Tense and Rhetorical Questions with Multiple *Wh*-words*

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1. Introduction

Like ordinary questions (OQs), rhetorical questions (RQs) have been hotly disputed in the area of linguistic research. The objective of this article is to clarify what creates rhetorical questions with multiple *wh*-words (MRQs), especially in English. In other words, I would like to prove that the impossibility of syntactically appropriate tense structure leads to the absence of a MRQ under the theory of tense (Hornstein (1993) and Reinchenbach (1947)). Section 2 touches on previous research on RQs. Section 3 presents a problem with earlier work, Caponigro and Sprouse (2007) and Sprouse (2007), in regard to MRQs. Section 4 tries to account for MRQs with several types of tense under the theory of tense. Section 5 suggests a satisfactory solution to the impossibility of MRQs with modal auxiliaries. Section 6 summarizes the discussion.

2. Brief Review of Previous Studies

Seminal studies concerning RQs mainly diverge into two streams. For example, Sadock (1971, 1974) and Han (2002), on the one hand, treat RQs as declaratives with negative/positive polarities. On the other hand, Ladusaw (1979), Gutiérrez-Rexach (1997), Caponigro and Sprouse (2007) and Sprouse (2007) hypothesize that RQs are variants of OQs.

Attributing the differences between RQs and OQs to pragmatic factors, Caponigro and Sprouse (2007) propose that only if both the speaker and the addressee share the true complete answer, which is a part of Common Ground$_{S\text{-}A}$ ($CG_{S\text{-}A}$) as a set

of propositions for the participants to share and believe in a discourse, to the question, it can be defined as an RQ; otherwise the question will be regarded as an OQ.[1] That is to say, they advocate that RQs play a role to emphasize a proposition of $CG_{S\text{-}A,}$ i.e., do not add more knowledge between the speaker and the addressee. Furthermore, Sprouse (2007) examines similarities and differences of syntactic behaviors between RQs and OQs from a typological point of view.

3. Point at Issue with MRQs

This section will touch on the two ideas concerning the availability of MRQs: Sprouse (2007) and Caponigro and Sprouse (2007). Consider (1). Sprouse (2007) points out that English disallows MRQs unlike Japanese, Chinese, Russian, and Bulgarian. He also states that Egypian Arabic, French, Hebrew, Italian, Portuguese, and Spanish behave in the same way as English. He suggests that the possibility of ordinary questions with multiple *wh*-words (MOQs) is necessary but not sufficient. [2]

(1) a. Chinese
Shei hui dai shenme lai bisai ne?
who will bring what to competition Q?
'Who will bring what to the competition?'
"Nobody would bring anything to the competition."

b. Japanese
Dare-ga nani-o paatii-ni mottekita-to iu-no?
who-Nom what-Acc party-to bring-Comp saying-Q
'After all, who will bring what to the party?'
"Nobody will bring anything to the party."

c. Russian
V principe, kto prineset čto na tvoju večerinku?
after all who will. bring what to your party

'After all, who will bring what to your party?'

"Nobody will bring anything to the party."

d. English

*After all, who would bring what to the party?

Sprouse (2007:573)

On the other hand, Caponigro and Sprouse (2007) suggest the possibility of MRQs in English like Japanese (2a). They point out that the situations for MRQs are attributed to some language-specific characteristics. MRQs in English become more acceptable once an ordering word, *first*, is added, as seen in (2b). In line with Wachowicz (1974) and Hagstrom (1998), Caponigro and Sprouse (2007) mention that single-pair reading for felicity in the context might enable English MRQs to exist. They propose supporting evidence for their view concerning the possibility of MRQs under the single-pair reading after conducting a pilot acceptability judgement experiment in this respect. [3]

(2) a. Kekkyoku, dare-ga nani-o kata-to-iu no?
After all, who what bought-C Q
'After all, who bought what?"

b. You shouldn't be surprised that I punished Pablo rather than Lapo.
After all, who hit who *first*?/?After all, who hit who?

Can the existence of MRQs be accounted for by such a language-specific reason? There is a counterexample against Caponigro and Sprouse's (2007) rationale. Suppose that *would bring* in (1d), a modal auxiliary + a root form, is replaced with a past-tensed verb, *brought*. Then it will become acceptable as (3) illustrates (personal communication with Patricia Hironymous).[4] This RQ presupposes that the speaker knows that no one brought anything to the party as follows.

(3) CONTEXT: Everyone agreed to bring something to the party. No one brings anything there. Everyone has arrived and the speaker is looking at an empty table.
SPEAKER: So, who *brought* what to the party?

Unfortunately, the analyses of MRQs by Caponigro and Sprouse (2007) and Sprouse (2007) might not be accepted as argued above: the reason for no-existence of MRQs in English is neither the possibility of multiple *wh*-words in OQs nor single-pair reading to be felicitous. Rather the clue to the solution of this puzzle might lie in tense.

