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# Quantifiers in apposition

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## 1. Introduction

Apposition has been traditionally

- defined as a structure in which two elements (an ANCHOR and an APPOSITIVE) are placed side by side with one element serving to give more information on the other and
- analyzed as a semantic phenomenon of parenthetical phrases
- studied in relation to structures that link (in)definite nominal phrases such as the ones below (see Quirk et al. 1985):

1. Ma soeur, Marie, ira au cinéma ce soir.
2. J'ai vu le meilleur étudiant de Harvard, l'enfant de mon professeur.

However, language exhibits also *quantifiers* (Qs) linked in apposition such as *beaucoup de* et 5.

3. J'ai lu beaucoup de livres, cinq exactement.

   *Beaucoup*= ANCH, *cinq exactement*= APP

There are cross-linguistic constraints on the combinations of quantifiers:

-*donc/ara*

4. 15 étudiants, donc peu, sont venus à mon bureau.
5. *Peu d'étudiants, donc 15, sont venus à mon bureau.
6. 15 fitites, ara liji, irthan sto grafio mu.
7. *Liji fitites, ara 15, irthan sto grafio mu.

These expressions do not combine with a quantifier that gives more information

8. Peu d'étudiants, 15, sont venus à mon bureau.

-*beaucoup/pola* cannot combine with *moins de/kato apo*

9. *J'ai lu beaucoup de livres, moins de cinq.
10. J'ai lu peu de livres, moins de cinq.

11. *Dhiavasa pola vivlia, kato apo pende.
12. Dhiavasa ligha vivlia, kato apo pende.

There are language-specific constraints (Greek):

13. J'ai lu beaucoup de livres, cinq exactement.
14. *Dhiavasa pola vivlia, pende akrivos.

Our goal: Explain the phenomenon of *apposition* by curving out all those combinations of quantifiers that cannot combine with a resultative expression like *donc*

-Describe the semantic categories of quantifiers that are relevant to their combinations

-Examine the constraints on the possible combinations of quantifiers used in apposition

We argue that:
-quantifiers are hierarchically ranged on a precision scale
-two quantifiers combine in apposition, if and only if the APP is more precise than the ANCH, that is, is placed lower than the ANCH on the precision scale, or else, when it eliminates more alternatives than the APP
- this analysis sheds more light on the semantics of quantifiers like *kapji/dhiafori/quelques.*

## 2. Typology of quantifiers

### *2.1. Extensional/intensional/extensional with an intensional implicature quantifiers*

(Keenan and Stavi 1986)

Depending on the world towards which their meaning is evaluated there are extensional quantifiers (EQs), purely intensional quantifiers (IQs) and extensional quantifiers with an intensional implicature (EIQs).

**IQs** express a judgment on the quantity of individuals under consideration. No judgment is expressed in the case of **EQs**. All **numbers (N)** like *five* are extensional in that they indicate the amount of individuals under consideration in the current world. **EIQs** are mixed cases of quantifying expressions composed out of an extensional determiner (like *20*) and an intensional determiner like *moins de* an implicit comparative that indicates that the envisioned quantity is inferior or superior to the norm of comparison.

15. J'ai lu beaucoup de livres. (IQ)
16. J'ai lu cinq livres. (EQ)
17. J'ai lu moins de 20 livres.

**Test for intensionality: the evaluation does not depend on the quantity**

We can imagine a situation where two persons have read the same amount of books (10) and give a different attribution to this amount:

Combien de livres as-tu lu?

18. J'ai lu peu de livres, dix.
19. J'ai lu beaucoup de livres, dix.

The evaluation IQs and EIQs depends on the comparison to the norm that the speaker subjectively chooses: implicit comparatives (Kennedy, Corblin)

20. Il a lu beaucoup de livres. =He read more books in relation to what he expected. -/→ He read many books.
21. Il a lu plus de 5 livres. = The quantity of books that he read is more than/superior to five and this is more than expected (superiority)
22. Il a lu cinq livres.→Il a lu cinq livres.

