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Some Remarks on Relative Clauses with Quantified Heads*

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1 Introduction

Relative clauses and quantifiers have been discussed as independent topics by many linguists. However, only several articles pay attention to their correlation. This paper will thus focus on the correlation between relative clauses and quantifiers.

It has been traditionally recognized that there is a distinction between English restrictive and non-restrictive (appositive) relative clauses. Restrictive relative clauses directly follow the head, whereas appositive ones are separated from the head by a comma or comma intonation.[1]

There are selectional restrictions between the two kinds of relative clause and universal quantifiers such as *all*, *every*, *any*, etc. In view of the low acceptability of (1), Quirk et al. (1985) comment: "Nonspecific determiners like *any*, *all*, and *every* usually have only restrictive modification" (p. 1241).

(1) a. *Every book, which is written to deceive the reader, should be banned.
b. *All the students, who had failed the test, wanted to try again.

In these examples, the head of appositives involves a universal quantifier (for ease of reference, I refer to such appositives as "Q(uantified)-head appositives").[2]

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[1] Bache and Jakobsen (1980) observe that there are cases where appositives are not separated from the head by comma. They also point out that it is rare, by contrast, to find a restrictive separated from its head by comma. See Bache and Jakobsen (1980) for the attested data and related discussion.

[2] Notice from the grammatical contrast below that when inserted in a relative

They also point out that appositives may be applied to quantified heads, as in (2).

(2) All the students, who had returned from their vacation, wanted to take the exam.

The judgments given to these sentences are those reported in Quirk et al. (1985). Some of my informants, however, accept both (1b) and (2), but not (1a) (henceforth, we refer to speakers who accept only Q-head appositives such as (2) as "strict" speakers, and speakers who accept both (1b) and (2) as "generous" speakers). Regarding the variations in acceptability, two points should be made. First, (1a) differs from (1b) and (2) in that the head in the former involves *every*, whereas the heads in the latter involve *all*. However, it seems not to be this difference that causes the contrast between (1a) and (1b)/(2), since none of my informants accept appositives such as the one in (1a) even though the quantifier is *all* rather than *every*, as in (3a):

(3) a. *All books, which are written to deceive the reader, should be banned.
b. *All students, who had failed the test, wanted to try again.

Moreover, not only strict speakers but also generous speakers do not allow (3b), an indefinite-head counterpart of (1b). This fact leads us to the second point. That is, (1b) and (2) differ from (1a) in that the heads in the former are definite NPs, but the head in the latter is an indefinite NP.

With these considerations, we pose the following two questions:

(4) a. Are Q-head appositives generally unacceptable regardless of whether the head is definite or indefinite?
b. What causes some speakers to recognize a grammatical contrast between (1b) and (2)?

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clause, a universal quantifier forces an appositive reading but not a restrictive reading.

(i) a. The students, who had all returned from their vacation, failed the test.
b. *The students who had all failed the test wanted to try again.
(Quirk et al. 1985:1241)

Tanaka (1997) deals with relative clauses such as those in (i) in an attempt to account for the contrast. I furthermore claim that even the putatively ungrammatical sentence in (ib) has a possible interpretation. See Tanaka (1997) for a detailed discussion.

Although Quirk et al. (1985) do not answer these questions, their observation is important because it brings to our attention the fact that there are "strict" speakers, who recognize the contrast between (1b) and (2). As will be reviewed in the next section, this fact has not been accounted for by previous studies; they dealt only with issues related to question (4a). Thus, to answer both of the questions in (4), we explore the properties of Q-head appositives.

The organization of this paper is as follows. Section 2 reviews previous analyses and points out their problems and insufficiencies. We observe in connection to question (4a) that the distinction definiteness/ indefiniteness crucially affects the acceptability of Q-head appositives. I will also point out that none of previous analyses can uniformly deal with Q-head appositives. In section 3 we attempt to offer a unified analysis of Q-head appositives, and to explain why they have a definiteness restriction. Sections 4 and 5 deal with question (4b). I claim in section 4 that "strict" speakers have a constraint on Q-head appositives, and that because of this constraint, Q-head appositives have some restrictions placed on them. Section 5 targets "generous" speakers, for whom Q-head appositives are not restricted at all. I argue that such speakers have a rule that enables Q-head appositives to be exempt from the constraint. Section 6 presents some concluding remarks.

