**Chapter 4**

**Coordination other than *and*-coordination and implicit coordination**

The discussion of implicit coordination in Chapter 3 has been restricted to coordination with *and.* We have seen that implicit coordination in the context of *and* coordination was always interpreted in the same way as explicit phrasal *and* coordination, by plural reference. Two questions arise when other types of coordination are taken into account: first, is implicit coordination possible at all in the context of other coordinate structures (as the theory so far in fact predicts), and second, how is it interpreted?

 This chapter will examine other types of coordination with respect to implicit coordination, in particular coordination with *or.* relative clauses, which arguably involve coordination and comparatives. The general claims defended in this chapter are first, implicit coordination is syntactically available for all types of co0rdination and second, implicit coordination is always interpreted by group formation, regardless of the explicit coordinator in the coordinate construction. In those cases in which a coordinate construction is unacceptable with implicit coordination, it is so because of an incoherent overall semantic evaluation of the sentence.

 Beside these general claims, this chapter gives explicit syntactic and semantic analyses of relative clause constructions in rms of simultaneous coordinate and subordinate structures, and of two types of constructions in which relational adjectives receive an internal reading in comparatives. I will first examine disjunction with respect to the ability of providing implicitly coordinated antecedents, then certain relative clauses and finally comparatives.

**4.1. Disjunction and implicit coordination**

Is implicit coordination possible not only in coordinate structures with the coordinator *and,* but also in coordinate structures with the coordinator *or?* From a syntactic point of view, the answer must clearly be positive, since ATB-extraction is possible in coordinate structures with disjunction and as was argued in Chapter 2, ATB extraction involves implicit coordination:

 (1) What did Mary say t or Bill write t?

This is of course expected from the way three-dimensional syntactic structures were conceived in Chapter 2, since the possibility of joining nodes, that is, coordination, did not depend on particular coordinators higher in the tree. For the purpose of ATB extraction, it seems that all types of coordinate structures allow for implicit coordination syntactically. This also holds for comparatives, which are also coordinate structures of a sort (as will be discussed later):

(2) What did Mary say t more often than John wrote t?

 However, disjunction generally does not display the second type of phenomenon that is indicative of implicit coordination, namely split antecedents for anaphora requirung plural antecedents. Thus, *John* and *Mary* cannot constitute an implicitly coordinated antecedent for *each* in (3a), and similarly for *same, together, simultaneously* and *one after the other* in (3b) and (3c):

(3) a. How many cars *each* did *John* buy or *Mary* sell?

 b. John *played* or Mary *listened* to the *same* music.

 c. ?? John *sang* or Mary *played together* / *simultaneously* / *one after the other.*

Clearly it is the semantics of disjunction that makes split antecedents in these examples unavailable. Recall that implicit coordination requires two partial evaluations of a coordinate sentence, one evaluating the implicit coordination, the other one evaluating the clausal coordination. The evaluation of the clausal disjunction alone can obviously not rule out the examples in (3), since in this partial evaluation of the sentence the contribution of the elements requiring plural antecedents is disregarded. Also the evaluation of the implicit coordination alone cannot be responsible for the unavailability of the relevant readings, giventhat implicit coordination is always interpreted by plural reference, as in (4) for (3b):

(4) John and Mary played and listened to the same music.

However, the reading readings of (3b) is impossible because of an 'incompatibility' of the evaluation of the implicit coordination and the clausal disjunction. The evaluation of the implicit coordinations in (3b) implies that John played or listened and that Mary played or listened to the music, which is of course not the implication of the evaluation of the clausal disjunction. As a general principle, the partial interpretation of the sentence on the basis of the o vert clausal coordinator should entail the partial interpretation of the sentence on the basis of the implicit coordination except for the contribution of the element taking the split plural antecedent. Since these two partial interpretations arc formulated as relations and since the semantic effect of the element taking the implicitly coordinated antecedent is generally formulated as a subrelation, this entailment is formally unproblematic: the first relation should be included in the second relation, the evaluation of the implicit coordination without the semantic effect of the element taking the split plural antecedent. Thus, the relation (5c) evaluating the implicit coordination in (5a) without the semantic effect of *same*, includes the relation in (5d), which is the partial evaluation of the clausal disjunction of (5a) the relation expressed by (5b),.