Intensionality is an implicature in the case of EIQs as it disappears in formal discourse:

23. Les revenus imposables de moins de 2000 euros seront exonérés.
24. Tha ekserethun i misthi kato ton 2000 evro.

2.2. *Superiority/inferiority*

**Test 1: the complement of *seulement/mono* and *se contenter de/ikanopiume* cannot be a comparative of superiority**

25. J'ai 10 euros seulement.
26. J'ai 1 enfant seulement.
27. *J'ai plus de 1000 euros seulement.
28. *J'ai seulement plus de 20 amis.
29. J'ai moins de 20 amis seulement.

30. Exo mono 10 evro.
31. Exo mono 1 pedhi.
32. Exo pano apo 1000 evro mono.
33. *Exo mono pano apo 20 filus.
34. Exo mono kato apo 20 filus.

→*Ena mikro meros/une petite partie/peu* express inferiority while *mia mi amelitea posotita tu plithismu/une partie considérable de/beaucoup* superiority

35. *J'ai seulement beaucoup d'amis.
36. *Exo mono polus filus.

37. J'ai peu d'amis seulement.
38. Exo lighus mono filus.

39. Mono ena mikro meros tu plithismu ine anerji.
40. Seulement une petite partie de la population sont au chômage.
41. *Mono mia mi amileta posotita tu plithismu ine anerji.
42. *Seulement une petite partie de la population sont au chômage.

43. Je me contente de peu.
44. Ikanopiume me ligha.
45. Je me contente d'un petit nombre.
46. Ikanopiume me enan mikro arithmo.

47. ??Je me contente de beaucoup d'argent.
48. ??Je me contente de plusieurs amis.
49. ??Ikanopiume me polus filus.

→The EIQs *pano apo/plus de N/sxedhon/presque* express superiority while *kato apo/moins/ à peine/molis* inferiority.

50. *Seulement plus de 5 ont réussi le test.
51. Seulement moins de 5 ont réussi le test.
52. *Mono pano apo 5 petixan sto test.
53. Mono kato apo 5 petixan sto test.

54. A peine 5 seulement ont réussi le test.
55. *Seulement presque 5 ont réussi le test.
56. Mono molis 5 perasan tis eksetasis.
57. *Mono sxedhon 5 perasan tis eksetasis.

58. *Je me contente de plus de 500 euros.
59. Je me contente de moins de 500 euros.
60. *Ikanopiume me pano apo 500 evro.
61. Ikanopiume me kato apo 500 evro

**Test 3: Concessive/causative**

A concessive phrase with an NP implies that in the context of the NP, normally what follows is false.

62. It rains -/→I go out for jogging.
63. In spite of the rain, I went out for jogging.

The number of walkers, in case of rain, is inferior to the number of walkers in the sunny days.

64. It rains→there are less walkers than in the sunny days.
65. It rains-/→there are more walkers than in the sunny days.

It is therefore the case that a concessive phrase like *para ti vroxi/malgré la pluie* cannot combine with a proposition in which the number of walkers is judged to be inferior to the norm, as defined by the number of walkers in the rainy days.

66. Para ti vroxi ipirxan 10 peripatites sto dromo
67. Malgré la pluie il y avait 10 promeneurs dans la rue.
68. Para ti vroxi ipirxan 1000 peripatites sto dromo.
69. Malgré la pluie il y avait 1000 promeneurs dans la rue.
70. Para ti vroxi ipirxan ekatondades peripatites sto dromo
71. Malgré la pluie il y avait des centaines de promeneurs dans la rue.
72. *Para ti vroxi ipirxan mono 10 peripatites sto dromo
73. *Malgré la pluie il y avait seulement 10 promeneurs dans la rue.
74. *Para ti vroxi ipirxan mono 1000 peripatites sto dromo.
75. *Malgré la pluie il y avait seulement 1000 promeneurs dans la rue.
76. *Para ti vroxi ipirxan mono ekatondades peripatites sto dromo
77. *Malgré la pluie il y avait seulement des centaines de promeneurs dans la rue.

