

Semantic Subordination despite Syntactic Coordination

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In several respects, including binding and quantification, the left-hand conjunct in "left-subordinating" *and*-constructions (e.g., *you drink one more can of beer and I'm leaving*) behaves like a subordinate clause. However, treating it as syntactically subordinate results in an unnatural account of its superficially coordinate structure. Thus, the binding and quantification effects must be due to subordination at the level of conceptual structure, not syntactic structure. In addition, certain extraction and inversion phenomena in the left-hand clause are consistent only with its being coordinated in syntactic structure. A striking consequence is that the Coordinate Structure Constraint holds at conceptual structure, whereas Condition on Extraction Domain effects are strictly syntactic. The left-subordinating *and*-construction is thus another example of a significant mismatch between syntactic structure and semantic representation.

Keywords: coordination, subordination, correspondence rules, conceptual structure, syntactic constraints

1 Introduction

In a recent article (Culicover and Jackendoff 1995) we showed that there exist mismatches between syntactic structure (SS) and the level of conceptual structure (CS).¹ In particular, we argued that there are aspects of binding that are most effectively captured in terms of conceptual structure, not syntactic structure. The present article explores a syntactic construction, coordination with "left-subordinating" *and* (or *LSand*), that displays another type of SS-CS mismatch. The general

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¹ A terminological note. Any formal system can be said to have a syntax; in this broad sense phonology, for instance, is a form of syntax. However, in this article we use the term *syntax* in the traditional narrower sense, to denote that form of mental representation whose units include syntactic categories such as N, V, and so forth. We use the term *conceptual structure* to refer to the form of mental representation in terms of which contextualized interpretations of sentences are couched; we take it that its units include such entities as conceptualized objects and events. Conceptual structure has a syntax in the broad sense, but it is not syntax in the narrow sense. As we say in Culicover and Jackendoff 1995:251–252, "This could be the level of Conceptual Structure in the sense of Jackendoff (1983, 1990), but other formalisms such as some variety of Discourse Representation Theory may prove equivalent or even preferable. (We henceforth use the term *Conceptual Structure*...as a rigid designator for this level.)"

conclusion we will draw is that it is possible to separate genuine syntactic conditions on linguistic form from the reflexes of semantic conditions that only indirectly constrain syntax. In particular, this construction will again show that binding conditions are most generally stated over conceptual structure, not syntax. At the same time, it will develop that some syntactic conditions are not reflexes of conceptual structure conditions. Syntax is therefore autonomous, in that it is not reducible to semantic structure, and semantic structure is not isomorphic to any level of syntactic structure such as LF.

The notion that there are both coordinate and subordinate interpretations of *and* is not new. This point was made some time ago by Culicover (1970, 1972) in connection with "OM-sentences" (*one more . . .*) such as (1).

- (1) One more can of beer and I'm leaving.

(1) has an interpretation in which the left conjunct functions semantically as if it were a subordinate clause. It can be used, for example, as a paraphrase of *If you have one more can of beer, I'm leaving*. However, the antecedent of the implicit conditional in (1) is vaguer than this possible paraphrase, in that it can also be used in a vast variety of other contexts somehow involving one more can of beer.²

The existence of OM-sentences constitutes a *prima facie* case for a semantic representation whose structure diverges significantly from that of the corresponding syntactic structure. Culicover argues that the structure of OM-sentences is coordinate, that is, of the form *NP and S*. There is no apparent syntactic or morphological basis for taking the first conjunct in an OM-sentence to have the structure of a subordinate clause or to be embedded in an invisible clause with such a structure.

A different case involving conjunction is addressed by Goldsmith (1985), in connection with asymmetric extractions from coordinate constructions with the interpretation 'and nonetheless'.

- (2) How many courses can we expect our graduate students to teach t and (still) finish a dissertation on time?

Such examples must be structurally distinguished from standard coordination, which permits only across-the-board extraction. Goldsmith argues that the distinction is syntactic: the second clause has been reanalyzed as a subordinate clause in the syntax, allowing the extraction to take place from the first clause without violating the Coordinate Structure Constraint (CSC). Postal (1993) elaborates the point, arguing that where there is an apparent violation of the CSC, there is not really a coordinate structure, but rather a subordinate structure of some sort. (On the other hand, Sag et al. (1985) treat *all* coordination as syntactically subordinate, so that the desired distinction cannot be in the syntax.)

Others, beginning with Ross (1967) and including Schmerling (1975), Lakoff (1986), and Deane (1992), have also observed that *and* can be used asymmetrically, in the sense that the order

² Whether the antecedent of the conditional is "vague," as proposed by Culicover (1972), or a clause with the specific meaning 'If something happens involving one more can of beer' (as suggested to us by Paul Postal (personal communication)), is a question that we will not pursue here.

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of conjuncts cannot be reversed without affecting the meaning of the sentence. The typical case is that *A and B* is taken to mean either that B follows A, or that B in some sense results from A; other interpretations are also possible, as discussed by Lakoff and Deane. Although all of these writers make the point that *and* can induce a subordinate interpretation, none explicitly investigates the possibility argued by Culicover with respect to OM-sentences, namely, that the syntactic structure of a sentence with subordinate *and* is still coordinate despite its semantics. Moreover, none, including Culicover, provides evidence that subordinate *and* maps into a level of linguistic representation at which subordination is formally represented. What they all do show is that asymmetric conjunction, unlike standard conjunction, can be taken to have a meaning that is paraphrasable by subordination.

Our goal here is to demonstrate that there is at least one use of asymmetric conjunction that is coordinate in syntactic structure, just the way it looks, but that corresponds explicitly to subordination at the level of conceptual structure.³ Our approach is as follows. In section 2 we articulate the subordinate use of the conjunction *and* used in a construction semantically related to OM-sentences. We show in section 3 that there is a high price to be paid for analyzing this construction as involving syntactic subordination. In section 4 we show, however, that the first clause of this construction behaves like a subordinate clause with respect to binding. On this basis we conclude that this construction maps into a subordinate construction in conceptual structure, and that binding applies at this level, confirming our claim in Culicover and Jackendoff 1995.

However, in sections 5 and 6 we provide confirming evidence that syntactically the construction is coordinate: it has two main clauses, each of which independently allows extraction and inversion. We attribute this apparent voiding of the CSC to the fact that it applies to *semantically* coordinate structures, as proposed originally by Goldsmith (1985). Thus, we conclude that there can be conceptual structure subordination expressed by syntactic coordination, a clear syntax-semantics mismatch.

2 A Conditional Reading of *and*

Example (3) illustrates a class of sentences that are semantically related to OM-sentences, in that they contain a conjunction that is interpreted like a conditional.⁴

- (3) a. You drink another can of beer and I'm leaving. (= If you drink another can of beer, I'm leaving.)