(5) a. John played and Mary listened to the same music.

 b. John played some of it and Mary to some of it.

 c. λxxee[∃e'x(e'Pee & x'Pxx & played(e’, John, x')) & ∃e'(Pe & x'Pxx &

 listen to(e’, Mary, x'))]

 d. λxxe[played and listened to(ee, John + Mary, xx)]

 There are certain contexts, though, in which disjunctive coordination allows for implicitly coordinated plural antecedents:

(6) a. A: You said that Bill kicked Sue or Bill hit Mary?

 b. B: No, I said that Bill kicked or Bill hit the same person.

In such examples, *same* operates on a metalinguistic level, in the following way. Coordination in (6b) at the object semantically and syntactically involves disjunction. Coordination in (6b) also operates at a metalinguistic level. It involves an operation of conjunction applying to the utterances that are described. Let us assume that (6b) describes an utterance u of the form 'Bill kicked t' and an utterance u' of the form 'Bill hit t'. Both of these utterances are parts of a bigger utterance u" of the form 'Bill kicked t or Bill hit t'. We can say that u" is the plurality of u and u’, and thus a plurality associated with phrasal conjunction, though here u and u' are utterances corresponding to IPs. (6b) thus involves a coordinate structure of the form in (7a), evaluated roughly as in (7b), where 'SA*Y(that Bill kicked t)'* is a predicate denoting the set of utterances of the form 'Bill kicked t' and ABOUT is the relation that holds between an utterance u and an entity x iff u is about x:

(7) a. conj(/ *said that Bill kicked t, I said that Bill hit* t)

 b. λu"x[∃uu'(u" = u + u’) & SAY*(Bill kicked* t)(u) & SAY*(Bill hit* t)(u') & ABOUT(u,

 x) & ABOUT{u', x))]

The semantic operation associated with *same* that was given in chapter 2 can now be applied to the relation in (7b) in the usual way. Thus. *same* in (6b) would roughly have the following semantic effect. Given that u is the B's earlier utterance B refers to in (6b), then for every x and x', if the utterance part u' of u involving Bill's kicking is about x and the utterance part u" of u involving Bill's hitting is about x', then x and x' are the same. This is more formally given in (8):

(8) λu"x[∃uu'(u" = u + u') & SAY*(Bill kicked* t)(u) & SAY*(Bill hit* t)(u') &

 ABOUT(u, x) & ABOUT(u', x) & PEOPLE(x))] &∀uu'x'x"(u<u" & u'<u" & x'<x &

 x"Px & SAY*(Bill kicked* t)(u) & SAY*(Bill hit* t)(u') & ABOUT(u. x) & ABOUT(u',

 x) & PERSON(x) & PERSON(x') 🡪 x' = x")]

Thus, *same* in (8) does not operate on the usual semantic level, but rather on a level that is construed on the basis of what the expressions in (6b) denote. At this level, also the coordinate structure of (6b) is represented. But the coordination at this level is not interpreted as disjunction. but rather as conjunction. I will not go further into the issue of what the procedure is for construing this level, what must or may be invariant and which expressions may operate at this level, rather than the usual semantic level. In any case, *same* is not unique in operating at this level. It has often been observed that certain expressions may operate on a metalinguistic level, for instance negation, or a level of speech acts, for instance conditionals.

 Note that metalinguistic *same* may also relate to mental events in cases such as (9):

(9) A: You were thinking that Bill kicked Sue or Bill hit Mary?

 B: No, I was thinking that Bill kicked or Bill hit the same person.

We can thus state the following generalization about the availability of implicit coordination:

(10) Generalization about Implicit Coordination

 Implicit coordination is available in all coordinate structures provided it permits a

 semantic interpretation.

This generalization will be further confirmed in the following discussion of other types of coordination that exhibit implicit coordination phenomena of the second sort.