**→ Combination with a concessive phrase marks superiority**

With a causative phrase, what follows is necessarily true if the antecedent is also true. In other words, there is a causal relation between the causative phrase and the sentence that follows:

78. Because of the rain, I took my umbrella.
79. *Because of the rain, I left my umbrella at home.

When the causative phrase contains the NP *rain*, it should be followed by something causally linked to rainy worlds. In these worlds, the number of walkers is usually null or inferior to the number of walkers on sunny days:

80. Because of the rain, there were no walkers in the street.
81. Because of the rain, there were less walkers than usual in the street.

82. *Because of the rain, there were more walkers than usual in the street.

Consequently, any quantifier asserting either the existence of walkers or a number of walkers under the norm (defined by rainy worlds) is awkward. The following sentence is ill-formed because the sentence that follows the causative phrases asserts the existence of walkers in the street:

83. *Exetias tis vroxis ipirxan 10 peripatites sto dromo.
84. *A cause de la pluie il y avait 10 promeneurs dans la rue.

The data below are ill-formed because the sentences that follow the causative sentences not only do they assert the existence of walkers in the street but also the bigness of their number compared to the number of walkers that one usually finds in the street:

85. *Exetias tis vroxis ipirxan 1000 peripatites sto dromo.
86. *A cause de la pluie il y avait 1000 promeneurs dans la rue.
87. *Exetias tis vroxis ipirxan ekatondades peripatites sto dromo.
88. *A cause de la pluie il y avait des centaines de promeneurs dans la rue.

As predicted, the following sentences are well-formed because the sentences that follow the causative phrases assert the existence of a number of walkers that is inferior to the number of walkers that one finds in the street on sunny days:

89. Exetias tis vroxis ipirxan mono 10 peripatites sto dromo.
90. A cause de la pluie il y avait seulement 10 promeneurs dans la rue.
91. Exetias tis vroxis ipirxan mono 1000 peripatites sto dromo.
92. A cause de la pluie il y avait seulement 1000 promeneurs dans la rue.
93. Exetias tis vroxis ipirxan liji peripatites sto dromo.
94. A cause de la pluie il y avait seulement des centaines de promeneurs dans la rue.

**→Combination with causative phrases marks inferiority**

- The IQs *ligho/peu* and *un petit nombre de/enas mikros arithmos* express inferiority

95. Exetias tis vroxis ipirxan liji peripatites sto dromo.
96. A cause de la pluie il y avait peu de promeneurs dans la rue.
97. Exetias tis vroxis ipirxe enas mikros arithmos peripatiton sto dromo.
98. A cause de la pluie il y avait un petit nombre de promeneurs dans la rue.

99. ?Para ti vroxi ipirxan liji peripatites sto dromo
100. ?Malgré la pluie il y avait peu de promeneurs dans la rue.
101. ?Para ti vroxi ipirxe enas mikros arithmos peripatiton sto dromo
102. ?Malgré la pluie il y avait un petit nombre de promeneurs dans la rue.

- The IQs *beaucoup de/plusiers/poli/arketi*, *mia mi amelitea merida/une partie considérable* express superiority

103. *Exetias tis vroxis ipirxan poli/arketi peripatites sto dromo.
104. *A cause de la pluie il y avait beaucoup de promeneurs dans la rue.
105. *Exetias tis vroxis ipirxe mia mi amelitea posotita peripatiton sto dromo.
106. *A cause de la pluie il y avait un nombre considérable de promeneurs dans la rue.

107. Para ti vroxi ipirxan poli peripatites sto dromo.
108. Malgré la pluie il y avait beaucoup de promeneurs dans la rue.
109. Para ti vroxi ipirxe mia mi amelitea posotita peripatiton sto dromo.
110. Malgré la pluie il y avait un nombre considérable de promeneurs dans la rue.

- The EIQs *à peine/molis* express inferiority while the EIQs *sxedhon/presque* superiority

111. Exetias tis vroxis ipirxan molis 10 peripatites sto dromo.
112. A cause de la pluie il y avait *à peine* 10 promeneurs dans la rue.
113. *Exetias tis vroxis ipirxan sxedhon 10 peripatites sto dromo.
114. *A cause de la pluie il y avait presque 10 promeneurs dans la rue.