³ See also Napoli and Hoeksema 1993 for an argument that there is a construction involving *so* that is syntactically paratactic but semantically subordinate.

⁴ The judgment that conditionals with *if* are an appropriate paraphrase is of course intuitive. Our claim that the left conjunct in (3) is semantically subordinate rests on this intuition. To be more explicit: there is some relation in conceptual structure between an *if*-clause and its consequent clause, which we take to be reflected overtly by subordination in syntactic structure; we are claiming that the same relation obtains in conceptual structure between the left and right conjuncts in (3), but without overt syntactic subordination. As will be seen, the parallelism between the two constructions is very strong.

Examples very similar to (3) can also be constructed with *or* instead of *and*—for example, *You drink another can of beer or I'm leaving* (= *If you don't drink another can of beer, I'm leaving*). However, on closer examination they turn out to have somewhat different properties, so we defer their discussion to section 7.

- b. Big Louie sees you with the loot and he puts out a contract on you. (= If Big Louie sees you with the loot, he'll put out a contract on you.)

Let us call this use of *and* "left-subordinating *and*" or *LSand* to distinguish it from normal coordinating *and*, which we notate as *and_C*. The left-subordinating use is quite restricted in its distribution. For instance, if the tense is changed to, say, perfect, the conditional reading is lost.

- (4) a. You've drunk another can of beer and I've left. (≠ If you've drunk another can of beer, I've left.)
 b. Big Louie has seen you with the loot and he's put out a contract on you. (≠ If Big Louie has seen you with the loot, he's put out a contract on you.)

We will frequently use the perfect tense as a test to rule out the possibility of *LSand*.⁵

The conditional reading is also lost in a tripartite conjunction of the form *X, Y, and Z*.

- (5) a. (*)You drink another can of beer, Bill eats more pretzels, and I'm leaving. (≠ If you drink another can of beer, (and if) Bill eats more pretzels, I'm leaving.)
 b. (*)Big Louie sees you with the loot, you look guilty, and he puts out a contract on you. (≠ If Big Louie sees you with the loot, (and if) you look guilty, he puts out a contract on you.)

Although the conditional reading can appear in a subordinate clause (6a), it is lost if both conjuncts contain the complementizer (6b). That is, this reading appears only with IP-conjunction, not CP-conjunction.

- (6) a. You know, of course, that you drink one more beer and you get kicked out. (= ... that if you drink one more beer you get kicked out.)
 b. You know, of course, that you drink one more beer and that you get kicked out. (≠ ... that if you drink one more beer you get kicked out.)

It also does not appear in VP-conjunction.

- (7) a. Big Louie sees you with the loot and puts out a contract on you. (≠ If Big Louie sees you with the loot, he puts out a contract on you.)
 b. Big Louie has seen you with the loot and put out a contract on you. (perfect forces coordinate interpretation only)

Whereas *and_C*-constructions can of course undergo right node raising (8a), *LSand*-constructions cannot (8b), parallel to *if*-constructions (8c).

- (8) a. Big Louie found out about —, and_C Big Louie put out a contract on, that guy who stole some loot from the gang.

⁵ A referee has pointed out a plausible example where perfect tense occurs in the first conjunct only: [context: I'm about to open the door to find out whether or not you've broken anything] *You've broken another vase and I'm leaving*. We know of no cases where perfect occurs in the second conjunct.

- b. *Big Louie finds out about —, _{LS}and Big Louie puts out a contract on, that guy who stole some loot from the gang. (cf. Big Louie finds out about that guy who stole some loot from the gang, _{LS}and Big Louie puts out a contract on him.)
- c. *If Big Louie finds out about —, then Big Louie puts out a contract on, that guy who stole some loot from the gang.

Similarly, whereas *and*_C-constructions can undergo gapping (9a), *LSand*-constructions cannot (9b), paralleling *if*-constructions (9c).

- (9) a. Big Louie stole another car radio and_C Little Louie the hubcaps.
 b. *Big Louie steals one more car radio _{LS}and Little Louie the hubcaps. (OK perhaps as generic coordination but not as conditional)
 c. *If Big Louie steals one more car radio, then Little Louie the hubcaps.

It should also be noted that *LSand* paraphrases only a restricted subset of the uses of *if*. For instance, there is no *LSand* paraphrase of irrealis conditionals such as (10a) or conditionals with abstract stative clauses (10b).

- (10) a. If Bill hadn't come, we would have been sad. (≠ *Bill didn't come, _{LS}and we were sad.)
 b. If x is less than y , the derivative of $f(x)$ is positive. (≠ * x is less than y , _{LS}and the derivative of $f(x)$ is positive.)

3 *LSAnd* Is Not a Subordinating Conjunction

The obvious question is, What syntactic structure is associated with *LSand*? A plausible account would be that, parallel to the conditional paraphrases, there is a syntactic structure in which the first clause is subordinate to the second.

There are at least four arguments against such a proposal, of which we consider two in this section and two more in sections 5 and 6. Consider first the syntactic structure that would have to be assumed for a sentence such as (3b).

- (11) [_S[_S[_S Big Louie sees you with the loot] _{LS}and] he puts out a contract on you]

On this view, *Big Louie sees you with the loot* _{LS}and is a subordinate clause adjoined to the left of *he puts out a contract on you*; *LSand* is some kind of subordinating conjunction. Schematically, the structure is (12).

- (12) [_S₁ _{LS}and] _S₂

This structure is wrong for two reasons. First, the normal position of a subordinating conjunction in English is clause-initial, as shown by the distribution of *after*, *before*, *since*, *when*, *until*, *if*, *unless*, *although*, *though*, *because*, and so on.

- (13) ...because it is raining
 ...*it is raining because

Although languages exist in which subordinating conjunctions are clause-final, there is no independent reason to believe that English is such a language.

Second, a subordinate clause in English can appear either to the left or to the right of the main clause. But S_1 $_{LSand}$ cannot appear to the right of S_2 .

- (14) *[S Big Louie puts out a contract on you, [S Big Louie sees you with the loot] $_{LSand}$]

Suppose that we tried to make $_{LSand}$ more plausible as a subordinating conjunction by generating it in D-Structure as an ordinary subordinating conjunction in the ordinary place, that is, clause-initially. Then a special movement rule would be necessary to move just this particular conjunction (plus subordinating *or*) to the end of its clause, and output conditions would be necessary to guarantee that this particular kind of subordinate clause always precedes its main clause. It would also then be an accident that this subordinating conjunction occurs in S-Structure in precisely the position where the homonymous coordinating conjunction and_C appears. That is, a great deal of otherwise unmotivated machinery would be invoked to account for what the theory would end up treating as a curious coincidence—a classic case of a syntactic generalization being missed.

