SUBTRIGGING AS ALTERNATIVES THROUGH REGULARITIES

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Abstract In this paper, we work out the connection between the well-known phenomenon of subtrigging for F(ree) C(hoice) I(tems) and the widespread intuition that these items exploit alternatives, by showing that the missing link is the notion of *regularity*.

1. Introduction: The subtrigging phenomenon

Legrand (1975:54-69) discusses cases in which *any* is triggered by a subordinate clause and accordingly call them *subtrigging* cases.[1] Dayal (1998, 2005) shows that subtrigging is not limited to relative clauses but extends to adjectives and postnominal modifiers.

(1) a. *Mary bought anything from Carson's
     b. Mary bought anything she needed from Carson's
     c. Anyone who gives a damn about me will help me

Legrand's proposal is that sentences like (1b) have a conditional structure, which can be paraphrased by 'If anything was needed, she bought it from Carson's'. This allows one to account for the presence of *any* as well as of negative polarity expressions (1c), since both are licensed by conditional structures. This solution raises two problems.

First, the quantificational status of *any* remains unclear. On the one hand, since (1) is intuitively parallel to (2a), one is tempted to analyse *any* as a universal quantifier with wide scope. However, true universal quantifiers do not behave like *any*, as evidenced by (2b) and the contrast (2c-d).

(2) a. She bought everything she needed from Carson's
     b. ??If everything was needed, she bought it from Carson's
     c. Pick every card
     d. Pick any card

On the other hand, if *any* is existential, the subtrigging effect is somewhat mysterious since it does not exist for standard indefinites (3).

(3) She bought something she needed from Carson's

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[1]Examples (1a-c) are borrowed from Legrand.

Second, it has been noted by Dayal (2005) and Jayez and Tovena (2005a) that subtrigging is *not* uniform. This is unexpected if subtrigging is just a covert conditional structure.[2]

(4) a.   *John read any good book [from Dayal]

     [conditional paraphrase: if a/any book was good, John read it]

   b.   ??Tout étudiant qui était dans le couloir est rentré 'Any student who was in the corridor came in'

     [conditional paraphrase: if a/any student was in the corridor, (s)he came in]

   c.   Tout étudiant qui avait triché a été renvoyé 'Any student who had cheated was excluded'

     [conditional paraphrase: if a/any student had cheated, (s)he was excluded]

In the following, we address these two problems in turn.

2.   ∃ or ∀?

Since certain FCIs like *tout* are universal quantifiers (Jayez and Tovena 2005a), it is not possible to claim that non-universal status is an intrinsic feature of FCIs. The opposite view (i.e. FCIs = ∀) is not tenable either since, for instance, imperative sentences draw a clear line between existential and universal determiners.

(5) a.   Pick any card

   b.   Prends n'importe quelle carte du paquet 'Pick any card in the pack'

   c.   *Prends toute carte du paquet 'Pick every-FCI card in the pack'

The notions of *widening* and of 'enlarged' set of alternatives (Kadmon and Landman (1993) and their followers) that point to the strong intuition that FCIs –whether universal or not– span the whole set of alternatives, are problematic (Jayez and Tovena 2005b). We will resort to the more neutral constraint of *Equity*. To provide a compact definition, we will use a hybrid logic mode of presentation (Areces and ten Cate 2006). s, s' etc. are variable for information points ('worlds'). $\downarrow_s$ stores the current point in s. $\downarrow_s \phi$ means that ϕ is true at the current point, whose value is assigned to s. $@_s \phi$ means that ϕ is true at s. $\diamond / \square \phi$ have their usual meaning.

(6) **Equity** In a tripartite LF [FCI] [R] [S], or $O_M($ [FCI] [R] [S]), where O_M is a modal operator, a FCI is anomalous under any interpretation that entails (a/a') or (b/b').

   (a) $\downarrow_s \exists x (R(x) \ \& \ S(x))$ or (a') $\downarrow_s \diamond_M [\exists x (@_s \square_M R(x) \ \& \ S(x))]$

   (b) $\downarrow_s \exists x (R(x) \ \& \ \neg S(x))$ or (b') $\downarrow_s \diamond_M [\exists x (@_s \square_M R(x) \ \& \ \neg S(x))]$

(6a',b') says that no individual in the restriction is positively (or negatively) discriminated, by satisfying (or not satisfying) the scope at every accessible point. This applies (i) to members of the current point (the value of s) if they still exist in all accessible points and (ii) to members of accessible points (hence the '$\diamond_M [\exists x \ldots]$'

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[2]One might object that the conditional paraphrases do not permit to derive the required universal reading, but, in any case, the subtrigged sentences should not be anomalous.

part), for instance events or objects that are 'created' within the accessible points. (6a,b) imposes equity at the current point. (6) simulates universal quantification on the restriction by putting all its members on a par. By themselves, 'existential' FCIs like *any* or the French *n'importe quel* do not determine an existential or a universal reading.[3] *Pick any card* is preferably interpreted as 'Pick a card' and *Punish any misdemeanour* as 'Punish every (possible) misdemeanour'.

