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# *Any* and Eventualities

Jacques Jayez\* and Lucia Tovena†

## 1 Introduction

The fact that *any* has both a Free Choice (FC) and a Polarity Sensitive (PS) profile has been the source of many controversies (see [4],[5] for recent inventories). If one assumes, following in particular [1], [3], [6], [9], that FC items in general avoid reference to particular individuals involved in episodic predications, the examples in (1) are problematic, since all these sentences are episodic and refer to particular individuals (books, students, girls). One might dispute the relevance of (1a) by insisting that PS *any* is different. However (1b,c) are traditionally considered as FC uses. Must we create a third non-PS and non-FC *any* for such cases? In this paper, by postulating different modes of free choiceness, we show that the different behaviors of *any* represent different grammaticalized ‘answers’ (i.e. constraints) to the same problem.

- (1) a. Mary didn’t read any book of the list
- b. Any student \*(who had cheated) was suspended
- c. Mary performed better than any other girl in her class

## 2 Intuitive description

We propose a unified analysis of *any* as an ‘arbitrary’ item and account for both its PS and FC properties. Arbitrariness (Fine) means that all individual differences can be neglected. More precisely, if we evaluate a sentence of the form [*any*] [*P*] [*Q*], every *P*-individual which satisfies *Q* in some situation *s* can be replaced by every other *P*-individual in *s*, or, equivalently, all individuals are on a par. This is called *Non Individuation* (NI) in [6]. NI can be satisfied in different ways, which represent as many versions of *any*. This accounts for the persistent conflicting impressions that *any* is one (its uses are not unrelated) and multiform (its uses cannot be derived from a common semantic core).

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❶ The clearest manifestation of NI is known as *variation* in the literature on FC items (see e.g. [2], [3], [10]). Variation works well when we have several possible worlds, as, for instance, in the Vendlerian imperative *Pick any apple!*. We can imagine that any apple picked in a continuation could be replaced by another apple of the initial set of apples. So, the individual properties of the apples do not determine in advance which apple is to be picked or not to be picked.

❷ With episodic sentences, the situation is as follows. Assertions like (1d) are out because the books that are read are determined in the current situation.

(1) d. Mary read \*any book on the list

However, why is (1a) normal? Since Mary did not read any book on the list, the books that are not read are determined (they are all the books on the list). We distinguish between two scenarios of NI. The first is uniformity: all individuals must be able to satisfy or not satisfy the same properties, as illustrated by the case of variation (❶). The second involves reference: even when uniformity is respected, FC items avoid reference to particular individuals. E.g. (1d) is excluded although it may be interpreted as ‘Mary read every book on the list’ because it entails that particular books were read. Referential properties depend on different factors, among which the nature of eventualities. *Any* ‘considers’ objects participating in a particular, spatio-temporally situated, eventuality as individuated. PS environments do not refer to positive eventualities: there is no proper positive event of Mary ‘not reading’ a book because there is no spatio-temporal location at which the event would develop.<sup>1</sup> Similarly, in a question like *Did Mary read any book?*, there is no mention of a reading event. PS environments simply do not give rise to the kind of individuation that *any* can detect, namely one which is grounded in positive eventualities. The exclusion of positive eventualities accounts immediately for the fact that sentences that entail (1a) are anomalous if they mention genuine positive eventualities (1e).

(1) e. Mary successively \*refused to read any book on the list

The idea that *any* forbids positive events raises the following problem. Suppose that a certain apple cannot be picked in any follow-up to a Vendlerian imperative *Pick any apple!*<sup>2</sup> If the speaker is aware of that and wants to include this apple in the set of possible choices, *any* is infelicitous. Yet, not picking the apple does not count as a positive event and does not individuate the fruit. But, to be excluded in advance, the fruit has to be characterized by properties which distinguish a subset of the set of apples. This configuration is incompatible with NI, which prescribes uniformity.

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1. Of course, the fact that not reading a book does not count as an event spatio-temporally does not prevent it from counting as an event in other respects. The literature on so-called ‘negative events’ often mentions examples of the form *And what happened? Mary did not read my novel!*, see [8].

2. The apple might be rotten, for instance.

③ Since (1b,c) refer to particular events, they should sound strange. (1b) illustrates *subtriggering* ([7]), that is, the fact that an otherwise anomalous *any*-sentence is redeemed by adjoining an appropriate modifier, here a relative clause. Clearly, there is a conditional relation between the VP content and that of the modified noun in such cases. This makes the identity of the students irrelevant (arbitrariness): students are suspended *qua* cheaters and not *qua* particular students.

