ON THE ANALYSIS OF ENGLISH EXHAUSTIVE CONDITIONALS

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1. Introduction

Free relatives such as the bracketed example in (1) have had considerable attention within syntactic theory including HPSG (e.g. Müller 1999, Kubota 2003).

(1) I will do [whatever you do].

The superficially similar bracketed construction in (2) has had rather less attention.

(2) I will do that [whatever you do].

The free relative in (1) is an argument whereas the construction in (2) is an adjunct. One might suppose that this is the only difference, and some have assumed that the construction in (2) is just an adjunct free relative. It is clear, however, that we have a rather different construction in (2). The free relative in (1) can be paraphrased with *any* but not with *no matter*.

(3) a. I will do [anything you do].
b. *I will do [no matter what you do].

The opposite is true with the construction in (2).

(4) a. *I will do that [anything you do].
b. I will do that [no matter what you do].

Following Huddleston and Pullum (2002: 761-5, 985-91) (henceforth HP), we refer to the construction in (2) and its paraphrase in (4b) as exhaustive conditionals (henceforth ECs). They have also been called unconditionals (Rawlins 2008, 2013). Much like (4b) are examples with *irrespective* and *regardless*. HP call such examples governed ECs. A further type of EC is exemplified by (5) and (6).

(5) I will do that [whether it's essential or not].
(6) Kim will have a good time [whether he goes to Wales or to Scotland].

No matter and *or* ECs look like interrogatives, but *ever* ECs look like free relatives. However, HP and Rawlins (2008, 2013) argue that they too are interrogatives. HP (p.989) note that *ever* ECs are like interrogatives in allowing the *wh*-element to be modified by *the hell*:

(7) We must be attractive – {whatever the hell that means / no matter what the hell that means}.

Free relatives do not allow this:

(8) *Whoever the hell said that was wrong.

They also note that *ever* ECs like interrogatives allow multiple *wh*-elements:

(9) {Whoever said what to whom / No matter who said what to whom}, we've got to put this incident behind us.

This is not possible with free relatives:

(10) *Whoever said what to whom is going to be severely dealt with.

Similarly, Rawlins (2013: 148-9) notes that the *What was X doing Y* idiom appears in interrogatives and *ever* ECs but not free relatives:

(11) Whatever they were doing reading her mail, it didn't lead to any legal problems.
(12) *She didn't complain about whatever they were doing reading her mail.

It seems that there is quite strong evidence that ECs are interrogatives, *wh*-interrogatives in the case of *ever* ECs, disjunctive interrogatives in the case of *or* ECs, and all kinds of interrogatives in the case of *no matter* and other governed ECs. But they have a number of special properties. They are interpreted not as questions but as conditionals. They are required to be finite: we do not find **whatever to do* or **no matter what to do*, and *whether to go to Wales or to Scotland* can only be an interrogative complement and not an EC. More interestingly, *ever* and *no matter* ECs allow omission of the copula when it immediately follows the subject and the filler is its complement.

(13) a. It's hard to explain these ideas, however good the students (are).
b. It's hard to explain these ideas, no matter how good the students (are).

This is not possible in ordinary *wh*-interrogatives, either root or embedded:

(14) a. How good the students *(are).
b. I wonder how good the students *(are).

As a number of authors have noted, there are restrictions on the subject of these missing copula clauses. In particular, a pronoun subject is not possible:

(15) a. It's hard to explain these ideas, however good they *(are).
b. It's hard to explain these ideas, no matter how good they *(are).

There are a number of descriptive and theoretical challenges here. We will concentrate in the following pages on *no matter* ECs, but we will also sketch an approach to *ever* and *or* ECs.

2. Analyses

The following suggests that nothing can intervene between *no* and *matter* in *no matter*:

(16) *I will do that [no real/serious/earthly matter what you do].