**3.3. Relative clauses and implicit coordination**

In a particularly interesting construction with relative clauses, noted by Williams (1976), the relational adjective *same* modifying the head NP of the relative clause has an internal reading, taking the content of the main clause and the content of the relative clause into account in the comparison:[[1]](#footnote-1)

(11) a. The same man that / who we saw yesterday came today.

 b. The same student that knew the answer to the first question knew the answer to the

second question.

 c. Mary answered the same question that John answered yesterday.

 d. I gave the book to the same man to whom I gave the record.

 e. At the same time when John became professor, Mary became prima ballerina.

Note that the construction *is* available both for relative clauses with *that* and for relative clauses with a *wh*-relative pronoun.

 An important observation about this construction is that it is available only for relative clauses and unavailable for any other NP modifiers such as APs or PPs, regardless of their semantic content:

(12) a.\* The same man angry at Bill became angry at John.

b. \* The same nervous man was tired.

 c. \* The same answer by Mary was given by Sue.

 d. \* The same man with an umbrella came with a dog.

I will propose an analysis on which relative clauses are coordinated with the main clause and thus provide an antecedent for *same* that is the implicit coordination of parts of the main and the relative clause. The difference between relative clauses and other attributes then can be traced to the inability of adjectival or prepositional NP modifiers to undergo coordination with the matrix clause. The reason for that can be considered a violation of the Law of the Coordination of Likes, since adjectival and propositional modifiers do not match the category with the main clause, a CP or IP.[[2]](#footnote-2)

 Why and how should the relative clause be coordinated with the main clause, and is there independent evidence that relative clauses involve coordinate structures? I suggest that what is coordinated in this construction are two sufficiently similar clause-like categories, say TP and CP, both of which are interpreted as properties of individuals:[[3]](#footnote-3)

(13) / came today

The same man

/ that came yesterday

In this constructions, *same* semantically applies to two predicates and compares the arguments satisfying the two predicates, i.e., λx[x came today] and λx[x came yesterday]. *Same* presumably functions in this way also in VP-coordination, as in (29):

(14) The same man came today and will come tomorrow.

In addition to the coordinate structure, a sentence with a relative clause also has to have a subordinate structure, where the relative clause is adjoined to the NP it modifies. The subordinate structure is required in order to establish a necessary binding relation between the relative clause operator and the head noun, whereas the coordinate structure is necessary in order to provide an antecedent for *same.*

 Both the coordinate and the subordinate structure of relative clause constructions have to receive a semantic interpretation. As in the case of the two m-plane assignments for constructions with implicit coordination (cf. Chapter 3), I assume that these two interpretations are partial meanings of the sentence and have to be combined to give the full sentence meaning. The interpretation of the coordinate structure provides the evaluation of *same;* the interpretation of the subordinate structure disregards *same* and involves the set-theoretic intersection of the property expressed by the head noun and the property expressed by the relative clause. On the basis of the subordinate structure, (11a) is evaluated roughly as equivalent to (15a), thus approximately as in (15b).

(15) a. Men that came yesterday came today.

 b. λxx[men(xx) & came yesterday(xx) & came today(xx)]

On the basis of the coordinate structure, (11a) is roughly evaluated as equivalent to (16a), i.e. as (16b).

(16) a. The same man came yesterday and today.

 b. λxx[came yesterday and came today(xx) & ∀x'x"(x’ < xx & xx’’ < xx & came

 yesterday(x') & came today(x") 🡪 x' = x")]

The union of the two partial interpretations in (15b) and (16b) then gives (17) as the complete sentence meaning of (11a):

(17) ∃xx[men(xx) & came yesterday and came today(xx) & ∀x'x"(x’ < xx & xx’’ < xx & came

 yesterday(x') & came today(x") 🡪 x' = x")]

 The analysis explains that not all relational adjectives may take an implicitly coordinated antecedent in a 'relative clause coordination'. In fact, the construction is possible only with *same,* i.e., with relational adjectives expressing identity:

(18) a.\* A different man that / whom we saw yesterday came to see us today.

 b. \* Mary answered a similar/ comparable / related question that/ which John answered

 yesterday.