④ As for (1c), the crucial observation is that we cannot refer explicitly to a set of particular events (2).

(2) On Monday, Mary beat \*any other girl in the class

This indicates that (1c) refers to such events only indirectly. As in the case of subtriggering, individuation by events is possible. Suppose that the girls in Mary's class were engaged in a chess tournament. The fact that Mary beat Sally certainly depends on their respective individual strategies. But (1c) actually means that Mary reached the highest performance level when compared to the other girls. The exact way in which this is achieved, that is the order and content of the particular confrontation events, is irrelevant. Let  $\{e_i : i \in I\}$  be the set of particular confrontation events. Mary's performance corresponds to the set of results  $\{r_M(e_i)\}$ . The fact that this set is 'superior', with respect to some measure operator  $\mu$  to another set (that is,  $\mu(\{r_M(e_i)\}) > \mu(\{r_x(e_i)\})$  for every other girl  $x$ ) is not related to any particular  $e_i$  in  $\{e_i : i \in I\}$ . The same configuration obtains if the competition is not a set of confrontations but a comparison of individual performances (for example a competition between athletes). If Mary jumps higher than Sally, there is (at least) two ways of applying an event-based ontology. First, we can say that there is an event of Mary jumping higher than Sally, which takes place at some particular spatio-temporal location. Second we can focus on the relation (comparison) between the events of Mary jumping and Sally jumping. The possibility of (1c) suggests that *any* does not pick up particular events in which Mary and the other girls would participate, but a more abstract relation between events or sets of events.

⑤ Finally, note that we do not want to rephrase *any* as a garden-variety indefinite (like *a*) combined with the NI requirement. For instance, (3a) and (3b) are not equivalent, since only (3a) gives one the right to consult an unlimited number of files. This is why we represent *any* as an existential quantifier on sets rather than on individuals in (4.1) below.

- (3) a. You may consult any file  
 b. You may consult a file, any file

### 3 Calibrating *any*

①  $\mathcal{E}^+$  denotes the set of positive eventualities. We adopt a Davidsonian notation

for eventualities.

- (4) A sentence with a tripartite structure  $M([\textit{any}] [P] [Q])$ , where  $M$  is a (possibly null) modal operator,
1. asserts  $M(\exists X(X \subseteq \llbracket P \rrbracket \ \& \ X \subseteq \llbracket Q \rrbracket))$ ,
  2. implies that there is no  $a \in \llbracket P \rrbracket$  such that either:
    - a.  $\exists e, \exists e' \in \mathcal{E}^+(P(a, e) \ \& \ Q(a, e'))$  if  $M$  is null, or
    - b.  $\Box \exists e, e'(P(a, e) \ \& \ Q(a, e'))$  or  $\Box \neg \exists e, e'(P(a, e) \ \& \ Q(a, e'))$ .

(4.2) distinguishes two cases. For simple assertions, no positive eventualities must be involved. For modal sentences, no individual in the restriction  $P$  can be imposed or excluded as a satisfier of the scope  $Q$ . Clearly, (4.2a) is too strong because it predicts that subtrigging is impossible. In (1b), there are positive events of suspension.

② We replace (4.2a) by (4.2a').

- (4) 2a'.  $\exists e, \exists e' \in \mathcal{E}^+(P(a, e) \ \& \ Q(a, e'))$  if  $M$  is null  
unless  $\Box[\forall x \forall e(P(x, e) \Rightarrow \exists e' \in \mathcal{E}^+(Q(x, e')))]$  holds.

(4.2a') suspends the prohibition on positive eventualities whenever there is a necessary implication between being a  $P$ -object and being a  $Q$ -object. In this case, the positive eventualities can be interpreted as the manifestations of a general constraint, which does not take into account the identity of the individuals involved (arbitrariness).

③ For comparatives, the intuition is that there is no genuine positive eventuality. However, as for subtrigging, condition (4.2a) is too strong and so is condition (4.2a'). The problem comes from the fact that we cannot deny the status of eventuality to did-better-than(Mary,  $x$ ). So (1c) can be translated as:  
 $\forall x((\textit{in-Mary's-class}(x) \ \& \ x \neq \textit{Mary}) \Rightarrow \exists e \textit{ did-better-than}(\textit{Mary}, x, e))$ .  
Since the sentence presupposes that there are girls in Mary's class, it implies that there are positive eventualities of Mary doing better than other girls. We saw in section 2.④ that, in such cases, *any* selects the relations between events. So we rephrase (4.2a') as (4.2a'').