2 Previous Analyses and Their Problems and Insufficiencies

Q-head appositives can be classified into two types with respect to the definiteness/indefiniteness distinction of the head: one is appositives with quantified indefinite heads (henceforth, "Q-indef.-head appositives"), and the other is appositives with quantified definite heads (henceforth, "Q-def.-head appositives"). The former is dealt with in Smith (1964) and Jackendoff (1977), and the latter in Ryden (1970). For the sake of argument, we first review and critique Smith (1964) and Jackendoff (1977), and then Ryden (1970).

2.1 Analyses of Q-indef.-head Appositives

2.1.1 Smith's Analysis To my knowledge, Smith's (1964) study of the correlation between determiners and relative clauses is the earliest one in

the framework of generative grammar. On the basis of the grammatical contrast in (5), she claims that Q-indef.-head appositives are not permitted.

(5) a. Any book which is about linguistics is interesting.
b. *Any book, which is about linguistics, is interesting.

She argues that one can account for the contrast in (5) by assuming that (a) appositives are associated with definiteness, whereas restrictives are associated with indefiniteness, and (b) universal quantifiers such as *any*, *all*, etc. are unspecified determiners.[3] Although she does not declare her position as to the correlation between the concepts of definiteness and specificity, her argument seems to presuppose that nonspecific elements cannot have nonrestrictive modification. Specifically, she seems to claim that the head *any book* in (5) is a nonspecific NP, since it involves the unspecified determiner. It follows then that what she calls unspecified quantifiers (e.g., *all*, *any*, and *every*) fail to occur with appositives because of their low specificity.

We are now in a position to examine whether her analysis can be carried over to the case of *all*. Her analysis seems to be able to account for the case of the quantifier *all*. Consider the following Q-indef.-head appositives:

(3) b. *All students, who had failed the test, wanted to try again.

Since the unspecified quantifier *all* is in the head, the specificity of the head is low; consequently, appositives, which can be applied only to specific elements, fail to follow the head.

Her analysis, however, has a difficulty in dealing with Q-def.-head appositives. When the head involves the unspecified quantifier *all*, her analysis predicts that the head becomes nonspecific and thus cannot occur with appositives. This prediction seems to be correct as far as the strict speaker, who disallows (1b), is concerned.

(1) b. *All the students, who had failed the test, wanted to try again.

As we have touched on in section 1, however, the generous speaker

[3] Though we adopt Smith's term "unspecified determiners" here, we regard them as being synonymous with "nonspecific determiners." Quirk et al. (1985), in fact, use the latter term for universal quantifiers, as we have already seen in section 1.

accepts (1b). Her analysis thus fails to account for the acceptability of (1b) to the generous speaker.

Furthermore, there is a case in which both generous and strict speakers accept Q-def.-head appositives, as in (2).

(2) All the students, who had returned from their vacation, wanted to take the exam.

The acceptability of this Q-def.-head appositive poses a serious difficulty for Smith's analysis. According to Smith, appositives are not associated with nonspecific elements. Therefore, she must say that the "unspecified" quantifier in (2) becomes a specified one. Without any evidence, however, it is natural to consider that the properties of "unspecified" quantifiers do not change irrespective of the specificity of the following NPs. It follows that her analysis cannot deal properly with Q-def.-head appositives. Although we will argue in section 3 that on a closer examination, even the explanation for the unacceptability of (1b) (to the strict speaker) is problematic, suffice it to say here that her analysis fails to predict the acceptability of (2).

2.1.2 Jackendoff's Analysis Jackendoff (1977) also observes that Q-indef.-head appositives are unacceptable though he discusses only the case where the head involves the quantifiers *every* and *any* rather than *all*. His analysis consists of two parts. In the first part, he considers the correlation between quantifiers and pronouns that are coreferential with (or bound by) the quantifiers, namely, bound pronouns.

He points out that the two types of relative clause affect anaphora established by a universal quantifier and its bound pronoun (cf. Ross 1967 and McCawley 1981). Let us consider the following grammatical contrast:

(6) a. Everyone there had a wife who loved him.
b. *Everyone there had a wife, who loved him.