The restriction to relational adjectives expressing identity can be derived from the semantics of the construction given above. The interpretation of the subordinate structure requires that properties expressed by the head NP and the relative clause be intersected. Hence the evaluation of this representation would be incompatible with the internal reading of a relational adjective other than *same* modifying the head NPs.

Comparatives with relational adjectives are subject to particular restrictions. Relational adjectives and other expressions not implying similarity may not take an antecedent in a non-generic comparative*:*

(19) a. # Different movies impressed more women than men.

 b. # Different medications have wider distribution in America than in Europe.

 c. # Unrelated problems trouble more mathematicians than physicists.

(20) # Consecutively / Separately / During different periods of time, more students asked

 questions than professors gave answers.

The reason why only *same* and certain other relational expressions expressing similarity are allowed in comparatives with *than* appear to be purely semantic in nature. The ability of *same* to take an antecedent in comparatives cannot, for instance, be explained syntactically by the fact that it is the only relational adjective that allow for equative *as* clauses in English:

(21) John read the same book/ \* a similar/ comparable book in the evening as Mary in

 the morning.

(22) a. John read different books/ more books than Mary.

 b. John read the same / similar/ comparable books as Mary.

(24) a. \* John entered an adjacent room as / than Mary.

 b. \* John solved related problems as / than Mary.

The reason is that this restriction seems to be a syntactic restriction peculiar to English. In other languages, for instance in German, all relational adjectives expressing similarity can in the comparative take an equative complement:

(25) Hans hat dasselbe Buch/ ein vergleichbares / aehnliches / ebenso langes Buch gelesen

 wie Maria.

 'John has read the same/ a comparable/ similar/ equally long book as Mary.'

Nonetheless, in German, as in English, the construction under discussion is restricted to relational adjectives expressing identity or at least similarity:

(26) Dasselbe Buch / ?? Aehnliche / \* Verschiedene Buecher hat (haben) mehr Frauen

 beeindruckt als Maennner.

 'The same book/ Similar/ Different books have impressed more men than women.'

This construction is possible also with other clause types that pattern with degree comparatives, for instance equatives, comparatives with *different,* and *rather*-clauses (which are a type of comparative according to Napoli/Dieterich 1982).

(27) a. The same professor taught Mary as much mathematics as John Latin.

 b. During the same period of time John learned Arabic as quickly as Mary French.

(28) a. With the same means John achieved a different result than Mary.

 b. The same professor taught John a different subject than Mary.

(29) a. The same proposal would rather cause a riot than settle the problem.

 b. The same candidate would rather keep his present position than change his personal

 habits for the new job.

Crucially, here the semantic restrictions on the relational adjective are different. With equatives, the relational adjective need not express similarity; even *different* is acceptable:

(30) a. Different amounts of alcohol make a woman as drunk as a man.

 b. Incomparably difficult tasks gave John the same amount of headache as Mary.

 c. Unrelated problems may keep John awake as much *as* Mary.

Notice that relational adjectives expressing dissimilarity are possible both in generic (30a, c) and non-generic comparatives (30b).

 What kind of semantic parameters are responsible for which relational adjectives may take an internal reading in which comparative constructions? There appears to be a constraint a constraint on the semantic complexity of a sentence to the effect that a single sentence may explicitly convey only one relation of dissimilarity:[[4]](#footnote-4)

(31) The condition of a single relation of dissimiliarity in a sentence

 A clause may express explicitly at most one relation of dissimilarity among the

 values of two distinct constituents.

Since *-er* comparatives themselves express a relation of dissimilarity, they disallow a relational adjective with an internal reading in the same sentence which also expresses dissimilarity. In contrast, equatives involve only a relation of similarity. Therefore, in equatives relational adjectives with an internal reading are possible that express a relation of dissimilarity. The same holds of course for comparatives with *different* and *same* respectively. Equatives and comparatives with *same* also allow for relational adjectives in the internal reading expressing similarity, as we have seen. This is, of course, not excluded by the principle, since it sets only an upper limit on relations of dissimilarity.