In short, $_{LSand}$ would be highly anomalous syntactically as a subordinating conjunction, whereas everything in the syntax per se is consistent with its being an ordinary coordinating conjunction that happens to have a noncanonical subordinating interpretation under certain conditions. That is, given the two alternative hypotheses in (15), these very gross syntactic considerations argue against the "Matching Hypothesis" and for the "Mismatching Hypothesis."

(15) a. *Matching Hypothesis*

	Syntactic structure	Conceptual structure
Coordination	and_C	and_C
Subordination	if, since, $_{LSand}$	if, since, $_{LSand}$

b. *Mismatching Hypothesis*

	Syntactic structure	Conceptual structure
Coordination	and_C , $_{LSand}$	and_C
Subordination	if, since	if, since, $_{LSand}$

Under the Matching Hypothesis, the differences between the two kinds of *and* follow automatically, since $_{LSand}$ is not a coordinating conjunction and therefore does not participate in typical coordinate constructions. However, the price is the totally anomalous nature of this subordinating conjunction, as just noted.⁶ Under the Mismatching Hypothesis, a special rule of SS-CS correspon-

⁶ Interestingly, none of the cases of asymmetric *and* cited by Ross, Goldsmith, Lakoff, Deane, and Postal is susceptible to this argument. In all of their cases, the clause interpreted as subordinate is on the right rather than the left, so that the necessary syntactic structure is the unobjectionable (i).

(i) [S [and [S]]

Thus, $_{LSand}$ constitutes a more serious syntactic challenge to the Matching Hypothesis than do these previous cases.

dence must say that under certain conditions, syntactic *and* can be interpreted as subordinating, with the first clause taken (roughly) as a condition on the occurrence of the event in the second. These conditions are precisely when there are two full, nongapped IP conjuncts whose tenses are appropriate. The two solutions are of approximately equal complexity.

The Matching Hypothesis does considerable violence to the syntactic treatment of subordinating conjunction, as just observed. The Mismatching Hypothesis does a certain amount of violence to the assumption that syntactic and conceptual structures are matched. But once that assumption is abandoned (or at least modulated), it is unclear that there is anything else objectionable about the Mismatching Hypothesis; it depends on how mismatched syntax and conceptual structure can be in general.

A hint toward the full extent of mismatches is provided by the OM-construction, a case closely related in its semantics to *LSand*-conjoined clauses. We have already cited Culicover's demonstration that a full syntactic conditional cannot be constructed for this sense. Once something as mismatched as the OM-construction is admitted into the SS-CS correspondence, it should not seem especially problematic to interpret syntactic coordination as subordination more generally, particularly when *and* has a parallel conditional interpretation in OM-sentences. (Other such cases of syntax-semantics mismatches have been discussed by Culicover (1992), Fillmore, Kay, and O'Connor (1988), Goldberg (1994), Jackendoff (1990:chap. 10), Kay and Fillmore (1994), and Pustejovsky (1995).)

4 Interactions with Binding

It turns out that *and_C* and *LSand* differ in their binding properties. Binding with *LSand*, either with an IP-conjunction (16a) or with an OM-sentence (16b), parallels a paraphrasing *if*-construction (16c), not an *and_C*-construction (16d).⁷

- (16) a. Another picture of himself_i appears in the newspaper *LSand* Susan thinks John_i will definitely go out and get a lawyer.
 b. Another picture of himself_i in the newspaper *LSand* Susan thinks John_i will definitely go out and get a lawyer.
 c. If another picture of himself_i appears in the newspaper, Susan thinks John_i will definitely go out and get a lawyer.
 d. *Another picture of himself_i has appeared in the newspaper, *and_C* Susan thinks John_i will definitely go out and get a lawyer.

The grammaticality of (16a–b) shows that, under the subordinating interpretation, an anaphor in the left conjunct can be bound by an antecedent in the right conjunct; the ungrammaticality of (16d) shows that such binding does not occur under the coordinating interpretation.

Let us make sure that anaphor binding is really taking place in (16a–b). The reflexive can be replaced by *him* without affecting grammaticality, so we must consider the possibility that the

⁷ Note, by the way, the use of *right*-subordinating *and* with VP-conjunction in the consequent clauses of these examples: *go out and get*.

reflexive here is a type of restricted pronominal that need not be bound by some syntactic antecedent that c-commands it. (17) illustrates this use of the reflexive in a left-dislocated construction.

- (17) That picture of him(self) in the paper, Susan thinks that John likes it.

Here there is no "connectivity" between *picture* and *it*, and hence no "reconstruction" (van Haaften, Smits, and Vat 1981, Barss 1986). (16a–b) might fall in with these cases.

On the other hand, not all cases involving *LS*and do allow both a pronoun and a reflexive, for instance, (18a–c) (compare with (18d–f)).

- (18) a. Another picture of him(*self) (appears) in the paper *LS*and Susan will think John is famous.
 b. Another picture of him(*self) (comes out) in the paper *LS*and Susan divorces John.
 c. Another picture of him(*self) (appears) in the paper *LS*and John will get arrested.
 d. Another picture of him(self) (appears) in the paper *LS*and John leaves.
 e. Another picture of him(self) (comes out) in the paper *LS*and Susan thinks John will definitely be offended.
 f. Another unflattering picture of him(self) (appears) in the paper *LS*and early retirement will begin to appeal to John.

We are not entirely clear about the conditions that distinguish these examples, but the reflexive seems to be available only roughly when there is a logophoric connection—when the antecedent's attitude or volition is expressed in the second conjunct. Whatever the conditions, they precisely parallel those in paraphrasing *if*-constructions.

- (19) a. If another picture of him(*self) appears in the paper, Susan will think John is famous.
 b. If another picture of him(*self) comes out in the paper, Susan will divorce John.
 c. If another picture of him(*self) appears in the paper, John will get arrested.
 d. If another picture of him(self) appears in the paper, John will leave.
 e. If another picture of him(self) comes out in the paper, Susan thinks John will definitely be offended.
 f. If another unflattering picture of him(self) appears in the paper, early retirement will begin to appeal to John.

Moreover, a reflexive is not permitted in *and_C*-constructions syntactically parallel to (18d–f).⁸

- (20) a. Another picture of him(*self) has appeared in the paper and_C John has left (—so let's have a party).
 b. Another picture of him(*self) has come out in the paper and_C (in addition) Susan has decided John will definitely be offended.
 c. Another unflattering picture of him(*self) came out in the paper yesterday, and_C (what's more) early retirement has begun to appeal to John.