115. *Para ti vroxi ipirxan molis 10 peripatites sto dromo.
116. *Malgré la pluie il y avait *à peine* 10 promeneurs dans la rue.
117. Para ti vroxi ipirxan sxedhon 10 peripatites sto dromo.
118. Malgré la pluie il y avait presque 10 promeneurs dans la rue.

**Test 4: *une misère/ena xali* + *super/telia***

The first kind of predicates combine with words that express inferiority, while the second ones with words that express superiority.

119. Exo dhio evro, ena xali.
120. J'ai deux euros, une misère.
121. Exo xilia evro, telia.
122. J'ai mille euros, super.

123. O misthos mu ine kato apo 1000 evro, ena xali.
124. Mon salaire est moins de 1000 euros, une misère.

125. O misthos mu ine pano apo 3000 evro, telia.
126. Mon salaire est plus de 3000 euros, chouette.

*2.3. Vague/precise*

**Test for precision: *exactement/akrivos***

127. Akrivos 3 irthan
128. Exactement 3 sont venus.

**Test 1 for vagueness: *disjunction/epistemic expression***

129. Il a parlé à deux ou quatre étudiants.
130. Il a parlé à deux étudiants je crois.

**Test 2 for vagueness: *mais pas beaucoup/ala oxi poli***

131. *J'ai vu deux étudiants, mais pas beaucoup.
132. *J'ai vu ces étudiants, mais pas beaucoup.
133. J'ai vu des étudiants, mais pas beaucoup.
134. J'ai vu un certain nombre d'étudiants, mais pas beaucoup.

**Observations**

- IQs, EIQs and EVQs are vague

135. *Akrivos poli fitites itan sto sinedrio
136. *Exactement beaucoup d'étudiants étaient à la conférence.
137. *Akrivos pano apo 1000 fitites irthan.
138. *Exactement plus de 1000 étudiants sont venus.
139. *Akrivos 1000 peripu
140. *Exactement 1000 à peu près sont venus.

- IQs are more vague than EIQs and EIQs are more vague than EVQs
- These categories of vague quantifiers are also divided into subcategories depending on how precise they are. EIQs like *kato apo/moins de* are less precise than *sxedhon/presque N* because they leave more open alternatives. When one argues that one has less than 200 euros one can have 50 euros, 60 euros, up to 199 euros. When one argues that one has almost 200 euros, the amount of euros that one has is smaller than 200 euros but not much smaller. It can be around 190 euros, 195 euros but not 100 euros for instance.

141. Exo kato apo 200 evro.
142. J'ai moins de 200 euros.
143. Exo sxedhon 200 evro.
144. J'ai presque 200 euros.

- EQs, on the other hand, can be both precise (EPQ) as well as vague (EVQ). EPQs become vague when modified by a vagueness determiner such as *kata/konda/peripu/à peu près.*

145. Konda stus 100 fitites itan sto sinedhrio.
146. Peripu 100 fitites itan sto sinedhrio.
147. 100 étudiants à peu près étaient à la conférence.
148. 100 étudiants approximativement étaient à la conférence.

When an EQ can combine with *akrivos/exactement* it is an EPQ:

149. Akrivos 100 fitites itan sto sinedhrio.
150. 100 étudiants exactement étaient à la conférence.

*2.4. The case of kapji/dhiafori/quelques*

There is no evidence whether these quantifiers are semantically specified for inferiority or superiority. They are certainly vague quantifiers.

- They combine with *seulement/mono*, that do not combine with comparatives of superiority

151. Seulement quelques étudiants ont réussi aux examens.
152. Mono kapji/dhiafori fitites petixan stis eksetasis.

- they are compatible with concessives that combine with quantifiers that express superiority:

153. Para ti vroxi ipirxan dhiafori peripatites sto dromo
154. Para ti vroxi ipirxan kapji peripatites sto dromo.
155. Malgré la pluie, il y avait quelques promeneurs dans la rue.

