

- (18) a. Pas un être humain a amené de roses → pas un type a amené de roses
 Not a human being has brought roses → not a guy has brought roses
 b. Pas un type a amené de roses → Pas un type a amené de roses rouges
 not a guy has brought roses → not a guy *ne* has brought roses red
- (19) Pas un type fume ou boit ↔ Pas un type fume et pas un type boit
 Not a guy smokes or drinks ↔ Not a guy smokes and not a guy drinks
- (20) Pas un étudiant n'a bu quoi que ce soit
 Not a student *ne* has drunk anything 'Not a student drank anything'

Semantically, then, *pas un N* is interpreted as existential negation (11a), i.e. *pas* lexicalises \neg and *un N* overtly realises \exists . *Un N* is licensed by *pas* and builds an anti-additive Op which in turn licenses NPIs in object position.

2.1.2. *pas tous les N*

Non-FQs and FQ structures have similar truth-conditions: the same if true of *pas* modifying *tous*: if the negative marker *pas* co-occurs with *tous*, neither (21a), nor (21b/c) express universal negation: *pas* negates the participant in subject position, not the event denoted by the VP: the unmarked reading is neg over \forall , *it is not all the children that have eaten the chocolate*¹¹. The scope of *pas* is not sentential (vs. *pas* in *pas un N*), and the constituent does not sit in NegP. I claim that *pas* in (21) is like FQ, it operates locally: its domain is *tous*. (21d) shows that *pas* cannot float off the \forall Q, i.e., it must be parasitic on \forall . I argue that the combination of *pas* plus *tous* yield a complex Q. Whenever *pas* and *tous* co-occur, negation is interpreted as a modifier, just like the negative prefix *in-* in *in-constant*. Two consequences arise: (i) full \forall Qs reconstruct, parasitic *pas* marking their basic position¹²; (ii) that *pas* is syntactically similar to FQ.

- (21) a. *Tous* les enfants n'ont **pas** mangé le chocolat ($[\neg > \forall]$; $*[\forall > \neg]$)
 b. Les enfants n'ont **pas tous** mangé le chocolat ($[\neg > \forall]$; $*[\forall > \neg]$)

¹¹ Sentences like (21a) are productive in spoken French and speakers give uncontroversial judgements: 'When negation is present, it must take scope over the \forall Q and its restriction, but not over the whole sentence' (<http://www.lexilogos.com/>, my translation). Intonation is neutral on both items. A reviewer pointed out to me that (21a) is ambiguous in Italian. Yet, it seems that once intonation is controlled for, Italian behave like French (see Baunaz 2008, Andrea Cattaneo (p.c)).

¹² If full \forall Qs must reconstruct, then they are interpreted in their base (A)-position: the argument of the verb is the associate-DP, over which the \forall Q adjoins. FQ cannot reconstruct, i.e., they must occupy a position distinct from full \forall Qs, i.e., an 'adverbial' adjoined position. The argument of the verb, namely, the DP-associate, is generated a A-position.

- c. **Pas** tous les enfants n'ont mangé le chocolat ($[\neg > \forall]$; $*[\forall > \neg]$)
 d. * **Pas** les enfants n'ont tous mangé le chocolat
 (not) (all) the children *ne* have (not) (all) eaten the chocolate
 'Not all the children have eaten the chocolate'

The relation between *pas* and FQ or non-FQ *tous* is insecable and no Q can be inserted in between. In (22), the 'not every' meaning is not disrupted by the scope of neither the specific, or the indefinite reading of *une femme*:

- (22) a. Tous les enfants n'ont pas pensé que Jean aimait une femme
 All the children *ne* have not thought that J. liked a woman
 b. Les enfants n'ont pas tous pensé que Jean aimait une femme
 The children *ne* have not all thought that J. liked a girl
 c. Pas tous les enfants ont pensé que Jean aimait une femme
 Not all the children have thought that J. liked a girl
 'Not all the children have thought that Jean liked a girl'