⁸ We acknowledge that some of these judgments may be difficult. For our purposes it is sufficient that one's judgments for (18) parallel those for (19) and differ from those in (20).

Under the Matching Hypothesis, all this asymmetry of binding is consistent with a syntactic characterization of the antecedent-anaphor relation—but, as observed in section 3, at the cost of a thoroughly unsatisfactory account of the bare-bones syntax of *LSand*. The Mismatching Hypothesis, however, is inconsistent with such a syntactic characterization, since in particular (16a) and (18d–f) are syntactically indistinguishable from (16d) and (20a–c) in the relevant respects.

In order to save the Mismatching Hypothesis, it is necessary to conclude that the sort of binding illustrated here is sensitive to relations of subordination in conceptual structure, for then the *semantic* subordination of the first conjunct to the second can license the anaphor in the first conjunct. However, such a conclusion is not unprecedented, having been defended in detail for quite different cases by Jackendoff (1992) and Culicover and Jackendoff (1995) (and also, within other frameworks, by Kuno (1987), Van Hoek (1995), and Fauconnier (1985), among others). Furthermore, on no one's account can logophoricity be defined in strictly syntactic terms, so sooner or later semantic conditions must be invoked for at least some cases of binding. We are simply advocating sooner rather than later.

A similar problem arises in the binding of pronouns by quantifiers. It is standardly argued that a quantifier must c-command a pronoun in order to bind it. In most cases, S-Structure c-command is sufficient.

- (21) a. Every senator_i at the party thought that he_i would have no trouble getting elected.
b. *Every senator_i was at the party and he_i was worrying about getting elected. (no c-command)

However, there are cases in which the c-command relation must hold at some level other than S-Structure, as shown by Lasnik and Stowell (1991) with examples like these:

- (22) a. Paul Masson will sell no wine before its time.
b. Who did Susan think that she would dislike *t* before she met him?

In (22a) *no wine* does not c-command *its*, which is in a VP adjunct. In (22b) the trace of *who* is in a clause lower than that to which *before she met him* is adjoined.⁹ On the basis of such cases and the phenomenon of weak crossover, Culicover (1992) proposes that the scope of quantifier binding is determined through LF adjunction of the quantifier to the lowest maximal projection that dominates it.

This hypothesis is sufficient to account for the data, but not necessary: there could be a representation *R* that is “later” (more distant from S-Structure) than LF—or that is quite distinct from LF—at which the binding relationship is defined. All that is required to account for facts like (22) is that (a) representation *R* is not S-Structure and (b) the binding domain of quantifier *Q* in representation *R* corresponds in syntactic structure to the lowest maximal projection in D-Structure that contains *Q*.

⁹ This presumes a traditional (non-Larsonian) treatment of adjuncts, in which they are adjoined higher, not lower, than the arguments that precede them.

The behavior of quantifier binding in *LSand*-constructions suggests in fact that the relevant level for binding is not LF, but conceptual structure. Consider the following sentences. (Here and elsewhere we intend the diacritics *, ??, and ? to indicate ungrammaticality relative to the unmarked examples, which themselves may sometimes be mildly problematic.)

- (23) a. You give him_i enough opportunity and every senator_i, no matter how honest, will succumb to corruption. (*LSand*)
 b. ((You) put) enough pressure on him_i to vote against health care reform and every senator_i, no matter how committed, will side with business interests in the end. (OM)
 c. If you give him_i enough opportunity, every senator_i, no matter how honest, will succumb to corruption.
 d. *We gave him_i enough opportunity and every senator_i, no matter how honest, succumbed to corruption.
- (24) a. ((You) come up with) a few more nice stories about him_i and every senator_i will change his vote in your favor.
 b. If you come up with a few more nice stories about him_i, every senator_i will change his vote in your favor.
 c. *We came up with a few more nice stories about him_i and sure enough, every senator_i changed his vote in our favor.
- (25) a. You give anyone_i too much money and he_i will go crazy.
 b. If you give anyone_i too much money, he_i will go crazy.
 c. *You gave anyone_i too much money and he_i went crazy.

Under the *LSand* interpretation, the quantifier in the right conjunct binds the pronoun in the left conjunct, exactly parallel to the corresponding conditionals in (23c) and (24b). (23d) and (24c) show that under the coordinate interpretation a quantifier in the right conjunct cannot bind a pronoun in the left conjunct. Furthermore, (25a) shows that *any* can be licensed in the first clause by *LSand*, just as it is licensed by *if* in (25b).

Again, the Matching Hypothesis would predict this automatically under a standard theory of quantifier binding at LF—but at the price of requiring the unnatural subordinating conjunction *LSand*. The Mismatching Hypothesis is not consistent with a syntactic theory of quantifier binding, since *LSand* is indistinguishable from *and_C* in syntax. If, however, the conditions on quantifier binding are stated in terms of conceptual structure, the Mismatching Hypothesis can be maintained.

Now notice that the binding of variables by quantifiers must appear in conceptual structure in any event, since it is involved in deriving inferences—a prime function of conceptual structure, and one that cannot be carried out over any level of syntax, even LF. Therefore, in principle there is no problem with putting conditions on variable binding at conceptual structure rather than (or in addition to) at LF.¹⁰

¹⁰ Although LF represents quantifier scope, to our knowledge it has never been claimed that inferences can in general be computed on the basis of LF as it is commonly conceived of.

In order to produce the semantic distinction between $_{LS}and$ and and_C , it is not necessary that the two be as radically different as logical conjunction and the logical conditional. For instance, an anonymous reviewer suggests that the peculiar properties of sentences with $_{LS}and$ might be explained if $_{LS}and$ has the meaning of ordinary conjunction, but its interpretation is supplemented by a generic operator. Following this suggestion, suppose that the conceptual structure of the sentence, couched for the moment in logical notation, has this form:

(26) $[Ge:p] (p \ \& \ q)$

Here, p is the domain restriction for the generic operator Ge . Hence, (26) is logically equivalent to a conditional (though it does not have the logical *form* of a conditional), since $(p \ \& \ q)$ will hold only in contexts in which p holds. If (26) is the correct structure of the interpretation of $p \ _{LS}and \ q$, then what we have been referring to as "subordinate at conceptual structure" must be understood as equivalent to "in the domain restriction." The burden of accounting for the binding facts that we have noted then passes over to representation (26). This suggestion appears to us to be on the right track.