This contrast indicates that when occurring in restrictives, the pronoun *him* is legitimately bounded by its antecedent *everyone*; on the other hand, when occurring within appositives, the pronoun fails to be bound by the quantifier.

In the second part of his argument, Jackendoff claims that the ungrammaticality of (6b) should be attributed to the more general fact:

"[A]ppositives are immune to the scope of quantifiers and negation" (p. 176). The validity of this claim is verified by the following pair of sentences:

(7) a. I didn't see a man who had had any drinks.
b. I didn't see a man, who had had {some/*any} drinks.

These sentences demonstrate that a negation outside an appositive fails to induce *some/any* alternation though *any* can occur in the parallel position in the case of restrictives.

In view of this fact, Jackendoff argues that coreference is possible only in (6a) because the pronoun in (6a) (but not (6b)) can be quantified by subject, fulfilling the condition that "two NPs can be coreferential only if they are subject to the same logical operators" (see Jackendoff 1972). Furthermore, he extends this explanation to Q-head appositives. He proposes that the anaphoric relation between an appositive relative pronoun and its (quantified) head is of the same nature as the one between an ordinary pronoun and its antecedent.

Given this proposal, he claims, the following grammatical contrast straightforwardly follows:

(8) a. {Any/ Every} man who drives a Cadillac is insane.
b. *{Any/ Every} man, who drives a Cadillac, is insane.

The relative pronoun in (8b) is in an appositive; therefore, the immunity of the appositive prevents the quantified head from binding the relative pronoun. As a result, the appositive relative pronoun fails to have an anaphoric relation with its quantified head, hence the ungrammaticality.

Let us now extend his analysis to the case of *all*. His analysis, at first glance, appears to readily explain the unacceptability of (1b).

(1) b. *All the students, who had failed the test, wanted to try again.

Under his analysis, just as the bound pronoun should be coreferential with its antecedent, so the relative pronoun within appositives should be coreferential with the head. Thus, in the case of (1b), the relative pronoun *who* and the subject *all the students* must be coreferential. Such a coreferentiality relation, however, is not permitted because the appositive blocks the relative pronoun to be quantified (or bound); hence, the ungrammaticality of (1b). This prediction is correct only in the case of the

strict speaker; his analysis, like Smith's, fails to deal with generous speakers.

As Smith's does, his analysis also incorrectly rules out the Q-head appositive in (2), which both types of speaker accept.

(2) All the students, who had returned from their vacation, wanted to take the exam.

Setting aside these problems, his analysis has a more serious problem. We should recall that his claim that appositive relative pronouns cannot stand in a coreferentiality relation to the head is made based on the following facts concerning the quantifiers *everyone* and *no*:

(9) a. Everyone there had a wife who loved him.
b. *Everyone there had a wife, who loved him.
(10) a. No one wanted Sue to waken him.
b. *No one wanted Sue to leave, which suited him.

The problem is that the above claim does not hold for the quantifier *all*. Consider the grammatical sentence in (11).

(11) All students have parents, who love them.

Here, the quantifier *all* legitimately binds the pronoun *them*.[4] This sentence strongly indicates that the anaphora crossing the clause boundary of appositives is permitted. In other words, his claim that appositives block the coreferentiality relation between the quantifier and its bound pronoun does not hold for the case of *all*. Consequently, Jackendoff's analysis, which hinges crucially on the claim, cannot be carried over to the

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[4] Although typical bound pronouns are singular pronouns such as *his*, *her*, and *its*, plural pronouns may also function as bound pronouns. Evans (1980), for instance, points out that the plural pronoun in (ia) but not (ib) is bounded by the subject.

(i) a. Few congressmen admire only the people they know.
b. Few congressmen admire Kennedy, and they are very junior.

Evans calls plural pronouns such as the one in (ib) E-type pronouns. He also claims that a pronoun bound by a quantifier does not refer to anything, while E-type pronouns are interpreted as referring to something. When we replace the antecedent with the quantifier expression *no*, which negates the existence of referents of the antecedent, the E-type pronoun loses its referent and thus becomes anomalous.