Constraint (6) seems to predict that subtrigging is out in examples like (1b) or (4c), since some particular members of the restriction satisfy the scope, as for any episodic assertion. However, (6) characterises interpretations as anomalous, not sentences. Therefore, it is in principle possible that a sentence is anomalous under certain interpretations and felicitous under others.

3. Regularities

Crucially, subtrigging does not redeem a sentence whenever the relation between the property expressed by the head of the FCI phrase and the rest of the sentence is felt as purely accidental/circumstantial. For instance, in (4b), it is difficult to imagine a general reason why students in the corridor should come in. Put otherwise, there is no intuitive *law-like* regularity between being in a corridor and coming in, even if that sequence makes perfect sense in a given context. On the contrary, (1b) points to a connection between being needed and being bought and (4c) to a connection between being a cheater and being sanctioned. There is some leeway on what is perceived as law-like vs. circumstantial and even native speakers hesitate on certain examples. There is also cross-linguistic variation, that reflects different constraints on the global/local character of regularities. For instance, French *tout* prefers general laws whereas English *any* admits of particular individual dispositions. In (1b), one may imagine that Mary decided to buy everything she needed from Carson's and that her actions of buying reflected this disposition. It is impossible to force the same reading in French with *tout*.[4]

(7)   ??Tout objet dont elle avait besoin a été acheté chez Carson

       lit. Every-FCI object she needed was bought from Carson's

Such complications may occasionally blur the picture, but an independent observation of Dayal provides additional support to the distinction. Dayal (1998) notes that *any* cannot refer to a contextually salient set. This limitation extends to subtrigging (8).

(8)   Every / ??Any student who had cheated was excluded, namely John, Gilbert and Stephen

If (8) simply were a universal judgement with a law-like flavour, the contrast would be unexpected. The fact that particular students cheated and were excluded does

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[3]They should be called 'non universal'. It is an open question whether there are strictly existential FCIs, which cannot get a universal reading at all.

[4]We use the passive in (7) because *tout* is not very felicitous as an object.

not preclude variation across alternatives, and there is no reason why *any* and *every* should be different. (8) suggests that subtrigged sentences refer exclusively to laws, rules or dispositions and do not express directly universal judgements of the form $\forall x \phi(x)$. A paraphrase of (4c) is 'We applied a rule that says that every student who cheated was dismissed'. In general, assertions with maximality operators (in English and French, universal quantifiers and plural definites) have a descriptive reading and can refer, additionally, to laws, rules or disposition. E.g. *Every cheater was punished* refers to a fact (descriptive reading) and, presumably, to a rule. A sentence S refers to a regularity whenever it refers to a situation s by describing s as an application of the regularity. (9) spells out this intuition by coding the regularity as a conditional relation between properties, as opposed to simple material implication.

(9)   An assertive sentence S with a tripartite LF $[Q_\forall]\,[R]\,[S]$ refers to a regularity r whenever it is compatible with an interpretation $\downarrow_s[M_r([Q_\forall][R][S])]$, where M_r is any suitable conditional modality (modal necessity, non monotonic entailment, etc.).[5]

It is sometimes possible to make the reference to regularities emerge through a suitable abstract anaphor.

(10)   a.   Every/Any student who had cheated was excluded. This rule suffered no exception

        b.   Mary bought everything/anything she needed from Carson's. This decision (option, behaviour, tendency) fits her character

        c.   Every student who was in the corridor came in. #This rule (tendency) suffered no exception

4. Alternatives and counterparts

A sentence with a universal interpretation can in principle be just descriptive or refer to a regularity. Since standard universal quantifiers are compatible with a descriptive LF, sentences with such quantifiers are always compatible with a descriptive interpretation, and can also refer to regularities. A descriptive interpretation cannot license a universal FCI since it violates (6a). E.g. the LF of (4c) is [*tout*] [*student-cheater*] [*excluded*]. The descriptive interpretation contains the presupposition that $\exists x student\text{-}cheater(x)$ and the main assertion that $\forall x(student\text{-}cheater(x) \Rightarrow excluded(x))$, which entails (11.1). Applying (9), the other possible interpretation for (4c) is provided in (11.2).

(11)   1. $\downarrow_s \exists x(student\text{-}cheater(x) \,\&\, excluded(x))$

        2. $\downarrow_s[M_r([tout][student\text{-}cheater][excluded])])$

Does (11.2) violate (6)? The answer is negative for two reasons. First (11.2) does not entail (6a). Admittedly, the conjunction of (11.2) with the presupposition that some students cheated does entail (6a)[6], but the presupposition is not part of (11.2).

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[5]We disregard tense for simplicity.

[6]Under the current assumption that regularities that hold at s are exemplified at s.