**3.1. Comparatives and implicit coordination**

**3.1.1. The phenomena**

Relational relational adjectives in comparative clauses may take split antecedents, consisting of the phrase (or a part of it) following *than* and its correlate. As such, they provide evidence for an often suggested coordinate character of comparative constructions (Moltmann 1992, Chap. 5). The following examples are classified into four distinct types, differing in acceptability or in important structural properties.

(32) a. The same amount of alcohol made Mary more drunk than John.

 b. During the same period of time John wrote books than Mary letters.

(33) a. (?) The same movie impressed more women than men.

 b. (?) The same medication became more popular in America than in Europe.

 c. (?) The same problems troubled mathematicians more than physicists.

 d. (?) The same movie was more criticized by men than praised by women.

(34) a. (?) The same rockstar made more parents upset than teenagers enthusiastic.

 b. (?) At the same time / During the same period of time, more students asked

 questions than professors gave answers.

 c. (?) In the same year, more single men adopted more girls than married women

 bore sons.

(35) a. The same medication helps children more than adults.

 b. The same amount of alcohol has a greater effect for women than for men.

Another type is illustrated with the German examples below:

(36) a. Genausoviel Medizin wuerde mehr Kindem in Afrika als Kindern in Amerika

 helfen.

 ‘The same amount of medicine would help more children in Africa than children

 in America.'

 b. Genausoviel Alkohol hat unter denselben Umstaenden einen groesseren Effekt auf

 Frauen als auf Maenner.

 ‘The same amount of alcohol under the same circumstances has a greater effect on women

 than on men.'

The subordinate structure roughly provides the syntactic basis for the evaluation of the comparative operator, whereas the coordinate structure provides the syntactic basis for the semantic evaluation of relational adjectives. In the coordinate structure, which I will focus on, *than* functions as a coordinator with the semantic interpretation of *and.*

 The comparative morpheme *-er* does not play a role in this structure and hence will be disregarded. Instead, for instance, *more* is to be understood as *x-much.* (see Bresnan 1976). The coordinate structure of a phrasal comparative construction with relational adjective such as (35a) can now be given as in (40).

(37) John

The same movie made NP and x-much drunk

 Mary

Given that *than* in (37) functions syntactically and semantically as *and, same* in (35a) now can take an antecedent in the usual way, namely the coordination of *John* and *Mary.* The coordinate structure of (35a) is then syntactically and semantically equivalent to (38):

(38) The same amount of alcohol made John and Mary x-much drunk.

In (38), the semantic interpretation of *same* proceeds in the usual way**,** as in other cases of the internal reading of *same.*

 The coordinate structure of clausal comparatives differs only in that here the antecedent of the relational adjective may require implicit coordination. Thus, for instance, the coordinate structure of (36b) is as in (39) with implicit coordination of the subject NPs and the VPs of the main clause and the *than* clause.

(39) more students asked questions

 At the same time, DP VP

 than professors gave answers.

Given that *x-many students* and *x-many professors* and *asked questions* and *gave answers* are implicitly coordinated, the coordinate structure of (36b) can be evaluated as equivalent to (40):

(40) During the same period of time x-many professors and x-many students asked

 questions and gave answers.

Not all expressions taking a plural antecedent are able to take split antecedent in comparative clauses. Plural reflexives in *picture*-NPs are marginally allowed:

(41) ? Pictures of *themselves* impressed *John* more than upset *Mary.*

But this may be due to the fact that plural reflexives in *picture*-NPs may generally take a split antecedent (cf. Bouchard 1987). Other elements taking plural antecedents are excluded in the construction. Binominal *each* is unable to take an implicitly coordinated antecedent in comparatives:

(42) \* Two sonatas *each* were played by *John* three times more frequently than by *Mary.*

The same holds for *a total of.*

(43) John played a total of ten sonatas three times more often than Mary.

(iii) cannot describe a situation in which John played (only) five sonatas three times more often than Mary played (only) three other sonatas.