The sequence *pas-FQ* is not interrupted by neither a preceding nor a following VP adverb (23a vs. 23b,c)¹³. Nor can the universal adverb *presque* 'almost' be inserted in between: *presque* can modify the VP in (24) meaning that *the children are eating, but have not yet finished*, or [*pas tous*] in both subject and object positions, but not *tous* alone (25):

- (23) Ils ont ([?]péniblement) **pas** ([?]péniblement) tous péniblement mangé
 They have (painstakingly) not (painstakingly) all (painstakingly) eaten
- (24) Les enfants ont presque mangé = (VP modification)
 the children have almost eaten
- (25) a. Les enfants ont (presque) pas (*presque) tous mangé
 the children have (almost) not (almost) all eaten
 b. (Presque) pas (*presque) tous les enfants ont mangé
 Almost not (almost) all the children have eaten

The fact that medial and initial *pas* do not operate over the VP, but take scope over the \forall Q only, suggests that they form a syntactic unit. When *pas* is clause medial, its association with a non-FQ is covert in that \forall Q moves to the [Spec, TP], while *pas* indicates the base position of \forall Q. I conclude that *pas* is to *tous* what *tous* is to the associate DP: a modifier, and as such it adjoins to it. *Pas tous* lexicalizes a complex Q.

¹³ The case of *pas souvent tous*... 'not often all...' is discussed in Baunaz 2008.

Pas ‘not’ is a downward entailing, while *tous* ‘all’ is decreasing in its NP, but increasing in its VP argument (see Beyssade 2006 :6, (28)). The pair in (26) shows that *tous*, licenses NPIs only in its restrictor.

- (26) a. *Tous* les étudiants qui avaient quoi que ce soit à dire ont participé
All the students that had anything to say have participated
b. **Tous* les étudiants avaient quoi que ce soit à dire.
All the students have anything to say

If *pas* modifies *tous*, monotonicity gets reversed in all its arguments: *pas tous* is decreasing in its VP (27) and increasing in its NP (28) (it cannot license the NPI in its restrictor, (29a)). In (29b/c), *pas* is not strong enough to take sentential scope, and license NPIs. I conclude that the association of *pas* plus *tous* yields a complex anti-additive Q (31) (That is discontinuous in (30b)) and that *pas* operates over \forall Q, only:

- (27) a. *pas tous* les gars sont arrivés → *pas tous* les gars sont arrivés tôt
Not all the guys arrived → not all the guys arrived early
b. *Pas tous* les gars sont arrivés tôt -/-> *pas tous* les gars sont arrivés
Not all the guys arrived early -/-> not all the guys arrived
- (28) *Pas tous* les gars de Genève sont arrivés → *Pas tous* les gars sont arrivés
Not all the guys from Geneva arrived → not all the guys arrived
- (29) a. * *Pas tous* les étudiants qui avaient quoi que ce soit à dire ont participé
Not all the students that had anything to say have participated
b. * (*Pas*) *tous* les étudiants n’ont vu quoi que ce soit
c. * *Tous* les étudiants ont *pas* vu quoi que ce soit
(not) all the students have (not) seen anything
- (30) a. *Pas tous* les garçons dansaient ou chantaient → *Pas tous* les garçons dansaient et *pas tous* les garçons chantaient
Not all the boys danced or sang → not all the boys danced and not all the boys sang
b. *Pas tous* les garçons dansaient et *pas tous* les garçons chantaient -/->
Pas tous les garçons dansaient ou chantaient
not all the boys danced and not all the boys sang -/-> not all the boys danced or sang

I have shown that phrasal *pas* is either parasitic on an adjacent Q (*tous*), or a licenser (for *un, de N*, see fn. 13). If c-command is a formal licensing condition on NPIs, then *pas un N* and *pas tous les N* involve distinct internal structures (section 2.3), which influence their syntax at the clausal level.

2.3. Internal Structures

In section 2.2, I argued that *pas* occupies different positions in *pas un* and in *pas tous*: (i) *pas* locally licenses *un N*, building an anti-additive Op which in turns reverses the polarity of the clause, while (ii) it only modifies *tous*.