(ii) a. No congressmen admire only the people they know.
b. *No congressmen admire Kennedy, and they are very junior.

case of *all* as in (2) and (3b).

(2) All the students, who had returned from their vacation, wanted to take the exam.

(3) b. *All students, who had failed the test, wanted to try again.

2.2 An Analysis of Q-def.-head Appositives

On the basis of the acceptability of (12), Ryden (1970) claims contra Smith (1964) that putative unspecified determiners are compatible with both restrictives and appositives.[5]

(12) a. All the teachers who had come to the meeting voted for A. as chairman of the committee.

b. All the teachers, who had come to the meeting for different reasons, voted for A. as chairman of the committee.

The observation made above holds for sentences such as (2).

(2) All the students, who had returned from their vacation, wanted to take the exam.

Ryden's analysis is insufficient, however. That is, the fact is more complicated than Ryden's claim that putative unspecified determiners are compatible with both restrictives and appositives. As we have already seen, judgment of acceptability of Q-def.-head appositives varies among

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[5] He also observes that Q-head appositives are required to fulfill an extra condition: some adverbial extension ('framing adverbial') that is not usually needed in a Q-head restrictive like (ib) and a "quantifier-inserted" appositive like (ic) should be involved in an appositive.

(i) a. All the teachers, who had come *(to the meeting), voted for A. as chairman of the committee.

b. All the teachers who had come (to the meeting) voted for A. as chairman of the committee.

c. The teachers, who had all of them come (to the meeting), voted for A. as chairman of the committee.

However, there seems to be a dialectal difference between Ryden and my informants. According to my informants, the following Q-head appositives without what Ryden calls framing adverbs are completely natural:

(ii) a. All the girls, who rode the bus, felt fine.

b. All the boys, who walked, were tired.

speakers. Strict speakers (e.g., Quirk et al.) view the Q-head appositives more strictly than generous speakers, and so do not accept (1b).

(1) b. *All the students, who had failed the test, wanted to try again.

Generous speakers, on the other hand, do accept this sentence.

Given the variation of judgments, we can safely conclude that Ryden's analysis is not sufficient to answer the question in (4b): what causes some speakers to recognize a grammatical contrast between (1b) and (2)?

2.3 Summary

In this section, we have explored whether Smith's (1964) and Jackendoff's (1977) analyses can be carried over to Q-head appositives whose quantifier is *all* (henceforth, the term Q-head appositives is used to refer only to such cases, unless specified). We have reached the conclusion that Smith's analysis can deal only with Q-indef.-head appositives, whereas Jackendoff's analysis can be extended neither to Q-indef.-head appositives nor to Q-def.-head appositives. We thus need to seek for a unified analysis of Q-indef.-head and Q-def.-head appositives.

We have obtained the answer to question (4a): are Q-head appositives generally unacceptable regardless of whether the head is definite or indefinite? We have observed in section 2.1 that the quantifier *all*, like *every* and *any*, cannot occur in indefinite heads of appositives. We have also seen in section 2.2 that when appositive heads are definite, the quantifier *all* can occur in the head (although, for strict speakers, there are some cases in which it cannot). That is to say, Q-head appositives have a definiteness restriction. Therefore, "No" is the answer to question (4a).

Previous analyses have not offered a clue to question (4b): what causes some speakers to recognize a grammatical contrast between (1b) and (2)? We have pointed out that no studies can explain the fact that judgment of acceptability of Q-def.-head appositives varies depending on the types of speaker. Therefore, we need to seek for new devices to explain this fact.

With these considerations, we now have two tasks: (a) we need to offer a unified analysis of Q-indef.-head and Q-def.-head in connection with a definiteness restriction on Q-head appositives; (b) we have to answer question (4b). Task (a) is carried out in section 3, and task (b) in sections 4 and 5.

3 The Definiteness Restriction and a Unified Analysis of Q-head Appositives

We have observed in the previous section that Q-head appositives have a definiteness restriction: Q-def.-head appositives are acceptable, as in (2); by contrast, Q-indef.-head appositives are not acceptable, as in (3).

(2) All the students, who had returned from their vacation, wanted to take the exam.