- They do not combine with causative sentences that combine with quantifiers that express inferiority

156. *Exetias tis vroxis ipirxan kapji peripatites sto dromo.
157. *Exetias tis vroxis ipirxan dhiafori peripatites sto dromo.
158. *A cause de la pluie, il y avait quelques promeneurs dans la rue.

These quantifiers are certainly vague:

159. *Irthan akrivos kapji fitites.
160. *Irthan akrivos dhiafori fitites.
161. *Exactement quelques étudiants sont venus.

Their interpretation is context sensitive:

162. Quelques étudiants ont assisté à la conference de George.
163. Kapji/dhiafori fitites parakoluthisan tin omilia tu Jorghu.

Also, these quantifiers combine with the expression *mais pas beaucoup/ala oxi poli*:

164. *J'ai vu deux étudiants, mais pas beaucoup.
165. *J'ai vu ces étudiants, mais pas beaucoup.
166. J'ai vu des étudiants, mais pas beaucoup.
167. J'ai vu un certain nombre d'étudiants, mais pas beaucoup.
168. J'ai vu quelques étudiants, mais pas beaucoup.

169. *Idha dhio fitites ala oxi polus.
170. *Idha aftus tus fitites ala oxi polus.
171. Idha fitites ala oxi olus.
172. Idha kapjus fitites ala oxi olus.
173. Idha dhiaforus fitites ala oxi olus.

## 3. Summary

| | **Precise** | **Vague** | **Superiority** | **Inferiority** |
|---|---|---|---|---|
| **Extensional** | Number<br><br>Akrivos N/exactement N | Aux alentours de N, à peu près N, peripu N, konda N, kata N | | |
| **Intensional** | | Poli/arketi/beaucoup de/plusieurs, mia mi amelitea posotita/une quantité considérable<br><br>Liji/peu, un petit nombre/enas mikros arithmos, nomizo, pistevo, disjunction | Poli/arketi/beaucoup de/plusieurs, mia mi amelitea posotita/une quantité considérable | Liji/peu, un petit nombre/enas mikros arithmos |
| **Extensional with an intensional implicature** | Sxedhon N/Presque N<br><br>Molis N/à peine N<br><br>Pano apo N/plus de N<br><br>Kato apo N/moins de N | Sxedhon N/Presque N<br><br>Molis N/à peine N<br><br>Pano apo N/plus de N<br><br>Kato apo N/moins de N<br><br>Kapji/dhiafori/quelques | Sxedhon N/Presque N<br><br>Pano apo N/plus de N | Molis N/à peine N<br><br>Kato apo N/moins de N |

Table 1: Typology of quantifiers

## 4. Precision scale

All quantifiers in Table 1 can be placed on a precision scale.

Intensional quantifiers (IQs) like *beaucoup* and *poli* are vague and intensional.

174. J'ai beaucoup d'argent.
175. Exo pola xrimata.

Extensional quantifiers with an intensional implicature (EIQs) are vague and intensional but, since they also contain a precise extensional determiner (*200* for instance), they differ from IQs in that they eliminate more alternatives than IQs. This property makes the EIQs *moins de 200 euros*, *lighotera apo 200* more informative than the IQs *peu*, *ligha.*

176. J'ai moins de 200 euros.
177. Exo lighotera apo 200 evro.

EIQs like *kato apo/moins de* are less precise than EIQs like *sxedhon/presque N*:

178. Exo sxedhon 200 evro.
179. J'ai presque 200 euros.

EIQs are less precise than EQs:

180. I have less than 200 euros.
181. J'ai moins de 200 euros.
182. Exo lighotera apo 200 evro.

183. I have about 200 euros.
184. J'ai 200 euros à peu près.
185. Exo 200 evro peripu.

186. I have exactly 200 euros.
187. J'ai 200 euros exactement.
188. Exo 200 evro akrivos.

EPQs are the most precise of all quantifiers. They differ from IQs, EIQs and EVQs in that they eliminate all alternatives. When the speaker argues that she has exactly 200 euros, she does not leave any open possibility for the amount of money that she has to be greater or lesser than 200 euros.

Consequently, quantifiers differ among each other in their degree of precision.