**3.4.3. The relational adjectives with split antecedents in generic comparatives**

Relational adjectives in generic comparatives as in (38) have a fundamentally different syntactic and semantic status from relational adjectives in non-generic comparatives. Only in the non-generic case does the relational adjective function in the way just described, namely as taking an internal reading in the coordinate structure of the comparative construction. In the generic case, the relational adjective does not directly (semantically or syntactically) relate to the content of the comparative. Rather, the DP containing the relational adjective is a generic DP that is part of the restriction of the generic operator. As such it cannot enter the relationship that NPs with relational adjectives in the internal reading normally enter to another constituent or coordination in the sentence. Instead, the relational adjective semantically operates only on the restriction of the generic operator, which will contain relevant information that has been accommodated pragmatically. This means that what seemed to be an internal reading of relational adjectives in generic comparatives is not based on a syntactic relation at all.

 One difference between the two constructions is that the generic construction with comparatives and relational adjectives is more acceptable than the nongeneric one. Thus, examples such as those in (. ) become better when they are made generic or involve an explicit quantification over cases:

(44) a. The same kind of pills generally becomes more popular in America than in

 Europe.

 b. The same rockstar often makes more parents upset than teenagers enthusiastic.

There are three features that distinguish relational adjectives in generic and in non-generic comparatives: first the relative position of the adjective with respect to the compared element; second, the position of the relational adjective relative to the comparative operator, and third, the ability of the NP containing the relational adjective to function as an antecedent for an anaphoric pronoun in the same sentence.

 First, the examples in (36) and (37) (with nongeneric readings) exhibit a restriction on the position of the NP containing the relational adjective. Thus, in the following examples, an internal reading of *same* or *simultaneously* in non-sentence-initial position, is excluded:

(45) a. More women were impressed by the same movie than men.

 b. John gave better recommendations for the same medicine in America than in

 Europe.

 c. More students asked questions at the same time / simultaneously than professors

 gave answers.

 d. More single men adopted more girls during the same year than married women

 bore sons.

Being in initial position is not a strict requirement: it suffices that the phrase with the relational adjective c-command the correlates of the compared element (the correlate in the main clause of the phrase following *than*):

(46) a. John invited the same colleagues to more parties than business meetings.

b. John talked during the same period of time more about psychology than about

 mathematics.

 c. John taught the same students more about astrology than about mathematics.

 d. Mary showed the same visitors more drawings than paintings.

This recalls the observation in Chapter 3 that in *and­*coordinated clauses with gapping, relational adjectives and other expressions seem to take a split antecedent only in a position preceding the correlates in the gapping construction:

(47) a. At the same time/ At different times John ate an apple and Mary a pear.

 b. John ate an apple at the same time *I* at different times and Mary a pear.

The following general condition on the relation between relational adjectives and their antecedents in coordinate constructions thus obtains:

(48) Condition on relational adjectives and their antecedents in coordinate constructions

 In a coordinate structure, a relational adjective has to c-command the parts of it

 antecedent also in the 'linearized' structure.

This condition does not hold for relational adjectives in generic comparatives. Here the NP containing the relational adjective may be in any position and even follow the compared items:

(49) a. A woman becomes more drunk from the same amount of alcohol than a man.

 b. At night John sleeps better in the same bed than during the day.

 c. Often more parents get upset about the same rockstar than teenagers become

 enthusiastic.

 The second feature distinguishing relational adjectives in generic comparatives and in non-generic comparatives is the absence of locality conditions on the scope of the relational adjective in generic comparatives. In generic comparatives, the relational adjective also does not display any island effects:

(50) a. ? A woman often becomes more drunk from a drink containing the same amount of

 alcohol than a man.

 b. ? (Generally) More people fall asleep when John tells the same joke than start

 laughing.

The same sentences become significantly worse when they are not used generically:

(51) a.\* A woman became more drunk from a drink containing the same amount of

 alcohol than a man.

 b. \* More people fell asleep when John told the same joke than started laughing.

In generic comparatives, relational adjectives are exempt from any restrictions on their relation to their antecedent parts of their scope. This peculiarity of relational adjectives in generic comparatives recalls the behavior of generic indefinite NPs. wide scope *or* or free choice *any.* Generic indefinite NPs and free choice *any* may take what amounts to wide scope regardless of their syntactic position.