(3) a. *All books, which are written to deceive the reader, should be banned.

b. *All students, who had failed the test, wanted to try again.

It should be recalled that there are strict speakers, who accept Q-def.-head appositives only under some condition. For such speakers (e.g., Quirk et al. 1985), (2) is acceptable, but (1b) is not.[6]

(1) b. All the students, who had failed the test, wanted to try again.

Setting aside the difference between generous and strict speakers, this section focuses on the contrast between (2) and (3), and explains why Q-head appositives have a definiteness restriction.

We first examine more closely whether Smith's (1964) analysis explains the definiteness restriction. We have pointed out, in the previous section, that although it fails to explain (2), only Smith's (1964) analysis seems to readily account for the low acceptability of (3). Since the quantifier *all* is an unspecified determiner, and since appositives are associated only with indefiniteness, the nonspecific head in (3) cannot occur with appositives.

On a closer examination, however, even this treatment of (3) is problematic. Although Smith assumes that universal quantifiers such as *all* are unspecified determiners, she provides no strong argument for the assumption. It seems to me that as grounds for taking universal

[6] The strict speakers among my informants point out that although, compared to (2), (1b) is obviously awkward, its acceptability is not so low as Quirk et al. claim, and they may be prone to use (1b) despite its awkwardness. For this reason, I use the diacritic "?" to indicate the oddness of such appositives that are not accepted by the strict speakers, though I continue to use the diacritic "*" reported in Quirk et al. for the example in (1b).

quantifiers as unspecified determiners, she appeals to the fact that while the specified determiner *the* improves the low acceptability of appositives with indefinite heads, as indicated by the contrast in (13), the low acceptability of (3) strongly demonstrates that *all* cannot do so.

(13) a. *Students, who had returned from their vacation, wanted to try again.
b. The students, who had returned from their vacation, wanted to take the exam.

As far as examples like (13a) are concerned, her claim that the quantifier *all* is an unspecified determiner does not pose a problem, since the acceptability is not improved even if the quantifier is added to the head (see (3b)). In the case of (13b), however, this claim leads us to predict that if the quantifier is added, the sentence becomes unacceptable. This is because the putatively unspecified determiner changes the definite, and thus specific, head into a nonspecific one. The fact that the resulting sentence is acceptable (see (2)) indicates that this prediction is incorrect. As we have reviewed in the previous section, Ryden also points out this fact and argues against Smith's claim that nonspecific elements are not compatible with appositives.

There appears to be no good reason to believe that when occurring with definite NPs, the putatively unspecified quantifier turns into a "specified" one (see section 2.1). Hence, we assume that universal quantifiers function exactly in the same way regardless of whether NPs they quantify over are definite or not. We also assume that the quantifiers are neutral with respect to the specificity, so that they do not affect the specificity of NPs they occur with.

Given these assumptions, we can maintain the widely-assumed selectional restriction that only specific elements are associated with appositives (see Smith 1964 and Hirose 1995).[7,8] Consequently, we can

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[7] There is an apparent counterexample to the generalization that appositives are compatible only with specific elements. Consider the following case where superficially indefinite heads are followed by appositives:

(i) All students, who have failed the test, will have an opportunity to take it again.

The most appropriate context for (i) is where the principal of a public school uses it in a memorandum to the teachers of the school. In this context, the indefinite NP *all*

correctly predict that Q-head appositives such as (2) are permitted to be on a par with appositives with definite heads such as (13b) because the quantifier *all* does not affect the specificity of the head at all.

The present analysis can also account for the low acceptability of (3). I claim that (3) is unacceptable not because *all* is an unspecified determiner, as Smith (1964) claims, but because the head itself is a nonspecific NP and such a head cannot occur with appositives.

This section has proposed a unified analysis of Q-indef.-head and Q-def.-head appositives. With this analysis, we properly explain the fact that Q-head appositives have a definiteness restriction. The important point to make here is that our prediction that Q-def.-head appositives are always allowed is correct only in the case of the "generous" speaker. As we have mentioned several times, while generous speakers accept (1b) as well as (2), strict speakers accept (2) but not (1b). In connection to question (4b), the following two sections are devoted to explaining the difference in the judgment of generous and strict speakers.