Pas un is a complex Q, where *pas* negates *un*. I claim that *un* is an indefinite, that needs binding for interpretation. Because *un* is not bound at the VP level, or by any other c-commanding Op, *pas* is inserted, licensing it. If NPI licensing needs semantic ‘roofing’ and syntactic licensing, then *pas* must occupy a position from where it c-commands *quoi que ce soit*¹⁴. The scope of *pas un N* is sentential. Yet the scope of *pas* alone is local, and builds an anti-additive Det. *Pas* is not parasitic on *un*, but a licenser. As such, it doesn’t adjoin to *un N*. Because *pas un N* forms a complex Q, I propose that *pas* occupies the Q position within the left-periphery of the DP, as in (31), where FP turn the NP into an argument (Ihsane 2006). The whole cluster is negative, and movement to [Spec, NegP] compulsory.

(31) [QP *pas* [Q ° [+neg] [FP [F° *un* [NumP [Num *t* ... [NP *t* garçon]]]]]]]

Because the sequences *pas tous / tous... pas* never trigger sentential negation, there is no NegP, and the neg-criterion needs not be satisfied. *Pas* is a modifier and doesn’t c-command the object NPI, and NPI licensing fails.

(32) a. *[CP[TP[DP*pas* [D_{pi} *tous les N*]]][T°ont [VP *t_i* [V° *lu*] [DP *quoi que ce soit*]]]]]
 b. *... [VP [QP *pas* [Q_{pi} *tous* [DP *pro*]]] [VP *ec_i* [V° *lu*] [DP *quoi que ce soit*]]]
 c. *[CP[TP[DP_{pi} *tous les N*] [T° ont] [VP [DP *pas t_i*] [V°*lu*] [DP *quoi que ce soit*]]]]]

The behaviour of *pas vis-à-vis tous* in both FQ and non-FQ constructions is similar: in the unmarked cases, *pas* scopes only over the \forall Q.

What about N-words? Either they are also translated as existential negation (11a), i.e., *pas un N* and N-words would be synonyms, or they involve universal negation. Because French N-words behave like \forall Qs I claim that (11b) is the correct representation of French N-words.

2.4. The Universal Negative status of N-words

N-words are traditionally taken to express sentential negation, involving movement to [Spec, NegP] (Zanuttini 1991, Haegeman 1995, a.o). If nothing morphological indicates that they are negative in French, there are yet semantic and syntactic reasons to claim that French N-words are negative.

¹⁴ *Pas un* only occurs in subject positions, *un N* being the counterpart of *de N* ‘of.N’ in object position. Is *pas* in *pas .. de N* moved to NegP, or is it base generated there? My analysis of *pas un N* advocates for the former idea (vs. Doetjes 1997; Ihsane 2006). I leave this open.

One of the finest analyses of N-words is Giannakidou's 1998 on Greek. She argues that Greek N-words are not negative, but \forall Qs scoping over sentential negation. In Greek, N-words are *emphatics*. She shows that *emphatics* should be distinguished from *nonemphatics* which have the same lexical realisation.

- (33) I Maria *(dhen) enekrine kanena/ KANENA sxedhio (Greek)
 the Maria not approved.3sg n. plan
 'Maria didn't approve any plan' (kanena-version)
 'Maria approved no plan' (KANENA-version)

The two items have distinct prosodic and licensing mechanisms. *Emphatics*, but not *nonemphatics* (i) bear stress; (ii) cannot appear in non-negative environments (they have to appear in the same clause as the negative marker *dhen*); (iii) they can appear in subject position above a negative marker and (iv) can be modified by *almost*; (v) they can appear in fragment answers.

Giannakidou argues that *emphatics* are dependent (semantically non-negative) items: first, the (semantically) negative marker is always required, i.e., Greek is a strict NC language¹⁵; second, in elliptical contexts (fragment answers), the elided material must contain a negation that associates with the N-words when ellipsis is resolved. Hence, *emphatics* cannot be negative. She claims that they are \forall Qs taking scope over negation, while *nonemphatics* are \exists taking narrow scope over negation.