 Aoun/Hornstein/Sportiche (1982) have argued that free choice *any* does not classify as a quantifier, but rather patterns with names. The same observations can be made about indefinite generic DPs as well as DPs modified by relational adjectives in generic comparatives. The diagnostics for 'names' as opposed to quantifiers that Aoun/Hornstein/Sportiche (1982) employ are the following. First, the 'scopal behavior' of the expression is independent of its syntactic position. Second, the expression does not exhibit weak crossover effects. Third, anaphoric reference is possible across sentence boundaries. The referential status of NPs with relational adjectives in generic comparatives becomes apparent in a third feature distinguishing them from those in non-generic comparatives.

 The third feature distinguishing relational adjectives in generic and in nongeneric comparatives concerns the behavior of anaphoric pronouns. In non-generic comparatives, the DP containing the relational adjective may be replaced by a pronoun in the *than*-clause:[[5]](#footnote-5)

(52) a. *Similar circumstances* may make Mary as happy as *they* make John sad.

 b. Often *the same rockstar* makes as many parents upset as *he* makes teenagers

 enthusiastic.

This use of the pronoun is hardly available, though, in non-generic comparatives:

(53) a. ?? *Similar circumstances* made Mary as happy as *they* made John sad

 b. ?? *The same rockstar* made as many parents upset as *he* made teenager enthusiastic.

 c. ?? *The same song* became better the more often *it* was heard.

The pronouns in (53) could only have the kind of function *they* has below:

(54) *The same men* sat down when *they* got tired.

*They* in the subordinate clause refers to the entire plurality of men, forcing a deictic reading of *same* in the main clause.

 *And-*coordination behaves the same way. That is, if the second conjunct of a coordinate sentence with *and* contains a pronoun anaphoric to an DP with a relational adjective in the first conjunct, the pronoun has to refer to the entire plurality referred to by the DP and the relational adjective has to get a deictic reading:

(55) a. The same man laughed and yelled.

 b. *The same man* laughed and *he* yelled.

Only (55a), but not (55b), allows for an internal reading of *same. Same* in (57b) can only have an indexical interpretation.

 What licenses the pronoun in the examples in (54) is the referential function of the NP containing the relational adjective. That is, the NP containing the relational adjective does not function like an operator which has to stand in a syntactic relation to an antecedent of a gap, but rather functions like a name, which is semantically complete, not requiring a syntactic relation to another syntactic element in the sentence.

 Notice that anaphoric reference to the DP modified by the relational adjective is possible also outside of the clause, subject only to the usual conditions of modal subordination.

(56) *The same sonata* becomes better the more often it is heard. *It* will improve every

time.

Concerning Weak Crossover, the data are just like with indefinite generic NPs and free choice *any*. That is, DPs with relational adjectives in generic comparatives do not lead to Weak Crossover violations.

(57) a. At its premise, the same movie usually impresses more women than men.

 b. (?) His teacher often gives the same child more fear than pleasure.

 How should the relational adjective in an NP in generic comparatives be interpreted? Here the semantic operation associated with the relational adjectives applies to the restriction of the generic operator: the restriction, by accommodation, will specify appropriate situations which relational adjective could compare, through accommodation (Schubert/Pelletier 1989). Consider (. a) repeated below:

(58) The same amount of alcohol makes a woman more drunk than a man.

This sentence involves quantification over pairs of situations <s, s’>, so that a woman is drinking alcohol in s and a man is drinking alcohol in s'. The situation s is associated with the main clause; s' is associated with the *than*-phrase and is specified in an exactly parallel manner. The semantic operation evaluating *same* now applies to these two situations, specifying that the amount of alcohol the woman is drinking in s is the same as the amount of alcohol the man is drinking in s'.[[6]](#footnote-6)

 To summarize, relational adjectives may take implicitly coordinated antecedents in comparatives, but they need to be distinguished from relational adjectives in generic comparatives, which apply to the restriction of the generic operator instead.