**Precision** is defined in terms of elimination of alternatives. A quantifier A is more precise than a quantifier B if and only if A eliminates more alternatives than B.

| |
|---|
| Purely intensional quantifiers (IQs) |
| Extensional quantifiers with an intensional implicature (EIQs) |
| Extensional vague quantifiers (EVQs) |
| Extensional precise quantifiers (EPQs) |

Table 2: Precision scale of quantifiers (preliminary version)

## 5. Quantifiers in apposition[1]

This precision scale serves to analyze the phenomenon of apposition cross-linguistically: two quantifiers combine apposition if and only if the APP eliminates more alternatives than the ANCH.

### *5.1. Purely intensional quantifiers (IQs) as ANCH*

When the ANCH and the APP belong to different categories, an IQ can combine with quantifiers that are placed lower on the precision scale

189. J'ai peu d'argent, moins de 20 euros. (IQ-EIQ) (FR)
190. J'ai peu d'argent, 20 euros à peu près. (IQ-EVQ)
191. J'ai peu d'argent, 20 euros exactement. (IQ-EPQ)

192. Exo ligha lefta, kato apo 20 evro. (IQ-EIQ) (GR)
193. Exo ligha lefta, 20 evro peripu. (IQ-EVQ)

When the ANCH and the APP are both IQs, the APP is more precise than the ANCH

194. Je gagne peu d'argent, une somme misérable. (IQ-IQ) (FR)
195. Kerdhizo ligha lefta, ena efteles poso. (IQ-IQ) (GR)

[1] *Quelques/kapji//dhiafori* will be treated separately below.

However, in Greek it is not possible to combine an IQ with an EPQ. Greek IQs block the elimination of (more) alternatives:

196. *Exo ligha lefta, 20 evro akrivos. (IQ-EPQ)

In the case of vague quantifiers, the direction vis à vis the norm of comparison should remain the same. Otherwise the set of alternatives introduced by the ANCH is different from the set of alternatives with which the APP is associated:

197. J'ai peu d'argent, moins de 20 euros. (IQ-EIQ)
198. Exo ligha lefta, kato apo 20 evro. (IQ-EIQ)
199. *J'ai peu d'argent, plus de 20 euros. (IQ-EIQ)
200. *Exo ligha lefta, pano apo 20 evro. (IQ-EIQ)

Results:

- Two quantifiers combine in apposition if and only if the APP is more precise than the ANCH, that is, it restricts the set of alternatives introduced by the ANCH.
- Greek blocks the combination between an IQ and an EPQ.

| **Intensional Q** | | French | Greek |
|---|---|---|---|
| | **Intensional Q** | √ | √ |
| | Extensional Q with an Intensional implicature | √ | √ |
| | Extensional Vague Q | √ | √ |
| | Extensional precise Q | √ | * |

Table 3: The combinatorics of Intensional Quantifiers as ANCH

*5.2. Extensional quantifiers with an intensional implicature (EIQs) as ANCH*

When the ANCH and the APP belong to different categories, an EIQ can combine with quantifiers that are placed lower on the precision scale, that is, with all quantifiers except for IQs:

201. Malheureusement j'ai moins de 200 euros, à peu près 150. (EIQ-EVQ)
202. Malheureusement j'ai moins de 200 euros, 150 exactement. (EIQ-EVQ)
203. *Malheureusement j'ai moins de 200 euros, peu. (EIQ-IQ)

204. Dhistixos exo kato apo 200 evro, peripu 150. (EIQ-EVQ)

205. Dhistixos exo kato apo 200 evro, akrivos 150. (EIQ-EPQ)
206. *Dhistixos exo kato apo 200 evro, ligha. (EIQ-IQ)

When the ANCH and the APP are both EIQs, the APP is more precise than the ANCH

207. Malheureusement j'ai moins de 200 euros, à peine 150. (EIQ-EIQ)
208. *Malheureusement j'ai moins de 200 euros, moins de 150. (EIQ-EVQ)
209. Dhistixos exo kato apo 200 evro, molis 150. (EIQ-EIQ)
210. *Dhistixos exo kato apo 200 evro, kato apo 150. (EIQ-EVQ)

| | | French | Greek |
|---|---|---|---|
| **Extensional Q with an Intensional Implicature** | Intensional Q | * | * |
| | **Extensional Q with an Intensional implicature** | √ | √ |
| | Extensional Vague Q | √ | √ |
| | Extensional precise Q | √ | √ |