However, there are operators other than Ge that may correspond to the coordinate structure. For example, a warning such as (3b) need not have a generic interpretation, yet it permits the conditional interpretation. What these other operators might be is not clear to us. The main point is that the conceptual structure of $_{LS}and$ -sentences is such that the first clause displays semantic properties normally associated with clauses that are syntactically subordinate. Thus, any theory of binding that accounts for the properties of subordinate clauses in conceptual structure should apply to these cases as well. (For instance, see Chierchia 1995, where binding relations in sentences with subordination are accounted for in terms of a modification of Discourse Representation Theory.)

5 Extraction

The evidence from anaphora and quantifier binding constitutes a strong argument for treating the left conjunct of $_{LS}and$ as subordinate to the right conjunct at some level of representation. The arguments of section 3, however, are intended to show that the left conjunct is not a subordinate clause in the syntactic sense, although it clearly has a subordinate interpretation. We have therefore tentatively concluded that the notion of subordination that is relevant to the anaphor- and quantifier-binding facts is a semantic one. But the arguments of section 3 are not overwhelmingly conclusive; it is still possible, though highly implausible, that English has a special kind of syntactic subordination that would allow us to account for the facts of section 4 in syntactic terms, at LF. In this section and the next we show that such a proposal cannot be right. That is, we show that the construction with $_{LS}and$ must be syntactically coordinate.

The arguments turn on extraction. Consider what happens when we try to extract from conjoined structures with and_C and $_{LS}and$. The canonical case of extraction from conjoined structures, of course, is subject to Ross's (1967) Coordinate Structure Constraint (CSC), which in general requires across-the-board (ATB) extraction.

- (27) a. This is the senator that I voted for and_C Terry met in Washington. (ATB extraction)
 b. *This is the senator that I voted for and_C Terry met Bill Clinton in Washington. (left conjunct extraction)
 c. *This is the senator that I voted for Bill Clinton and_C Terry met in Washington. (right conjunct extraction)

If the CSC were a syntactic constraint, and if *LSand* were truly a coordinating construction, we would expect the same pattern to occur with *LSand*. However, in fact ATB extraction sounds decidedly strange.

- (28) a. You just point out the thief *LSand* we arrest her on the spot.
 b. ??This is the thief that you just point out t and we arrest t on the spot.

On the other hand, *LSand* violates the CSC in that it *does* allow extraction independently from either conjunct. The examples in (29a–b) are not wonderful, but they are much better than their *and_C* counterparts in (29c–d).¹¹

- (29) a. ?This is the loot that you just identify t and we arrest the thief on the spot. (left conjunct extraction)
 b. ?This is the thief that you just identify the loot and we arrest t on the spot. (right conjunct extraction)
 c. *This is the loot that you have identified t and we have arrested the thief on the spot.
 d. *This is the thief that you have identified the loot and we have arrested t on the spot.

(30a) makes the same point with a slightly different asymmetric reading of *and*, one that involves causal consequence (Culicover 1972). *Both* occurs only with *and_C* and thus allows us to produce the minimally contrasting (30b).

- (30) a. This is the senator that the Mafia pressured t and the senate voted for health care reform.
 b. *This is the senator that both the Mafia pressured t and the senate voted for health care reform.

¹¹ We assume, following standard analyses of relative clauses, that the landing site of extraction is outside the clauses conjoined by *LSand*. A referee has pointed out that one might suppose instead that the landing site in (29a) is within the first conjunct, so that the CSC is violated only in (29b). However, the extraction is good even in (i), where movement clearly must go beyond the first conjunct (see also (34a)).

(i) ?This is the loot that the chief says you just identify t and they arrest the thief on the spot. (= the loot such that the chief says they arrest the thief on the spot if you identify it)

This point is important, because in section 6 we will argue that matters are different in extraction from main clauses conjoined by *LSand*.

Incidentally, the reader may notice that all of the examples of relative clauses in this section are in predicate NPs. For reasons unclear to us but probably connected to their modality, these types of relative clauses are strongly ungrammatical in referential NPs.

(ii) *I'll bring in the loot that you just identify and we arrest the thief on the spot.

Under the Mismatching Hypothesis, since the left conjunct of *LSand* is syntactically coordinating, there is only one way to account for this distribution of facts: the CSC is a semantic constraint (as argued, for instance, by Goldsmith (1985)). The CSC then requires ATB extraction from a semantically coordinate construction, and allows asymmetric extraction from either conjunct when semantic parallelism does not obtain.

This conclusion may not be entirely welcome. But this time the Matching Hypothesis does not come to the rescue. It correctly predicts that, if the CSC is syntactic and *LSand* is a subordinating conjunction, the CSC should not apply to it and ATB extraction should be impossible. But it also predicts, incorrectly, that extraction is impossible from the left conjunct alone, since true syntactic adjuncts are Subjacency islands. Compare (29a) and (30a) with the corresponding examples in (31).

- (31) a. ??This is the loot that if you identify t_(,) we will arrest the thief on the spot.
 b. ??This is the senator that when the Mafia pressured t_(,) the senate voted for health care reform.

To make the contrast between *LSand* and *if* clearer, notice that *LSand*-constructions are if anything slightly degraded by replacing the trace with a resumptive pronoun, whereas *if*-clauses are if anything slightly improved. (We use the symbol \leq to mean 'is equal to or worse than' and \geq to mean 'is equal to or better than'.)

- (32) a. ?This is the loot that if you identify it, we will arrest the thief on the spot.
 (\geq (31a))
 b. ?This is the senator that when the Mafia pressured him, the senate voted for health care reform. (\geq (31b))
 c. ??This is the loot that you just identify it and we arrest the thief on the spot.
 (\leq (29a))
 d. ??This is the senator that the Mafia pressured him and the senate voted for health care reform. (\leq (30a))

The following examples demonstrate the point further. (33a) is the *LSand*-construction with a trace; (33b) is the *if*-construction with a trace; (33c-d) replace the traces with resumptive pronouns.

- (33) a. That is one rock star that I see another cover story about t and I'll scream.
 b. ?That is one rock star that if I see another cover story about t I'll scream.
 c. ??That is one rock star that I see another cover story about him and I'll scream.
 (\leq (33a))
 d. (?)That is one rock star that if I see another cover story about him I'll scream.
 (\geq (33b))

Clear differences also are found with extraction of an interrogative *wh*.

- (34) a. ?Who did John say Mary goes out with and her father disinherits her?
 b. *Who did John say her father disinherits her if Mary goes out with?
 *Who did John say(,) if Mary goes out with(,) her father disinherits her?

- c. ??Who_i did John say Mary goes out with him_i and her father disinherits her?
(\leq (34a))
- d. ?Who_i did John say Mary's father disinherits her if she goes out with him_i?
?Who_i did John say, if Mary goes out with him_i, her father disinherits her?
(\geq (34b))

Differences in judgments are if anything sharper when an adjunct is extracted instead of an object NP. In this case extraction from the left conjunct is not problematic, whereas extraction from the left-adjoined subordinate *if*-clause produces a violation of the Empty Category Principle (ECP) as well as the Condition on Extraction Domain (CED).