This analysis is inadequate for French: the presence of negation in the elliptical part is impossible, since *pas* is excluded from the NC-system, (34a). If the full structure is spelled out, only (34b) is grammatical, since the elided material must be identical to its antecedent (Merchant 2001, Watanabe 2004). (34) suggests that *personne* is intrinsically negative: if the elliptical part contains a negative item, the sentence is ungrammatical it is interpreted. DN is unavailable in (35) since *pas* occurs in the elided material, i.e cannot be emphasized (see fn. 15):

- (34) a. *Je veux marier Anne et/ou [~~je ne veux pas marier~~] personne (d'autre)
 I want marry A. and/or [I ne want not marry] nobody (else)
 b. Je veux marier Anne et/ou [~~je (ne) veux marier~~] personne (d'autre)
 I want marry A. and/or [I want marry] nobody (else)
 ' I want to marry either anne or I don't want to marry anybody (else)'

¹⁵ When two N-words co-occur, yielding a positive proposition, Double Negation (DN) arises. A language is a Negative Concord language when the co-occurrence of two or more N-words yields a negative reading. The negative sentential marker must be present in strict NC languages (Greek), whereas it may be absent in non-strict (Italian). Within the non-strict class, languages are not uniform either: French *pas* is incompatible with NC (de Swart and Sag 2002). When multiple N-words co-occur in the same clause, the unmarked reading is NC, but depending on the intonation, DN can show up (see Corblin and Tovina 2003, Baunaz 2008 a.o.). Yet DN is extremely difficult with *pas*, unless it triggers emphatic stress.

- (35) * Je ne veux pas marier Anne et/ou ~~je ne veux pas marier~~] personne
 I *ne* want not marry A. and/or [I *ne* want not marry] nobody

French N-words must be distinguished from Greek on at least three grounds: i) they do not bear stress; ii) French is not a strict NC language: *pas* ‘not’ cannot co-occur with N-words (de Swart and Sag 2002)¹⁶; iii) they are semantically negative since they can appear in fragment answers (36a); they cannot have a non-negative meaning in non-veridical contexts (36b); they are anti-additive (36c) and as such they can license NPIs (36d):

- (36) a. A: Whom / Which girl did you see? (Fragment answers)
 B: Personne/ aucune / *qui que ce soit
 Nobody / No one / anybody
 b. Personne /aucun des hommes n’a appelé? (*non-negative / negative)
Did nobody telephone?
 c. personne chantait ou dansait ↔ personne chantait et personne dansait
 nobody sang or danced ↔ nobody sang and nobody danced
 d. Personne / aucune des filles n’a vu qui que ce soit (NPIs licensing)
 Nobody / none of the girls *ne* has seen anybody

Because N-words fulfil the tests proposed in the literature stating the negative status of a constituent, Mathieu 2002, Déprez 1997, (a.o) conclude that they are semantically negative. What about their quantificational status?

N-words can logically be interpreted either as \exists Qs or as \forall Qs. Conversely, I argue they are composed of a \forall Q combined with negation.

Déprez 1997 argues that French N-words are equivalent to the numeral *zero N*. As such, they display a strong (universal negation) and a weak reading (existential negation) (cf. (11)). On the weak reading they stay in-situ, under the scope of an Op (negation, conditional etc). Under the strong reading, the indefinite introduces a variable interpreted within the restriction of negation. Strong Dets are specific indefinites undergoing QR: (37) is ungrammatical as a result of weak island violation. *Ne* being a scope marker indicates where *personne* is interpreted (i.e., post-QR), *quand* being an intervener, blocks QR.