1. The construction has to my knowledge never been explicitly analysed from either a syntactic or a semantic point of view. [↑](#footnote-ref-1)
2. *Same* imposes a condition that the events described by the relative clause and by the main clause must in some way be parallel or be of the same type:

(i) a. ?? The same student who will take the exam came today.

 b. ?? The same man who just drank apple juice is the editor of the local newspaper.

(ii) a. The same student who took the first exam will take the second exam.

 b. The same student who came yesterday came today.

 c. The same man who is the editor of a local newspaper is also the editor of an

 international fashion magazine.

This constraint appears to be a general constraint on the comparison of events, or the participants in an event. It holds also for *same* taking an explicitly coordinated antecedent, as in (3), and for *same* in comparative sentences (see Section 3.3.).

(iii) The same man is the editor of the local newspaper and just drank apple juice.

Semantic parallelism, though, is not a constraint on coordination in general, as seen below:

(iv) John is the editor or the local newspaper and just drank apple juice.

There reasons for the enforcement of semantic parallelism with *same* rather seems to be the comparative relation conveyed by *same*. [↑](#footnote-ref-2)
3. There are two discussions in the literature that try to give independent arguments for the coordinate status of relative clause constructions. The first is Williams' (1990) reanalysis of parasitic gap constructions as ATB extraction. Williams (1990) analyses all parasitic gap constructions as coordinate structures at LF. That way parasitic gaps are analysed as cases of ATB extraction. In his analysis, relative clauses with parasitic gaps as in (i) are coordinated with the matrix clause. If the relative clause is not extraposed, coordination with the main clause first requires extraposition at LF.

(i) a. Who does everyone who meets like?

 b. He is a man that everyone that gives presents to like.

Note, however, that parasitic gaps in relative clauses cannot cooccur with *same* taking ar. implicitly coordinated antecedent:

(ii) ?? Who did the same man who praised e criticize e?

 Muadz (1991) provides another argument that relative clauses should be analysed in terms of coordination, by a representation with two distinct planes. His argument is a reinterpretation of Lebeaux's (1988, 1989, 1991) account of adjunct clauses and Condition C effects. The crucial data involve a distinction between relative clauses and argument *that* clauses with respect to the application of Condition C of Binding Theory (cf. Chomsky 1982):

(iii) a. *\*He* believes the claim that *John* is nice.

 b. \* Whose claim that *John* is nice does *he* believe?

(iv) a.\* *He* believes the story that *John* wrote.

 b. Which story that *John* wrote did *he* believe?

Lebeaux invokes generalized transformations in order to a count for the difference between (iib) and (livb). The relative clause and the matrix clause start out as distinct phrase markers Only after wh-movement will the relative clause be adjoined to the NP. Hence Condition C will not be violated at any point in the derivation of (iib). For Muadz the relative clause and the matrix clause are represented first in different planes, as in (iv) and then conflated because the relative clause in the second plane has to enter the relation of predication to a subject, and this is possible only when it is adjoined to an NP. After conflation, no Condition C violation can result. The assumption that the relative clause and the main clause belong to different planes does not yet answer the question of how the right antecedent for *same* is provided. [↑](#footnote-ref-3)
4. The condition (31) should not excludes (i), where the two occurrences of different act together semantically

(i) Different students found different solutions.

Furthermore, it should not apply to generic comparatives, which often allow relational adjectives expressing dissimilarity in (non-equative) comparatives:

(ii) Different amounts of alcohol will make John more drunk than Bill. [↑](#footnote-ref-4)
5. With pronouns relational adjectives may take an implicitly coordinated antecedent even in constructions such as *better... the more,* as in (i), which are related to comparatives, but unlike comparatives, disallow for gaps or phrasal constructions.

(i) a. *The same song* becomes better the more often *it* is heard.

 b. John likes *the same sonata* better the more often he plays *it.* [↑](#footnote-ref-5)
6. Filling in the restriction of a generic sentence, in particular specifying the appropriate situations the sentence ranges over is a common procedure in the understanding of generics. This was discussed by Schubert/Pelletier (1989), who give the example in (i), where the generic operator is implicitly restricted to situations in which cats are dropped to the floor.

(i) Cats usually land on their feet. [↑](#footnote-ref-6)