- (35) a. You can just wave your hands like *this* and we arrest the whole gang.
b. ?This is the way that you can just wave your hands *t* and we arrest the whole gang.
c. If you just wave your hands like *this*, we arrest the whole gang.
d. *This is the way that if you just wave your hands *t*, we arrest the whole gang.
*This is the way that we arrest the whole gang if you just wave your hands *t*.
- (36) a. You blow your nose during this aria and the next day Big Louie goes ballistic.
b. This is the famous aria during which you blow your nose and the next day Big Louie goes ballistic.
c. If you blow your nose during this aria, the next day Big Louie goes ballistic.
d. *This is the famous aria during which if you blow your nose, the next day Big Louie goes ballistic.

How can we account for the difference in extraction in these cases? There must be a difference *somewhere* between $_{LS}$ and and subordinating conjunctions, a difference denied by the Matching Hypothesis. The Mismatching Hypothesis, in fact, permits an elegant account. On this hypothesis, the subordinate clauses in (31), (33b), (34b), (35d), and (36d) are genuine syntactic adjuncts, and extraction from a syntactic adjunct is constrained by some form of the CED—a *syntactic* constraint. By contrast, although the initial clauses in (29a), (30a), (33a), (34a), (35b), and (36b) are semantically subordinate, they are syntactically coordinate; hence, the CED does not block extraction from them. At the same time, because they are semantically subordinate, the ATB requirement of the (semantic) CSC does not apply. Hence, it is possible to extract from a single conjunct of a syntactically coordinate construction, just in case its interpretation is asymmetric. This constitutes a clear demonstration of the autonomy of the CED as a syntactic constraint, one that is not reducible to any notion of semantic subordination.

(37) sketches the essentials of our solution.

(37)	<i>Syntactic structure</i>	<i>Conceptual structure</i>
a.	S ₁ and _C S ₂ CED permits extraction from either clause	P ₁ AND P ₂ CSC requires ATB extraction from both propositions

- b. S_1 $_{LS}$ and S_2 IF P_1 THEN P_2
 CED permits extraction CSC does not apply
 from either clause
- c. If S_1, S_2 IF P_1 THEN P_2
 CED permits extraction CSC does not apply
 from S_2 but not S_1

Such conclusions about extraction have been anticipated in the literature; see especially Goldsmith 1985 and Lakoff 1986. Goldsmith and Lakoff both show that asymmetric extraction from a coordinate structure can occur when there is a semantic connectedness between the conjuncts such that the left conjunct can be understood as subordinate. Their cases have a different character than ours, however, as the following representative example shows:

- (38) How many counterexamples can the Coordinate Structure Constraint sustain t and still be assumed? (Lakoff 1986)

Here there is a shared subject (*the Coordinate Structure Constraint*), and extraction takes place from what appears to be the left conjunct of a conjoined VP. We showed earlier that VP-conjunction is inconsistent with $_{LS}$ and; evidently other asymmetric uses of *and* are possible. For discussion of some of these additional types, see Schmerling 1975 and Deane 1992.

Let us briefly consider the implications of our results for the understanding of island phenomena. Postal (1993) shows that a conjoined clause from which asymmetric extraction is possible is a "selective" island, in that it allows extraction of NP arguments but not of adjuncts and PPs; he cites a number of other properties as well. For example:

- (39) a. They sat around all day in the kitchen and played with the cat.
 b. This is the cat that they sat around all day in the kitchen and played with t .
 c. *This is the cat with which they sat around all day in the kitchen and played t .
 d. This is the cat that they sat around all day with t in the kitchen and played with t .

Examples (39b) and (39c) show that the NP argument but not the PP can be extracted from the right conjunct.¹² Postal makes a strong case that asymmetric extraction is subject to different conditions than ATB extraction. In effect, he shows that the CSC applies only when there is semantic parallelism, confirming Goldsmith's point and supporting our conclusion.

It is not just a terminological point whether the CSC is "syntactic," as Postal suggests, or "semantic." There is no question, it seems to us, that the conditions under which the CSC applies are just those where there is semantic parallelism; ipso facto it is a semantic constraint, albeit with syntactic consequences. By extension, since selective islands appear when there is no semantic

¹² On the other hand, our examples (35b) and (36b) appear to violate this generalization. They are, to our ears, somewhat worse than the examples with extraction of objects such as (29a) and (30a); that is why we had to set them up with their unextracted counterparts (35a) and (36a). Still, they are better than the corresponding extractions from *if*-clauses. We leave a deeper account of these subtle distinctions open.

parallelism, these are "semantic," in the same sense. The selectivity of extraction here recalls Cinque's (1990) application of Rizzi's (1990) notion of referentiality to the analysis of extraction. Referentiality is an apparently semantic notion, although one that is notoriously difficult to formulate in strictly semantic terms.

In contrast, as noted by Cinque, and by Postal in the context of coordinating constructions, extraction from Subjacency islands is not affected by the argument/nonargument distinction, in the sense that extraction of arguments as well as nonarguments produces ungrammaticality. We suggest therefore that these are genuine syntactic islands. But now the question remains, What is it about the semantic properties of selective islands that allows asymmetric extraction of arguments only? At the moment we have no satisfactory answer to this question; we wish to stress, however, that if our account is correct in its essentials, the answer will constitute a semantic account of selective island phenomena, in contrast to the syntactic approach taken by Cinque and Rizzi.

6 Inversion and Extraction within Main Clause S_{LS} and S

Further evidence for the Mismatching Hypothesis and for the semantic character of the CSC comes from another remarkable property of S_{LS} and constructions. In all our previous examples of extraction, the entire S_{LS} and construction has been subordinated. However, if it is a main clause, subject-aux inversion can occur in either the left conjunct (40) or the right (41).

- (40) a. Who does Big Louie visit and the whole gang goes nuts?
- b. What does he mention and she kicks him out of her office?
- (41) a. Big Louie sees this mess and who's going to be in trouble?
- b. You so much as mention the Minimalist Program and how loud does she scream?

If the left conjunct were in fact a subordinate clause, we would not expect it to support inversion. Compare (40) to the feeble attempts in (42).

- (42) a. *Who does if Big Louie visit, the whole gang goes nuts?
- *Who if does Big Louie visit, ...
- *If who does Big Louie visit, ...
- b. *What does if he mention, she kicks him out of her office?
- *What if does he mention, ...
- *If what does he mention, ...