- (37) *Tu **ne** te demandes quand voir **personne**. (French)
 you *NE* yourself ask when to see N-word
 ‘You do not wonder when to see anyone.’ (Déprez 1997:57)

¹⁶ This propriety is crucial to distinguish French from Greek: Greek is strictly NC, French is non-strict. Greek emphatics occurs in the same environments as French’s but the elliptical construction test gives different results, which are related to the status of the negative marker in the two languages. Another point of differentiation is the fact that two N-words may create a DN reading in French, if one N-word is emphasized. Only NC shows up in Greek.

(i) *zero personne* is not compatible with clitic *ne* (38), (ii) *zero personne* is acceptable in stylistic inversion, but *personne* is not, (39). Then French N-words are not numerals (Haegeman 1996).

- (38) a. Je n'ai vu personne/*zéro personnes
I *NE* have seen no one / zero people 'I did not see anyone'
- b. Je n'ai pas vu Marie
I *NE* have NOT seen Marie (Haegeman (1996: 6, (13)))
- (39) a. Qu'a donné Jacques à trois personnes/à zero personnes de son groupe ?
what has given Jacques to three people/ zero people of his group
- b. *^{??} Que (n') a donné Jacques à personne de son groupe?
what (NE) has given Jacques to no one of his group

Just like French \forall Qs (vs. \exists Qs), (i) the scope of N-words is clause-bound; (ii) they can float; (iii) they cannot be interpreted as predicate nominals; (iv) they can appear in *exception-clauses* (see Corblin *et al* 2004).

- (40) a. * Je n'ai dit que personne/aucun des garçons allait venir¹⁷
I *ne* have said that no one / none of the boys would come
- b. Une fille a dit que tous les garçons étaient sympas $(\exists > \forall)$; *($\forall > \exists$)
a girl has said that all the boys were nice
- c. Tous les garçons ont dit qu'une fille était sympa $(\exists > \forall)$; ($\forall > \exists$)
All the boys have said that a girl was nice
- (41) a. Je n'**en** ai soulevé **aucun**
I *ne* cl. have lifted none 'I didn't lift any'
- b. Un clown **les** a soulevés **chacun**.
A clown them has lifted each (Puskás 2002 : 108(8))
- (42) a. * Juliette est personne / aucune des filles
Juliette is nobody / none of the girls
- b. *Juliette, Patsy, Edina et Louise sont toutes les amies à moi
Juliette, Patsy, Edina and Louise are all the friends of mine
- c. Juliette est une amie à moi
Juliette is a friend of mine
- (43) a. Personne/aucun des mecs n'a parlé à personne, sauf Marie à son frère
Nobody / None of the guys *ne* has talked to anyone, except Marie to her brother
- b. Tous les mecs ont parlé à toutes les filles, sauf Marie à son frère

¹⁷ Note that there is no subject-object asymmetry with respect to LF-raising (vs. Kayne 1981)

- all the guys have talked to all the girls, except Marie to her brother
c. * Une fille a parlé à un mec, sauf Marie à son frère
a girl has talked to a guy, except Marie to his brother

Yet, N-words resemble *tous les N* (vs. *chacun des N*): (v) *tous les N*, unlike *chacun des N* can enter CILD constructions, (44a) vs. (44b). In certain registers of French, *personne* can be dislocated (44c) (vs. \exists Qs (44e):

- (44) a. Tous les étudiants, je les ai aidés
all the students, I them have helped
b. * Chacun des étudiants, je l'ai aidé
each of the students, I him have helped
c. Personne, il fiche rien, à Toulon (Zribi-Hertz 1994)
Nobody he does nothing in Toulon
d.[?] Aucun des garçons, je les ai aidés
none of the boys, i them have helped
e.* Une étudiante, je l'ai aidée
a student, I her have helped

(vi) Italian and Greek \forall Qs (vs. \exists Qs) can be modified by the degree adverb *almost* (Zanutini 1991, Giannakidou 1998): in (45a) French N-words pattern like *tous les N* (45b) (vs. *chacun des N* (45c) or existential *un N* (45d)). (vii) N-words, like *tous les N* can occur as subject of both distributive and collective predicates (46) (vs. *chacun des N* is obligatory distributive, (46b)).