4. MRQs and Tense Theory

In favor of Reichenbach's (1942) theory that individual sentences are logico-gramatically evaluated by the moment of speech (S), the event time (E), and the reference point (R) as a mediator between S and E,[5] Hornstein (1993) attempts to explore various phenomena of tenses of natural language such as the structure of tenses, typological distinctions between simple tenses and compound tenses, the principles of combination of tenses with temporal adverbs and other tenses, etc. syntactically as well as semantically. He claims that temporal interpretation is decided by the syntactic structure of the tense system, which is linearly ordered and associated with those three points as noted in (4). The linearity and the association comply with complex derived tense structures (DTSs) (5) and basic tense structures (BTSs) (6).[6]

(4) Six basic tenses

a.	S, R, E	present
b.	E, R ___ S	past
c.	S ___ R, E	future

d. E ___ S, R present perfect

e. E ___ R ___ S past perfect

f. S ___ E ___ R future perfect

Hornstein (1993:15)

(5) X associates with Y = def X is separated from Y by a comma.

Hornstein (1993:15)

(6) Basic tense structures (BTSs) preserved iff

a. No points are associated in DTS that are not associated in BTS.

b. The linear order of points in DTS is the same as that in BTS.

Hornstein (1993:15)

In order to obtain the temporal interpretation, the tense structure of each sentence must obey the following constraint.

(7) Constraint on DTS (CDTS): DTS must preserve BTS.

Hornstein (1993:15)

Recall the definition of RQs proposed in Caponigro and Sprouse (2007). They say that as both the speaker and addressee know the true complete answer to RQs at the utterance time, no new information will be required and added as statements do semantically. Therefore, MRQs are allowed to be examined under the theory of tense proposed in Hornstein (1993). For example, consider (8), which has present tense and a temporal adverb, *now*. The DTS are the same as BTS after mapping the temporal adverb onto the association of R and E. (9) is acceptable since it complies with (5), (6), and (7). Likewise, (10), (11), (12), and (13) are licit and own rhetorical and temporal interpretations, obeying the principles related to the tense structure.

(8) MRQ with present

a. Who eats what at that terrible restaurant now?

b. now

S, R, E (= (4a)) ⟶ S, R, E

|

now

(9) MRQ with past

a. Who bought what at that market yesterday?

b. yesterday

E, R, ___ S (= (4b)) ⟶ E, R ___ S

|

yesterday

(10) MRQs with future[7]

a. Who will bring what to the party tomorrow?

b. tomorrow

S __ R, E (= (4c)) ⟶ S ___ R, E

|

tomorrow

(11) MRQs with present perfect

a. Who has brought what to the party since this morning?

b. this morning

E __ S, R (= (4d)) ⟶ E ___ S, R

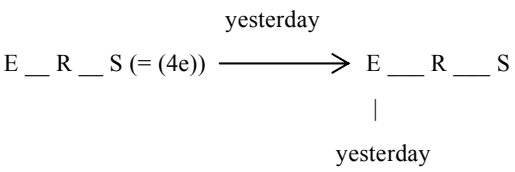
|

this morning

(12) MRQs with past perfect

a. Who had eaten what at the loud and crowded party yesterday?

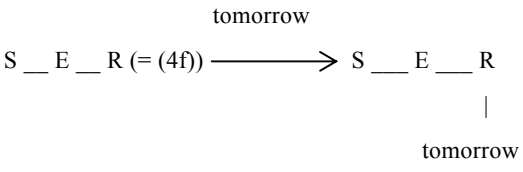
b.



(13) MRQ with future perfect[8]

a. Who will have made what for the party tomorrow?

b.



5. A Solution

Let us return to an unacceptable MRQ with a modal auxiliary (1d), which is repeated as (14a) below. Even if *today*, a temporal adverb, is added to (14a), the MRQ is not remedied as in (14b). This might be due to the fact that *would* means conditional/suppositional.

(14) MRQ with modal

a. *Who would bring what to the party? (= (1d))

b. *Who would bring what to the party today?

Let us move on to the following modality cases, which Hornstein (1993) treats on par with present tensed sentences. Notice that *would* is not included in any examples of (15). This implies that (14a) and (14b) cannot have proper temporal interpretations, which are given under the compliance with three rules (5) – (7). In

other words, neither of them has the linear tensed structures with proper association with temporal adverbs.

(15) a. That will be Max at the door now.
b. George will leave now.
c. Suzie will go to sleep now.
d. John could/should/might/may/can/must.
go to school now/tomorrow/*yesterday.
e. Go to school now/tomorrow/*yesterday.

Hornstein (1993) also assumes that *modal + have* is equal to the past tense of modal forms. As shown in (16c), (5), (6), and (7) are observed and the proper temporal interpretation is possible.

(16) MRQ with modal (= past)
a. Who could have brought what to the party yesterday?
E, R __ S (= (4b)) → E, R, ___ S
|
yesterday

Why is it that (14b) does not obtain the licit tense structure with linearity and association? Hornstein (1993) suggests that a possible temporally located event is probably realized in a well-formed modal + tense + adverb combination. Note that *would* is semantically conditional/suppositional, which lacks the probability of event realization at the possible time as depicted in (17b)

(17) a. *Who would bring what to the party today? (=14b)

b. today

S, R, E ⟶ *S __ R, E

|

today

A Polish RQ, which is examined in Wachowicz (1974), can be also accounted for by Hornstein's (1993) theory of tense, as (18c) depicts. [9] The theory of tense measures the acceptability of MRQs cross-linguistically.