Under the Matching Hypothesis, in which S_{LS} and is subordinate in syntax as well as conceptual structure, the presence of inversion in (40) cannot be explained. By contrast, under the Mismatching Hypothesis, the first conjunct of (40) counts as a main clause for purposes of syntax and therefore permits inversion.

The possibility of such asymmetric inversion turns out to depend on an asymmetric interpretation of *and*. And_C does not support asymmetric inversion (43a–b), but it does allow parallel inversion in both clauses at once (43c–d).

- (43) a. *What has Bill seen and he has heard the bad news?
 b. *Bill has seen the broken window and what has he heard?
 c. What has Bill seen and what has he heard?
 d. Who was at the party and what were they wearing?

Again the Mismatching Hypothesis as sketched in (37) provides a way out. Notice that in (43) nothing is extracted from the conjuncts—movement is entirely internal to the conjuncts—so the CSC in its standard form does not apply. However, a possible generalization of the ATB constraint would require that semantically coordinate constituents be of parallel (logical) form. The relevant notion of parallelism remains to be explored further, but ATB extraction would be the particular case where each conjunct contains, say, a variable bound by lambda-extraction. Extending the account in (37), then, such a parallelism constraint would apply to symmetric conjunction but not to asymmetric conjunction, creating the difference between the symmetric (43) and the asymmetric (40) and (41). On the other hand, the difference between (40) and (42) would be a *syntactic* difference: inversion is restricted to syntactically main clauses.

As far as we can tell, the *wh*-word in (40) moves only to the front of the conjunct, not to the front of the entire sentence. That is, the syntactic structure is (44a) rather than (44b–c).

- (44) a. [who does Big Louie visit] and [the whole gang goes nuts]
 b. *who [[does Big Louie visit] and [the whole gang goes nuts]]
 c. *who does [[Big Louie visit] and [the whole gang goes nuts]]

One reason we believe (44a) is the correct structure is that in the parallel examples (41a–b) a *wh*-word moves to the beginning of the second conjunct. That is, we would like to think that *wh*-movement and inversion apply identically in the two conjuncts—and in both at once in symmetric conjunctions such as (43c–d).

However, in main clause *S_{LS}* and *S* constructions, the *wh*-phrase in the second conjunct can also move to the front of the entire construction, as it does in subordinated cases such as (29b). When it does so, it triggers inversion not in the second conjunct, as in (45a), but in the first conjunct. (45b) is not wonderful, but with a more specific *wh*-phrase (45c) it does not seem so bad.

- (45) a. **What you just walk into his office and does he start blabbing about t?
 b. ?*What do you just walk into his office and he starts blabbing about t?
 c. ?Which topic do you just walk into his office and he starts blabbing about t?

We will not speculate here on the derived structure of (45c), which seems problematic, to say the least—or on how inversion is triggered.

This situation raises the question of whether in (40) the *wh*-phrase has moved to the front of just the first conjunct (structure (44a)) or whether it has moved outside the entire construction (structure (44b) or (44c)). However, notice that extraction from the second conjunct is subject to a specificity constraint, as seen from the contrast between (45b) and (45c). Thus, under the reasonable assumption that extraction possibilities are symmetric in the two conjuncts, extraction

from the first conjunct to a position outside the entire construction ought to be subject to a similar constraint. On the other hand, the *wh*-phrases in (40) are no more specific than the one in (45b), yet the examples are much more acceptable. Hence, if the specificity constraint has to do with extraction from the entire *S_{LS}and S* construction, the *wh*-phrases in (40) must be within the first conjunct. In addition, extraction from the second conjunct is subject to a strong prohibition on removing the subject (46a); yet a subject in the first conjunct can easily be questioned (46b).

- (46) a. *Which linguist do you just walk into the room and t starts blabbing about Optimality Theory?
 b. Who just walks into the room and everyone starts blabbing about OT?

Again, this suggests that the *wh*-phrase in (40) and (46b) remains within the first conjunct. (Still, with a more specific *wh*-phrase moved from an object position in the first conjunct, extraction to a position outside the entire construction is presumably possible.)

Having established the position of the *wh*-phrase in (40), we now observe a semantic mismatch. Even though this phrase is within the first conjunct, its semantic scope is the entire sentence, not the first conjunct alone, in the sense that the entire sentence is being questioned. This can be made clearer by comparison with a barely acceptable paraphrase with an *if*-clause, which unlike (42) is rescued from a CED violation by the barbaric resumptive pronoun—or by a paraphrase with *such that* and a resumptive pronoun.

- (47) a. ??Who_i does the whole gang go nuts if Big Louie visits him_i? (≥ (42a))
 ?Who is such that Big Louie visits him and the whole gang goes nuts?
 b. ??What_i does she kick him out of her office if he mentions it_i? (≥ (42b))
 ?What is such that he mentions it and she kicks him out of her office?

To the extent that these are interpretable as intended, we can see that they paraphrase (40a–b) and that the scope of the *wh*-word is the entire sentence.

The upshot is that the *wh*-phrases in (40) are syntactically inside the first conjunct but semantically take scope over the entire sentence—yet another example of the syntax-semantics mismatch in these constructions.

7 Asymmetric Coordination ≠ Semantic Subordination

We have argued thus far that sentences with *LSand* have nonmatching representations in syntax and conceptual structure: the first conjunct is a main clause in syntax but is subordinate in conceptual structure. The relationship between the two representations is expressed by a correspondence rule in the sense of Jackendoff (1990). We have also alluded to other asymmetric uses of *and*. In this section we wish to show that not all asymmetric coordination displays the same semantic behavior.

The first type of example involves coordination where the event denoted by the second conjunct is understood as temporally following the first. Sometimes the second event is understood as a consequence of the first as well.

- (48) a. John came home and his kids kissed him.
b. Mary bought the newspaper after work and she read it on the train.

The temporal inferences are very strong. In (48a), for example, we understand that John's children kissed him after he came home.¹³ Similar observations hold for (48b). Consequently, the coordination is asymmetric, in the sense that the conjuncts cannot be reversed in order without changing meaning (even adjusting the pronouns).

- (49) a. John's kids kissed him and he came home. (\neq (48a))
b. Mary read the newspaper on the train and she bought it after work. (\neq (48b))

Crucially, however, we do not want to claim that these sentences have a subordination structure in conceptual structure, with either the first or second conjunct treated as subordinate. The binding facts suggest that they are in fact coordinate structures, as seen in (50).