4 The "Strict" Speaker and Q-def.-head Appositives

This section targets the strict speaker, who accepts Q-def.-head only under some condition. The strict speaker does not always accept Q-def.-head appositives. For instance, the speaker will recognize the following

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students is semantically definite. This is because what the noun phrase denote is the specific set of students in the public school, which is the knowledge shared by the principal and the teachers. It follows that (i) conforms to the generalization.

[8] We should add that this restriction does not apply to generic NPs. It has been observed that generic NPs, whether they involve definite or indefinite articles, can be followed by appositives (see e.g. Nakau 1977). This trait of generic NPs is also maintained when they occur with quantifiers, as in (i). (My informants point out that the examples in (i) are marginally acceptable although they sound more or less redundant.)

(i) a. All human beings, who are mammals, do not bear eggs.
b. All men, who were made by God, are mortal.

Though both specific NPs and generic NPs are compatible with appositives, they are different with respect to existential quantification: the former carry quantificational force while the latter do not. Thus, generic NPs should be dealt with separately from specific NPs (Koichi Nishida, personal communication). The correlation between generic NPs and appositives is beyond the scope of this paper.

contrast:

(14) a. *All the students, who had failed the test, wanted to try again. (=(1b))
b. All the students, who had returned from their vacation, wanted to take the exam. (=(2))

By exploring the factors behind the contrast in (14), we can answer the question: what causes some speakers to recognize a grammatical contrast between (1b) and (2)?

We should note that if either the appositive or the universal quantifier in (14) is omitted, the resulting sentences are all grammatical.

(15) a. The students, who had failed the test, wanted to try again.
b. The students, who had returned from their vacation, wanted to take the exam.
(16) a. All the students wanted to try again.
b. All the students wanted to take the exam.

The acceptability of (15a) and (16a) strongly indicates that it is a functional mismatch between the quantifier and the appositive that invokes the contrast in (14).

We should now explore from where the mismatch stems. I claim that the strict speaker has a constraint on Q-def.-head appositives. When sentences with Q-def.-head appositives violate the constraint, they are ruled out (see below).

To explore the constraint behind the contrast in (14), we should pay attention to the relationship between the content of the appositive and that of the main clause. When the sentences in (14) are each divided into two independent sentences, we obtain the following pairs of sentences (the relative pronoun is replaced by the ordinary pronoun, and the original past perfect tense is changed into the past tense):

(17) a. All the students wanted to try again.
b. They failed the test.
(18) a. All the students wanted to take the exam.
b. They returned from their vacation.

The (a) sentences of (17)-(18) correspond to the contents of the matrix

clauses of (14), and the (b) sentences of (17)-(18) to the contents of the appositives of (14). Comparing (17) with (18) leads us to the idea that they are decidedly different in that a causal relation is included in the former, but not in the latter. Specifically, (17a) describes an effect caused by (17b), while (18a) and (18b) do not have a special relation.

We can see the difference in implication of a causal relation between (14a) and (14b) by comparing them with their corresponding causative sentences in (19).

(19) a. Having failed the test caused all the students to want to try again.
(<= *All the students, who had failed the test, wanted to try again. (14a))

b. Having returned from their vacation caused all the students to want to take the exam.
(<≠ All the students, who had returned from their vacation, wanted to take the exam. (14b))

As the arrows indicate, (19a) describes a correct situation implied by the intended reading of (14a), but (19b) does not describe a correct situation implied by (14b).

With these considerations, we postulate the following semantic constraint on Q-def.-head appositives:

(20) *The Causal-Appositive Constraint*
If the content of a relative clause is interpreted as a cause of the content of the main clause, then the relative clause cannot have an appositive reading.[9,10]

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[9] Though I state this constraint as the one on Q-def.-head appositives, nothing seems to prevent the constraint from applying to Q-indef.-head appositives. However, as we have already pointed out in section 3, the latter type of Q-head appositive is always ruled out because indefinite heads are incompatible with appositives. Thus, we have no way to examine whether or not the constraint holds for Q-indef.-head appositives.

[10] It should be noted that when the content of the main clause is interpreted a cause of the content of the appositive, as in (ia), the sentence is not allowed for a different reason.