(18) a. W końcu kto robi co?

finally, who does what

'Finally, who's doing what?'

b. Context:

There are various tasks, and several people to be assigned for them. Proposals have been made how to pair up people and tasks but no fixed plan has been set up yet. The speaker of [(18a)] ((15) in original) is confused by the proposals and wants to have a fixed plan.

Wachowicz (1974:159)

c.

finally

S, R, E ⟶ S __ R, E

|

finally

6. Summary

In short, I succeeded in accounting for the impossibility of English MRQs and the possibility of a Polish MRQ by means of the tense system proposed in Hornstein

(1993), which follows Reinchenbach's (1947) tense theory, cross-linguistically. We may safely say that MRQs can exist in English if pragmatic conditions of $CG_{S\text{-}A}$ are observed by both the speaker and the addressee as well as the licit tense structure are syntactically produced. When both the conditions of $CG_{S\text{-}A}$ and the principles of tense are observed, MRQs might be allowed to exist universally.

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1 The conditions necessary to judge whether a question is an RQ or an OQ are shown in (i), (ii), and (iii) below. Speaker's Beliefs (SB) and Addressee's Beliefs (AB) are defined as in (iv) and (v).

(i) $CG_{S\text{-}A}$ = {p: p is mutually believed by the Speaker and the Addressee}

Caponigro and Sprouse (2007:130)

(ii) Q is an OQ if and only if $\Downarrow\Diamond Q^{w} \notin SB$

Caponigro and Sprouse (2007:130)

(iii) Q is a RQ if and only if $\Downarrow Q\Diamond^{w} \in CG_{S\text{-}A}$

Caponigro and Sprouse (2007:131)

(iv) Speaker's Beliefs:

SB = { p: p is a belief of the Speaker}

Caponigro and Sprouse (2007:130)

(v) Addressee's Beliefs:

AB = {p: p is a belief of the Addressee}

Caponigro and Sprouse (2007:130)

2 Sprouse (2007) summaries his analysis with respect to MRQs as follows.

(i) Observation 1

Some languages allow multiple *wh*-words in a single rhetorical question, while others only allow a single *wh*-word.

Sprouse (2007:573)

3 In their experiment, participants were asked to judge the acceptability of the MRQ and the MOQ with the ordering word, *first*, and to rank their judgements from 1 to 7. They state that the crucial difference in judgement between MRQ and MOQ is not observed statistically and that MRQs can be accepted like MOQs. This means that both of them are equivalent to each other semantically. For the details, see Caponigro and Sprouse (2007).

4 See Matsuya (2007) for details.

5 Reichenbach's (1942) classification of tenses as follows.

Structure	*New Name*	*Traditional Name*
E __ R __ S	Anterior past	Past perfect
E, R __ S	Simple past	Simple past

R __ E __ S	Posterior past	-----
R __ S, E	Posterior past	-----
R __ S __ E	Posterior past	-----
E __ S, R	Anterior present	Present perfect
S, R, E	Simple present	Present
S, R __ E	Posterior present	Simple future
S __ E __ R	Anterior future	Future perfect
S, E __ R	Anterior future	Future perfect
E __ S __ R	Anterior future	Future perfect
S __ R, E	Simple future	Simple future
S __ R __ E	Posterior future	-----

In this paper, I will follow Hornstein's (1993) systematization. For the details of Reichenbach's theory of the tenses of verbs, see Reichenbach (1942:289-298).

6 In order to account for eleven types of possible tenses, Hornstein (1993) revises the list of tenses as follows.

(i)	present:	(R, S) ○ (E, R) = E, R, S (ii)
	past:	(R __ S) ○ (E,R) = E, R ___ S
	future:	(S __ R) ○ (R, E) = S __ R, E
	present perfect:	(S, R) ○ (E __ R) = E __ S, R (i)
		(R, S) ○ (E __ R) = E __ R, S (ii)
	future perfect:	(S __ R) ○ (E __ R)
	past perfect:	(R __ R) ○ (E __ R) = E __ R __ S
	future in past:	(R, S) ○ (R __ E)
	proximate future:	(S, R) ○ (R __ E) = S, R __ E (i)
		(R, S) ○ (R __ E) = R, S __ E (ii)

Hornstein (1993:117-118)

7 According to Patricia Hironymous (personal communication), *will* is not thought of a modal because it tends to be used for an action at a specific time. For this reason, the tense structure is created with licit linearity and association.

8 The rhetorical interpretation is established under the following context (personal communication with Patricia Hironymous): there is a conversation in which everyone says they are too busy to cook for this party. Then, knowing there will be no food, the speaker says, "Who will have made what for the party tomorrow?"

9 Although Wachowicz (1974) calls (19a) a clarify question, it may be treated as a RQ, considering the context: both the speaker and the addressees know the current situation where nothing is making progress.

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