- (45) a. Presque personne / aucune des filles n'a mangé des sushis
almost nobody / none of the girls *ne* has eaten of.the sushis
b. Presque toutes les filles ont mangé des sushis
almost all the girls have eaten sushis
c. ^{??} J'ai vu presque chacune des filles
I have seen almost each of the girls
d. * Presqu' une fille a mangé des sushis
almost a girl has eaten of.suchis
- (46) a. Tous les enfants se sont rassemblés dans le parc pour manifester
all the children ref. are gathered in the park to demonstrate
b.* Chacune des filles s'est rassemblée dans le parc pour manifester
Each of the girls refl. are gathered in the park to demonstrate
c. Personne/aucune des filles ne s'est rassemblé dans le parc
Nobody/none of the girls *ne* refl is gathered in the park
d. Personne / aucune des filles n'a entouré le château.
Nobody / none of the girls *ne* has surrounded the castle

The tests (i)-(iv) show that N-words and \forall Qs are similar. The tests (v)-(vii) suggest that they behave like *tous les N* (vs. *chacun des N*). Because French N-words are i) intrinsically negative, ii) behave like \forall Qs, I conclude that their internal composition is that the order of Ops is $\forall > \neg$ (being interpreted as *for all x, it is not the case that x*, i.e. reversing the order *pas tous* exhibits). In the next section, I investigate their internal structure. The parallelism between \forall Qs and N-words is taken seriously, and I show that N-words can (c)overtly realize derivations of the FQ type.

2.5. The structure of N-words: N-words are (covert) FQs

The presence of an overt restriction with \forall Qs allows FQ structures. *Aucun* takes *des N* as its associate DP and it can float, (47). (47) is reminiscent of FQ structures involving *chacun* (48): just like object FQ, *en*-cliticisation of the moved argument is obligatory, (47b).

- (47) a. Je n'ai peint aucune des toiles
 I *ne* have painted none of.the paintings
 'I painted none of the paintings'
- b. Je n'en ai (*aucune) peinte *(aucune)
 I *ne* cl. have (none) painted.fem. (none) 'I painted none of them'
- (48) a. Un clown a soulevé chacun des pianos.
 a clown has lifted each of.the pianos
 'A clown lifted each of the pianos.'
- b. Un clown les a (*chacun) soulevés *(chacun)
 A clown them has (each) lifted (each) (Puskás 2002: 108(8))

A natural analysis is to assimilate *aucun des N* to the FQ structures in (48). I claim that *aucun des N* is essentially composed of an adnominal negative \forall Q and associate DP (*des N*), (49a). Its internal structure involves FQ, intrinsically negative (\forall *plus* \neg lexicalize, resulting in the lexical item *aucun*¹⁸, where *-un* realizes *pro*, the restriction in (49b)), *plus* a associate DP, *des N*). *En* is an effect of genitive under negation and shows up after cliticisation. Strictly speaking, *en*-cliticisation in (47b) is like *les*-cliticisation in (48b). I propose that *en* witnesses Agree of the negative FQ and its associate DP which gets negative through agree with the FQ, much like

¹⁸ Why is there no inner island effect in (49)? The answer has to do with the availability of weak Islands (WI) extraction: phrases involving existential presupposition can escape WIs (Starke 2001 for French). *En*-cliticization can trigger participle agreement in transitive constructions (not all informants like it in (47b), yet). (47b) means that from the set of paintings, I painted none of them, i.e., the set of paintings (the restriction)—to which *en* refers—is known, and as such carries some presupposition, i.e., no inner island effect arises.

agreement arises, (49c). I claim that *aucun* lexicalizes the \forall Q plus the negative Op, via-Agree, agreement shows up.