(i) a. *All the students, who passed the test, had studied very hard.
b. ?All the students, who (had) studied very hard, passed the test.

We claim that the ungrammaticality of (ia) stems from an opposite flow of the temporal

It follows that this constraint operates on Q-def.-head appositives and rules out those which violate it. It is this constraint that causes the strict speaker to recognize the contrast in (14).[11]

Here is another pair of examples that are different with respect to the presence/absence of implication of a causal relation.

(21) a. ?All the students, who had lost their textbooks, went to the teacher to complain about it.
b. All the students, who had come to the meeting, voted for John as a chairman of the students council.

In (21a) the content of the appositive is interpreted as a cause of the content of the main clause. In (21b), on the other hand, there is not such a special relation between them. Consequently, the Causal-Appositive Constraint rules out only (21a).

These considerations lead us to an answer to the question in (4b): what causes some speakers to recognize a grammatical contrast between (1b) and (2)? I have so far claimed to attribute the factor behind the contrast to a functional mismatch between the quantifier and appositives. It is obvious now that this mismatch stems from the Causal-Appositive Constraint in (20).

This is not a complete answer to the question, however. It remains to be explained that there are generous speakers, who always accept Q-def.-head appositives. The next section pursues this issue.

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ordering. In other words, the appositive must describe an eventuality that temporally precedes one that is denoted by the main clause. The oddness of (ib), on the other hand, is attributed to a violation of the Causal-Appositive Constraint. See also footnote 6.

[11] Postposing the quantifier remedies the low acceptability of Q-def.-head appositives invoked by the Causal-Appositive Constraint.

(i) a. The students, who had failed the test, all wanted to try again.
b. The students, who had returned from their vacation, all wanted to take the exam.

We argue that the sentences in (i) should be dealt with separately from their "non-Q-floated" counterparts in (14). This argument crucially hinges on the widely-made assumption that the functions of "floated" quantifiers diverge from those of non-floated ones. Interpretation is one of the most remarkable differences between them. It has been observed that "non-floated" quantifiers are ambiguous between the group reading and the individual reading, whereas "floated" ones have only the individual reading (see e.g. Kaga 1995).

5 The "Generous" Speaker and Q-def.-head Appositives

In the previous section, I have claimed that Q-def.-head appositives have restrictions placed on them by strict speakers, since the Causal-Appositive Constraint applies. Why is it then that Q-def.-head appositives are not restricted for the generous speakers? I propose that although the constraint could also apply in the case of the generous speaker, the definite article of Q-def.-head appositives plays a crucial role in enabling them to be exempt from the constraint. More specifically, definite articles enable the universal quantifier *all* to semantically "fuse" into them.[12]

When the fusion occurs, definite NPs quantified by *all* are equated with simple, unquantified definite NPs. Specifically, the quantified head *all the students* in (1b) becomes synonymous with the simple definite NP *the students*. Consequently, (1b) becomes semantically equivalent to (22).

(1) b. *All the students, who had failed the test, wanted to try again.

(22) The students, who had failed the test, wanted to try again.

Why is such a fusion possible? A cue is caught from the fact that definite NPs with the quantifier *all* do not change in meaning even when the quantifier is omitted. This fact is pointed out by Kroch (1975).

(23) a. The men in this room are angry.
b. All of the men in this room are angry.

(24) a. The prisoners in cell block D escaped from Walpole today.
b. All of the prisoners in cell block D escaped from Walpole today.

He claims that the quantified and unquantified variants in the above pairs are synonymous. He also argues against the intuitive idea that compared with sentences with a quantified definite NP subject (e.g., (23b) and (24b)), those with a simple definite NP subject (e.g., (23a) and (24a)) are weaker and less committal, and are paraphrasable as in (25), respectively.

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[12] It is not clear to me at the moment whether it is possible for the generous speaker that the fusion can apply to restrictive relative clauses as well as to appositive relative clauses. I leave this issue for future research.

(25) a. More or less all of the men in this room are angry.
b. More or less all of the prisoners in cell block D escaped from Walpole today.

Kroch, however, argues that the (a) examples of (23) and (24) are not equivalent to their corresponding sentences in (25). He provides evidence that sentences with a simple definite NP subject and those with a quantified NP subject are both incompatible with contexts in which exceptions are noted.