Table 4: The combinatorics of Extensional quantifiers with an Intensional implicature as ANCH

### 5.3. Extensional vague quantifiers (EVQs) as ANCH

When the ANCH and the APP belong to different categories, an EVQ can combine with quantifiers that are placed lower on the precision scale:

211. *Jean pèse 70 kilos à peu près, beaucoup. (EVQ-IQ)
212. *Jean pèse 70 kilos à peu près, plus de 60. (EVQ-EIQ)
213. Jean est venu à 3 heures à peu près, à 2.50 heures exactement. (EVQ-EPQ)

214. *O Janis zijizi 70 kila peripu, poli. (EVQ-IQ)
215. *O Janis zijizi 70 kila peripu, pano apo 60. (EVQ-EIQ)

When the ANCH and the APP belong to the same category, the EVQ APP must be mor precise than the EVQ ANCH:

216. O Janis irthe stis 3 peripu, stis 2.50 pano kato. (EVQ-EVQ)
217. Jean est venu à 3 heures à peu près, plus au moins à 2.50 heures. (EVQ-EVQ)

In Greek it is not possible to combine an EVQ with an EPQ. Greek EVQs block the elimination of (more) alternatives:

218. O Janis irthe stis 3 peripu, stis 2.50 akrivos. (EVQ-EPQ)

| **Extensional Vague Q** | | French | Greek |
|---|---|---|---|
| | Intensional Q | * | * |
| | Extensional Q with an Intensional implicature | * | * |
| | **Extensional Vague Q** | √ | √ |
| | Extensional precise Q | √ | * |

Table 5: The combinatorics of Extensional Vague quantifiers as ANCH

### 5.4. Extensional precise quantifiers (EPQs) as ANCH

Since they are the most precise among the quantifiers under consideration (see precision scale), EPQs do not serve as ANCH:

219. *Jean pèse 70 kilos exactement, beaucoup. (EPQ-IQ)
220. *Jean pèse 70 kilos exactement, moins de 75. (EPQ-EIQ)
221. *Jean pèse 70 kilos exactement, 75 peripu. (EPQ-EVQ)
222. *Jean pèse 70 kilos exactement, 69 exactement. (EPQ-EPQ)
223. *O Janis zijizi 70 kila akrivos, poli. (EPQ-IQ)
224. * O Janis zijizi 70 kila akrivos, kato apo 75. (EPQ-EIQ)
225. * O Janis zijizi 70 kila akrivos, 75 peripu. (EPQ-EVQ)
226. * O Janis zijizi 70 kila akrivos, 69 akrivos. (EPQ-EPQ)

The only possibility to have a quantifier like *70* in the ANCH position is to interpret it as an EVQ (with the restrictions that Greek imposes).

227. Jean pèse 70 kilos (à peu près), autours de 69 et 500 grammes. (EVQ-EVQ)
228. Jean pèse 70 kilos (à peu près), 69 et 500 grammes exactement. (EVQ-EVQ)
229. O Janis zijizi (peripu) 70 kila, 69 ke 500 gramaria pano kato. (EPQ-EPQ)
230. *O Janis zijizi (peripu) 70 kila, 69 ke 500 gramaria akrivos. (EPQ-EPQ)

| **Extensional Precise Q** | | French | Greek |
|---|---|---|---|
| | Intensional Q | * | * |
| | Extensional Q with an Intensional implicature | * | * |
| | Extensional Vague Q | * | * |
| | Extensional Precise Q | * | * |