- (49) a. *aucune des toiles* : [DP [FQaucune_i] [DPdes toiles_i]]
 b. *aucun*: [QP \forall [QP \neg [DP un]]]
 c. *en ... aucune* : en_{ij} ... [XP [FQ \neg]_j ... [DP t_j]]

Not all argument N-words appear with associate DPs, though. I argue that *rien* ‘nothing’ and *personne* ‘nobody’ are composed of a FQ and a silent associate DP. In complex tense constructions the bare N-word *rien* cannot occur post-verbally (unless it is emphasized). Its position in (50) is highly reminiscent of the position of *tous* in (51):

- (50) a. Je (n’) ai *(rien) vu (*rien) ‘I saw nothing’
 I ne have (nothing) seen (nothing)
 (51) Je les ai *(tous) vus (*tous) ‘I have seen them all’
 I cl. have (all) seen (all)

(50) is easily accounted for, if assimilated to (51). Recall that the presence of FQ is licensed only if FQ can bind an ec. I claim that *rien* realises the adjoined negative FQ that binds an abstract DP, the ec *THING* (as in *no-thing*) in object position (52a), with which it agrees: when *rien* is in subject position, its structure is similar to full \forall Qs, (52b).

- (52) a. *rien* : [VP [QP \forall [QP \neg] [DP pro]]_i ... [VP [DP THING_i]]]
 b. *rien*: [DP [QP_i \forall [QP \neg]]] [DP_i THING]]

The bare N-word *personne* has a slightly different distribution: it cannot float in standard French (53a). Yet in some varieties of (Swiss) French, *personne* can appear either in clause medial position, resembling *rien* in (50), or in argument position (53b):

- (53) a. J’ai *(personne) vu *(personne) (standard French)
 b. J’ai (personne) vu (personne) (varieties of Swiss French)
 I have (nobody) seen (nobody) ‘I didn’t see anybody’

Two structures are possible: (i) a negative Full \forall Q (as in (53a)), and (ii) a negative FQ (as in (53b)). Because the complex Q *personne* is the negative version of *tous les N*, I propose that it involves a null *BODY* as its DP-associate (as in *nobody*). Either *BODY* is bound by a negative FQ, witnessing a FQ structure (54b), or the negative Q is adjoined over it, as in full \forall Q structure (54c). Since ‘ \neg ’ is phrasal, i.e., it takes scope over the restriction (*pro*, the overt restriction) which gets bound by \forall . Default agreement results (3rd.p.sg). So when the FQ construction is covert, the *ec* involved doesn’t move. What counts is that the associate DP be non-overt.

- (54) a. *personne*: [_{XP} [FQ \neg]_i [_{XP} ... [_{DP} BODY_i]]] (FQ, (53b))
 b. *personne*: [_{XP} [_{QP} \forall [\neg][*pro*]]_i [_{XP} ... [_{DP} BODY_i]]] (FQ, (53b))
 c. [_{DP} [_{QPi} \forall [_{QP} \neg]] [_{DPi} BODY]] (full DP structure (53a))

N-words are anti-additive and license NPIs in object position: local negation is embedded within the Q structure and doesn't c-command the NPI. Yet, the complex Q is negative: both \neg and \forall are lexicalized, forming a negative \forall Q which itself c-commands the NPI, licensing it. N-words are intrinsically negative, and subsequently move to NegP. The semantics of N-words follow from their structures: the negative import is provided by \neg , which negates and c-commands its restrictor (*pro* or an overt DP). N-words and complex Qs formed by the overt combination of *pas* 'not' and *tous* 'all' differ in that the former lexicalises both \forall and \neg as one Q (*aucun*; *personne*; *rien*), whereas the latter lexicalise two Qs. In *pas tous*, *pas* does not c-command the NPI and is not negative.

3. Conclusion

Taking into account syntax and semantics, I have elaborated a new and detailed characterization of \forall Qs and N-words in French. I have shown that \forall Qs are best analysed as adjoined to a maximal projection. Witnessing that N-words successfully pass the tests for negativity discussed in the literature, I argued for their negative status. As for the Q status of N-words, I have shown that they involve \forall that adjoins to an XP. I have also argued that both \forall Qs and N-words are (potential) FQ structures and that they are clause-bound as a result of their internal structure, their (overt or covert) associate DP undergoing A-movement, a clause-bound movement.

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