(26) a. *Although the men in this room are angry, there are some who aren't.
b. *Although all of the men in this room are angry, there are some who aren't.
(27) a. *Although the prisoners in cell block D escaped from Walpole today, there were some who didn't.
b. *Although all of the prisoners in cell block D escaped from Walpole today, there were some who didn't.

In contrast to the above parallelism between simple definite NP subjects and quantified definite NP subjects, the putative paraphrases in (25) can be followed by such exceptional contexts.

(28) a. Although more or less all of the men in this room are angry, there are some who aren't.
b. Although more or less all of the prisoners in cell block D escaped from Walpole today, there were some who didn't.

In view of the identical behavior of the quantified and the simple definite NP, Kroch claims that the simple definite plural behaves strongly like universally quantified words.[13]

Adopting his claim that definite NPs may function like universally quantified NPs, we propose that the speakers who uniformly accept Q-def.-head appositives analyze the head as a simple definite NP rather than a universally quantified NP. Given this proposal, we correctly predict that

[13] Kroch proposes a rule that introduces the universal quantifier to the simple definite plural. There are of course differences between actual universal quantifier words and the universal quantifier introduced by such a rule, which we do not discuss in this paper. See Kroch (1975) for details.

generous speakers accept (29a) as well as (29b).

(29) a. All the students, who had failed the test, wanted to try again. (=(1b))

b. The students, who had failed the test, wanted to try again. (= (13b))

Through the fusion of the quantifier into the definite article, the head involving *all* in (29a) is semantically equivalent to the head without *all*. As a result, the quantifier's inherent functions need not be carried over, and therefore (29a) is exempt from being subject to the Causal-Appositive Constraint. This is the other half of the answer to question (4b): what causes some speakers to recognize a grammatical contrast between (1b) and (2)?

To summarize, Q-def.-head appositives are more restricted for the strict speaker, because the Causal-Appositive Constraint applies to the appositives. The generous speaker, on the other hand, allows the fusion to take place; therefore, Q-def.-head appositives are interpreted as appositives with simple heads, and the resulting appositives can avoid the Causal-Appositive Constraint. Consequently, the generous speaker permits Q-def.-head appositives to be on a par with simple-head appositives.

One may wonder why only generous speakers allow the fusion to take place. The reason for this is not quite clear to me. Perhaps they induce possible interpretations of Q-def.-head appositives at the cost of their "strictness." In other words, the generous speaker avoids the functional mismatch between the quantifier and the appositive by fusing (or "assimilating") the quantifier into the definite article, though the functions of the definite article are not completely analogous to those of the quantifier (see footnote 13). And this is the reason why they are "generous."

6 Concluding Remarks

This paper has studied Q-def.-head appositives. In section 2, we have reviewed previous analyses, and have pointed out their problems and insufficiencies. We have observed that Q-head appositives have a definiteness restriction. I have also claimed that none of previous analyses can uniformly deal with Q-indef.-head and Q-def.-head

appositives.

In section 3, I have proposed a unified analysis of Q-head appositives in connection with a definiteness restriction. By assuming contra Smith (1964) that the quantifier *all* is neutral as to the specificity, I have maintained the selectional restriction that appositives can occur only with specific elements, and have explained why Q-head appositives have a definiteness restriction.

In sections 4 and 5, we have discussed the difference between the generous and strict speaker. Section 4 has targeted the strict speaker, for whom Q-def.-head appositives are more restricted than generous speakers. I have claimed that the hitherto unexplained contrast recognized by the strict speaker stems from the Causal-Appositive Constraint.

In section 5, I have explained why Q-def.-head appositives are not restricted for generous speakers. I have argued that they have the rule called "fusion," which enables them to interpret Q-def.-head appositives as simple def.-head appositives; hence, in the case of generous speakers, Q-def.-head appositives are not subject to the Causal-Appositive Constraint.

Although we have completed the task of answering both of the questions in (4), another related question arises: why Q-def.-head appositives that have a causal relation with the main clause are not permitted? This question is closely related to the origin of the Causal-Appositive Constraint. We leave this issue for future research.

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