Table 6: The combinatorics of Extensional Precise quantifiers as ANCH

### 5.5. Summary

| | **Precision scale** | **FR** | **GR** |
|---|---|---|---|
| **IQ** | **IQ** | √ | √ |
| | EIQ | √ | √ |
| | EVQ | √ | √ |
| | EPQ | √ | * |
| **EIQ** | IQ | * | * |
| | **EIQ** | √ | √ |
| | EVQ | √ | √ |
| | EPQ | √ | √ |
| | EPQ | √ | √ |
| **EVQ** | IQ | * | * |
| | EIQ | * | * |
| | **EVQ** | √ | √ |
| | EPQ | √ | * |
| **EPQ** | IQ | * | * |
| | EIQ | * | * |
| | EVQ | * | * |
| | **EPQ** | * | * |

Table 7: The combinatorics of quantifiers in apposition

General observations:

- The vaguer an ANCH is the more quantifiers it can combine with. The more precise an ANCH is, the less quantifiers it can combine with.
- IQs combine with all quantifiers placed below them on the precision scale but also with IQs. The reason for this is that they are the most vague among the Qs.
- EPQs do not combine with any Q. The reason for this is that they are the most precise quantifiers on the precision scale.

Language-specific observation:

- In Greek, it is impossible to combine an IQ or an EVQ in the ANCH position with an EPQ.

### 5.6. The vague quantifiers *kapji, dhiafori* and *quelques* as ANCH

The phenomenon of apposition serves as a criterion to characterize these quantifiers as hyper-vague. Since these quantifiers can combine with all kinds of quantifiers (with the restrictions that Greek exhibits), and as they can APPs of an ANCH that is IQ, they are placed just after IQs and before EIQs:

231. Kapji fitites, mia simandiki merida, mu edhosan tis erghasies tus xthes.
232. Dhiafori fitites, mia simandiki merida, mu edhosan tis erghasies tus xthes.
233. Quelques étudiants, une partie considérable, m'ont rendu leur devoir hier.

234. Kapji fitites, pano apo 100, mu edhosan tis erghasies tus xthes.
235. Dhiafori fitites, pano apo 100, mu edhosan tis erghasies tus xthes.
236. Quelques étudiants, plus de 100, m'ont rendu leur devoir hier.

237. Kapji fitites, peripu 100, mu edhosan tis erghasies tus xthes.
238. Dhiafori fitites, peripu 100, mu edhosan tis erghasies tus xthes.
239. Quelques étudiants, 100 à peu près, m'ont rendu leur devoir hier.

240. *Kapji fitites, akrivos 100, mu edhosan tis erghasies tus xthes.
241. *Dhiafori fitites, akrivos 100, mu edhosan tis erghasies tus xthes.
242. Quelques étudiants, 100 exactement, m'ont rendu leur devoir hier.

243. Irthan liji fitites, kapji.
244. Irthan liji fitites, dhiafori.
245. Peu d'étudiants sont venus, quelques-uns.

## 6. Discussion

- a quantifier ANCH combines with another quantifier APP as long the APP is more precise than the ANCH on the precision scale. That is, if and only if it restricts the set of alternatives that the ANCH introduces to one of its subsets.

- the precision scale on which quantifiers are placed predicts which quantifiers can combine with each other. The main line is that a Q can combine with all Qs that are more precise. The precision scale predicts that all quantifiers that are placed in a lower position than another quantifier are candidates for APP. Quantifiers that belong to the same category as the ANCH are also candidates for APPs as long as they are more precise than the ANCH.

- the *kapji/dhiafori/quelques* quantifier is vague.

- Languages present certain exceptions to the general rule of apposition. In Greek, it is not possible to combine a purely intensional quantifier or an extensional vague quantifier with an extensional precise quantifier.

This shows that intensional quantifiers and extensional vague quantifiers in Greek have a meaning component that blocks the elimination of more alternatives than the alternatives that the quantifier in the anchor position introduces.

Quantifiers should therefore be classified as follows:

| |
|---|
| Purely intensional quantifiers (IQs) (they block the elimination of alternatives in GR) |
| Hyper-vague quantifiers (VQs) (they block the elimination of alternatives in GR) |
| Extensional quantifiers with an intensional implicature (EIQs) |
| Extensional vague quantifiers (EVQs) (they block the elimination of alternatives in GR) |
| Extensional precise quantifiers (EPQs) |

Table 3': Precision scale of quantifiers

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