We conclude that it is a single lexical item taking an interrogative complement and heading a conditional adjunct. Following HP (p.761), we assume that it is a preposition. We suggest the following lexical description:

(17)

$$\begin{bmatrix} \text{SS} \mid \text{LOC}\begin{bmatrix} \text{CAT}\begin{bmatrix} \text{HEAD}\begin{bmatrix} \textit{prep} \\ \text{MOD S}:[p] \end{bmatrix} \end{bmatrix} \\ \text{CONT } \textit{exh\_cond}([q],[p]) \end{bmatrix} \\ \text{ARG-ST} < \begin{bmatrix} \text{LOC}\begin{bmatrix} \text{CAT}\begin{bmatrix} \text{HEAD}\begin{bmatrix} \textit{verbal} \\ \text{VFORM } \textit{fin} \\ \text{IC} - \\ \text{NULL } \textit{boolean} \end{bmatrix} \end{bmatrix} \\ \text{CONT}[q][\textit{question}] \end{bmatrix} \end{bmatrix} > \end{bmatrix}$$

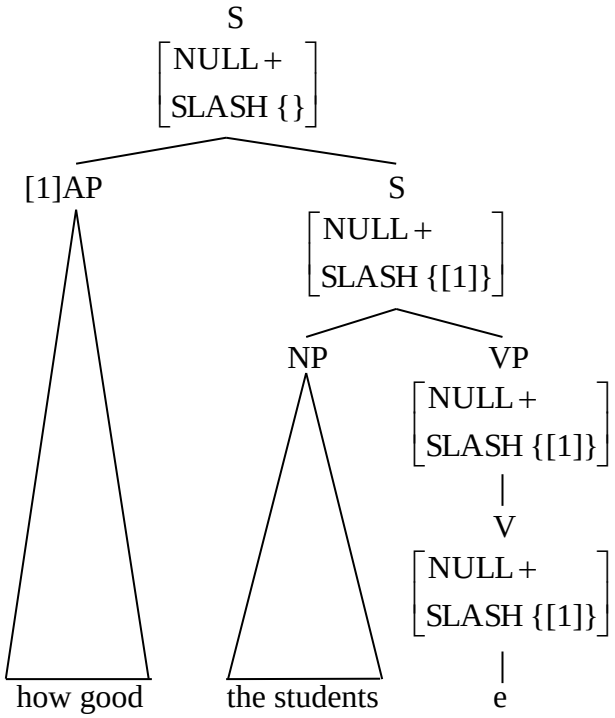
This allows *no matter* to take as its complement any finite, non-root interrogative, including polar, alternative, and *wh*-types (*no matter whether/if you go*, *no matter whether you go or not*, *no matter who goes*), and to head a phrase which modifies a clause. We intend the CONTENT value to mean that whatever answer is given to the question expressed by the complement, the meaning expressed by the modified S holds. The description should also specify the addition of facts to the BACKGROUND set to capture the presupposition that the answers to the question given are all and only the "live" possibilities. We introduce a feature NULL and assume that clauses with a missing copula are [NULL +] and all other clauses [NULL –]. Since *no matter* allows both types of clause, it is [NULL *boolean*]. *Irrespective* and *regardless*, will have similar descriptions.

An analysis of the missing copula examples needs to capture the fact that only a copula that is the highest verb in the construction can be missing, as the following illustrate:

(18) a. It's hard to explain these ideas, no matter how good the students may *(be).
b. It's hard to explain these ideas, no matter how good it seems that the students *(are).

One way to capture this fact, proposed in Borsley (2011), is to postulate a phonologically empty form of the copula, which is [NULL +] and takes a gap as its complement, giving structures like (19).

(19)



The assumption that ordinary clauses and VPs are [NULL –] will ensure that null copula is excluded from most positions and will rule out examples like (18a) and (18b).