This is as expected, since referring to a rule is conceptually distinct from referring to a concrete case where this rule applies. Second, (11.2) does not entail (6a') because regularities are in general represented as holding between properties, not specific individuals. When, in a given context, P depends on P' analytically (mathematical truths) or causally (physical and social laws), the individuals that satisfy P and P' can be replaced by any individuals that satisfy the same law-like structure. (4c) implies that, in the same context, any student who would have cheated would have been punished in the same way. This counterfactual interpretation is at the root of the treatment of causal/conditional and counterfactual sentences in most models (including for instance the analysis of counterfactuals by Lewis and that of 'common-sense entailment' by Asher and Morreau).[7] The net result of such approaches is that $A \rightarrow B$ if, for a certain suitable subset of accessible worlds, B is true whenever A is true. When A and B are first-order expressions, we have (12). Obviously, nothing requires that the set of individuals that satisfy P and P' be the same across all points r-accessible from s.

(12) $@_s M_r([Q_\forall][P(x)][P'(x)])$ iff $@_s \Box_r (\forall x(P(x) \Rightarrow P'(x)))$

Two precisions are in order. First, we need not impose strong constraints on counterparts, for instance that they be distinct in different alternatives as in the ontology of Lewis (1968). Instead, we simply take counterparts to be individuals that satisfy the same properties across alternatives. So, a and b are counterparts w.r.t. P iff they satisfy P in different alternatives. Second, interpreting the FCI as existential in a subtrigging configuration is a bad move, since it makes it impossible to construct the regularity interpretation. However, this does not entail that non-universal FCIs with postnominal modifiers systematically get a universal reading. (13).

(13)   Pick any card that shows a blue square

        [context: there are several cards with a blue square]

5.   Comparison to other works

Dayal (1998, 2005) discusses contrasts like (1a-b) to support her claim that FC *any* has a strong modal force which must be disabled by some spatio-temporal restriction. So, (4a) is anomalous because it entails that John read every good book in every possible world, whereas (1b) limits Mary's purchases to what she needed. However, (14) is definitely out in English as well as in French, although there is clearly a spatio-temporal limitation.

(14)   a.   *Because of the rain, any chair in the garden is wet

        b.   *À cause de la pluie, toute chaise du jardin est mouillée

Aloni's (2007) proposal does not make reference to modal force but to alternatives and a combination of exhaustiveness and mutual exclusion of possibilities, which is determined solely by the syntax-semantics interface. This raises two problems. First, no room is left for variation between different cases of subtrigging.

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[7]See Kim and Kaufmann (2007) for the counterfactual implicature of Korean items.

Second, the proposal makes crucial use of a shift operator $\text{SHIFT}_{(s,t)}$ which partitions the set of possibilities. This is dubious in the case of FCIs. A sentence like *Pick any apple* does not explicitly entail that the addressee is forbidden to pick more than one apple (partition of the space of possible executions).

Menéndez-Benito (2005) notes that Spanish *cualquier* is less tolerant to subtrigging than *any*. She presents experimental results that suggest that subtrigged examples with *cualquier* improve when they express a rule or a 'policy'. This result is consonant with certain observations on *tout*. She contemplates the possibility that a sort of generic interpretation emerges from the rule/policy sentences. We agree with the intuition behind her account. However, we tend to consider genericity, habituality and regularity as different options inside a broad family of modal patterns. For instance, it seems difficult to equate a fully generic sentence and a past tense subtrigged sentence. Obviously, more work is needed at this point to gain a better understanding of the cross-linguistic similarities and differences.

Acknowledgements

Bibliography

Aloni, M.: 2007, Free choice and exhaustification: an account of subtrigging effects, in Puig-Waldmüller, E. (ed.), *Proc. of Sinn und Bedeutung 11*, 16-30.

Areces, C. and ten Cate, B.: 2006, Hybrid logics, in Blackburn, P. et al. (eds), *Handbook of Modal Logics*, Elsevier, 821-868.

Dayal, V.: 1998, ANY as inherently modal, *Linguistics and Philosophy* 21, 433–476.

Dayal, V.: 2005, The universal force of free choice *any*, in Rooryck, J. and Van Craenenbroeck, J. (eds), *Linguistic Variation Yearbook 2004*, 5-40.

Jayez, J. and Tovena, L.: 2005a, Free choiceness and Non-Individuation, *Linguistic and Philosophy* 28, 1–71.

Jayez, J. and Tovena, L.: 2005b, When widening is too narrow, in Dekker, P. and Franke, M. (eds), *Proc. of the 15th Amsterdam Colloquium*, 131–136.

Kadmon, N. and Landman, F.: 1993, *Any*, *Linguistics and Philosophy* 16, 353–422.

Kim, M.-J. and Kaufmann, S.: 2007, Domain restriction in freedom of choice: A view from Korean *Indet-na* items, *Proc. of Sinn und Bedeutung 11*, 375-389.

LeGrand, J. E.: 1975, Or *and* Any*: The Semantics and Syntax of Two Logical Operators*, Ph.D. thesis, University of Chicago.

Lewis, D.: 1968, Counterpart theory and quantified modal logic, *The Journal of Philosophy* 65, 113-126.

Menéndez-Benito, P.: 2005, *The Grammar of Choice*, Ph.D. thesis, University of Massachusetts at Amherst.