- (4) 2a''.  $\exists e, \exists e' \in \mathcal{E}^+(P(a, e) \ \& \ Q(a, e'))$  if  $M$  is null, unless
- (i)  $\Box[\forall x \forall e(P(x, e) \Rightarrow \exists e' \in \mathcal{E}^+(Q(x, e')))]$  holds, or
  - (ii) for every  $e' \in \mathcal{E}^+$  such that  $\exists e(P(a, e) \ \& \ Q(a, e'))$ ,  $Q(a, e')$  is equivalent to  $\phi(a)$  for some non-Davidsonian (possibly complex) expression  $\phi$

(4.2a'') adds the idea that there is a non-Davidsonian property  $\phi$  which replaces the Davidsonian  $Q$ . Suppose that (1c) refers to a chess tournament in which each girl must play against each other girl, and that the players are ranked by number of victories. Let  $v(x, n)$  mean that  $x$  won  $n$  times. (1c) implies:

$\exists x, e, e'(\text{in-Mary's-class}(x, e) \ \& \ x \neq \text{Mary} \ \& \ \text{did-better-than}(\text{Mary}, x, e'))$ .  
 This form violates (4.2a<sup>7</sup>). The following form does not.

- (5)  $\exists x, e(\text{in-Mary's-class}(x, e) \ \& \ x \neq \text{Mary} \ \& \ \exists n, n'(v(\text{Mary}, n) \ \& \ v(x, n') \ \& \ n > n'))$ .

#### 4 Remaining issues

Summarizing, we connect the PS uses of *any* with a sensitivity to positive eventualities, the apparent exceptions (subtriggering and comparatives) with the fact that regularities or relations are fore-grounded, leaving eventualities in the background, and the modal uses with the variation requirement (uniformity). Several problems remain.

❶ How does all this interact with NI? Uniformity and subtriggering clearly put all individuals on a par. Comparatives and downward entailing sentences constrain the reference to events. Comparatives do not forbid positive events that involve particular individuals but they also refer to comparisons between events. Consider two girls *a* and *b* in Mary's class. If they each confront Mary, this gives rise to two distinct events. If their performances are compared to that of Mary, it is more difficult to say that we have events 'of comparison'. One might object that the outcomes of the comparisons may be distinct and help to individuate *a* and *b*. The point is that, in a sense, the outcomes are reduced to the minimal information that Mary did better than *a* and *b*.<sup>3</sup> So, the relations between Mary and *a* and Mary and *b* cannot be distinguished. The difference with (2) is that, in that case, we may associate *a* and *b* with different events  $e_a$  and  $e_b$ , whereas, with (1c), *a* and *b* participate in the same relation to Mary. Finally, downward entailing sentences do not mention positive eventualities. Therefore, it is impossible to distinguish individuals on the basis of their participations in eventualities. We conclude that, in spite of their differences, all these cases make the pairing of individuals with eventualities impossible or irrelevant.

❷ Uniformity, subtriggering and compatibility with comparatives can be observed with FC items in French and in Greek (see [6] for *n'importe quel* and *tout*, and [3] for *opjodhipote*). Since there is no morphological relation between these items and *any*, it is unlikely that the sensitivity of *any* to eventualities is parochial. Rather, eventualities constitute an important resource for individuation, and forbidding these resources or making them inefficient is a standard strategy for ensuring NI. PS behavior is not observed with the items mentioned above. Lack of space precludes a discussion of the possible accounts one can propose for this difference.

❸ It is well-known that *any* oscillates between an existential and a universal interpretation. It has been proposed that FC items tend to be indefinites and

3. Note that, in (5), the outcomes *n* and *n'* are bound by  $\exists$  and thus convey no specific information.

that their universal interpretation comes from the interchangeability of individuals across worlds (uniformity), see [3] in particular. How this derives the  $\forall$  behavior observed in subtriggered sentences and comparatives is not quite clear, however.

## 5 Conclusion

In this paper, we have proposed that the different uses of *any* are manifestations of the general constraint NI. All the cases we have reviewed concern the way in which *any* links individuation and eventualities. As noted in [11], the French item *le moindre*, whose scalar origin is clear, has a very similar distribution. Future work will have to say whether scalarity plays a central role for *any*, as advocated in [5], and, more generally, for items which have both a PS and a FC sensitivity.

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