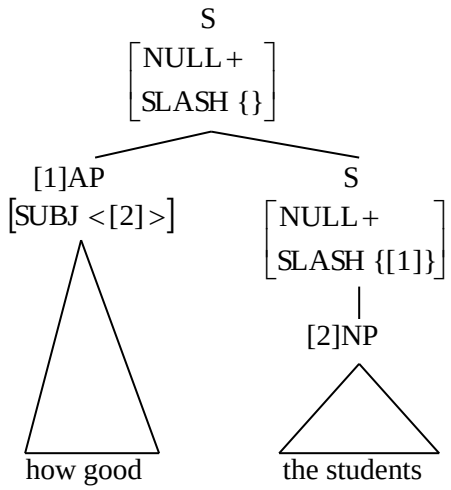
One problem for this analysis comes from the impossibility of a missing copula in the following example:

(20) No matter what the answer *(is) not, we need to move on.

In a situation in which various people have made statements about what the answer is not, (20) is possible but only with an overt copula. If missing copula clauses involve a null copula, it is not clear why it shouldn't license *not* just like an overt copula.

An alternative analysis which avoids this problem is one involving a construction in which an S with a predicative expression in its SLASH value has a single daughter which satisfies the subject requirements of the predicative expression. This will gives structures like the following:

(21)



Here the lower S involves a new phrase type, which we might call a *missing-copula-clause*, a subtype of *non-headed-phrase*. It involves a slashed mother without a slashed daughter. Since the daughter is not a head, this is consistent with the head-driven view of SLASH assumed in Ginzburg and Sag (2000). On this approach, missing copula clauses contain a subject and nothing else. Hence there is no possibility of an example like (18a). The natural assumption that ordinary clauses are [NULL –] will rule out (18b).

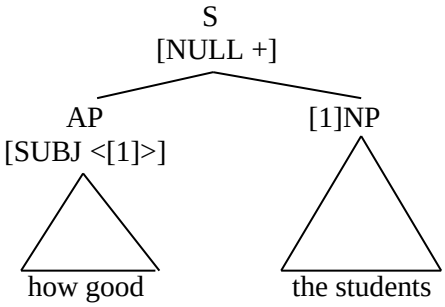
A problem for this analysis comes from the contrast in the following:

(22) a. no matter [how good the students are or the lecturers seem to be]
b. no matter [how good the students or the lecturers seem to be]

(22a) involves conjoined clauses. On the proposed analysis it should be possible for (22b) to have a similar analysis and hence to have the same meaning as (22a). It seems, however, that it can only have an interpretation in which *the students or the lecturers* is a coordinate structure.

A further possibility, suggested by Culicover (2013), is an analysis in which missing copula clauses involve a predicative expression preceding its subject, as in (23).

(23)



On this analysis, the initial constituent is not a filler. It may contain *the hell* and other elements that can only appear in a filler (Ginzburg and Sag 2000: 229), and it shows the pied piping restrictions of a filler:

(24) There will be problems, no matter what the hell we do.

(25) a. I will say nothing, no matter [what] the students are worried about.
b. *I will say nothing, no matter [worried about what] the students (are).

However, for Ginzburg and Sag, these properties are associated with a non-empty WH feature. All we need to assume is that the initial constituent has a non-empty WH feature, and the facts will follow. There is no need to assume that this constituent is a filler. The analysis requires a type *missing-copula-clause*, a subtype of *non-headed-phrase*, constrained as follows:

(26) *missing-copula-clause* $\rightarrow$ $\begin{bmatrix} \text{SS} \mid \text{LOC} \mid \text{CAT S[NULL +]} \\ \text{DTRS} < \begin{bmatrix} \text{PRED+} \\ \text{SUBJ} < [1] > \\ \text{WH} \{ \textit{parameter} \} \end{bmatrix}, [1]\text{NP} > \end{bmatrix}$

This analysis seems preferable to the other two.

Assuming that this approach to governed ECs is sound, it is plausible to extend it to other forms of EC with a unary branching approach. We can suggest that they involve a sign with the properties of a phrase headed by *no matter* with a single daughter with the semantics of a question. The daughter will be either a *wh*-interrogative with an *–ever* marked filler or an embedded disjunctive interrogative. In the first case the single daughter, like the complement of *no matter*, etc., will be [NULL *boolean*] and hence will allow a missing copula. We will flesh out this approach in the talk and discuss a number of other matters including implications of the data for the analysis of the copula constructions.

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