- (50) a. (Attempted quantifier binding from left conjunct into right conjunct)
*Everyone_i came home and his_i kids kissed him_i. (cf. Everyone_i went to work after his_i kids kissed him_i.)
b. (Attempted anaphora binding from left conjunct into right conjunct)
*John won the contest and a picture of himself appeared in the paper. (< ??John won the contest because a picture of himself appeared in the paper.)
c. (Attempted quantifier binding from right conjunct into left conjunct)
*He_i came home and everyone_i's kids kissed him_i. (cf. When he_i comes home, everyone_i's kids kiss him_i.)
d. (Attempted anaphora binding from right conjunct into left conjunct)
*A picture of himself_i appeared in the paper and John_i was very proud. (cf. When a picture of himself appeared in the paper, John was very proud.)

We conclude that these are coordinate structures in both syntax and semantics, and that their asymmetric properties are consequences of their (very strong) invited entailments.

A case much closer to the main topic of this article concerns the use of *or* in sentences parallel to OM- and *LSand*-constructions, with interpretations as conditional threats.

- (51) a. Another beer or I'm leaving. (\approx Unless I/you have another beer, I'm leaving.)
b. You hide that loot right now or we're in big trouble. (= Unless you hide that loot right now, we're in big trouble.)
c. Little Oscar makes himself scarce by midnight, or Big Louie gets real mad.
d. The money will be on the table when I open my eyes, or someone is going to be real sorry.

¹³ In addition, we understand the two events as being connected as parts of a larger event; they did not occur independently, on different "occasions," so to speak.

Like *LSand*, "threat-or" does not appear in perfect aspect (52a); it can be subordinated, but only as IP-conjunction, not as CP-conjunction (52b); it does not appear in VP-conjunction (52c); nor does it gap (52d).

- (52) a. Little Oscar has made himself scarce, or Big Louie has gotten real mad. (no conditional threat interpretation)
 b. Georgie warned us that Little Oscar makes himself scarce by midnight or (*that) Big Louie gets real mad.
 c. Big Louie gets the payoff or *(he) gets real mad.
 d. You kill Georgie, or Big Louie *(kills) your dog.

However, threat-or does not behave like *LSand* with respect to binding or to licensing of any.

- (53) a. Put another picture of himself_i on the wall and/*or John_i will get upset.
 b. Give him_i enough bribes and/*or every senator_i will vote for the president's proposal.
 c. Say anything and/*or I'll call the police.
 d. Be nice to anyone_i and/*or he_i 'll resent you. (cf. (25a))

Also, although superficially imperative clauses appear in the first conjunct with both *LSand* and threat-or, only with the latter do they permit the semantic/pragmatic trappings of true imperatives.

- (54) a. Sit down, please, or??*LSand* I'll call the police.
 b. Sit down, won't you, or??*LSand* I'll call the police.
 c. Do sit down, or??*LSand* I'll call the police.
 d. Sit down, or/*and else.

(55) shows that, more generally, threat-or expresses the unpleasant consequence of not doing something, even when the first conjunct cannot be paraphrased with an *unless*- or *if not*-conditional.

- (55) a. I order you to sit down or I'll call the police. (≠ Unless I order you to sit down, I'll call the police.)
 b. You should sit down or I'll call the police. (≠ Unless you should sit down, I'll call the police.)
 c. It is imperative that you sit down or I'll call the police. (≠ Unless it is imperative that you sit down, I'll call the police; ≠ It is imperative that unless you sit down, I'll call the police.)

These facts suggest that, despite the blatant asymmetry of threat-or, its first conjunct—unlike that with *LSand*—is not subordinate in conceptual structure, and that the paraphrase with an *unless*- or *if not*-conditional reflects a more distant relation of implicature or invited inference. However, we will not speculate on the subtleties of conceptual structure that would permit such a situation.

On the other hand, as coordinate structures with a suitably asymmetric interpretation, threat-or sentences should allow asymmetric extraction and inversion. The following examples show that this prediction is correct:

- (56) a. This is the loot that you hide *t* right now or we're in big trouble. (cf. ??This is the loot that unless you hide *t* right now, we're in big trouble.)¹⁴
- b. That is one linguist that you take *t* seriously or you risk your career. (cf. ??That is one linguist that unless you take *t* seriously, you risk your career.)
- c. ?Midnight is when you make yourself scarce *t* or the next day Big Louie gets real mad. (cf. *Midnight is when unless you make yourself scarce *t*, the next day Big Louie gets real mad.)
- d. Which kind of candy do you spit *t* right out or you get real sick? (cf. ??Which kind of candy do you get real sick unless you spit *t* right out? *Which kind of candy, unless you spit *t* right out, do you get real sick?)

If anything, this evidence presents an even more severe challenge for a syntactic theory of binding and the CSC. There is no reason to distinguish *LSand* and *threat-or* in syntactic structure other than their differences in binding. But if one attempts to create a syntactic difference to account for binding—say, by making the first conjunct of *LSand* subordinate and that of *threat-or* coordinate—then there is no way to account for the parallelism in extraction behavior. Moreover, if *threat-or* creates a coordinate structure, it should not violate the CSC in any event. By contrast, under the approach proposed here, where binding and the CSC are semantic conditions, there is at least the possibility of accounting for the facts—provided one can come up with a suitable conceptual structure for *threat-or*, not necessarily a straightforward task.

8 Summary

This exercise has explored the extent to which one can presume a parallelism between syntactic and semantic/conceptual structure, using as a vehicle the subordinating reading of the apparently coordinating conjunction *and*. Section 3 showed that one can postulate that this reading is subordinating in syntax as well, preserving the parallelism of structure, but at a price: one must assume that this conjunction violates all the usual canons for position with respect to the clause it governs and for freedom of position for subordinate clauses.

On the other hand, section 2 illustrated a number of phenomena that the Matching Hypothesis predicts automatically but the Mismatching Hypothesis must add as extra conditions on the interpretation of *and*. Moreover, section 4 showed that binding conditions are dependent on the distinction between *LSand* and *and_C*, again predicted by the Matching Hypothesis under standard versions of binding theory. The price for the Mismatching Hypothesis is that at least part of binding theory must consist of conditions over conceptual structure; but there is independent evidence that this is the case in any event.

Sections 5 and 6 finally demonstrated a decisive difference between the two hypotheses. Although *LSand* does not permit ATB extraction, consistent with its being a subordinating conjunction, it does allow extraction from and inversion within its subordinate conjunct, so it does not

¹⁴ We leave it to the reader to verify that replacing the trace by a resumptive pronoun degrades the *threat-or* sentences but improves the parallel conditionals, just as with *LSand*.

parallel ordinary subordinating conjunctions either. The Matching Hypothesis has no room for this distinction. However, the Mismatching Hypothesis has a wedge of opportunity to distinguish $_{LS}$ and from subordinating conjunctions: it is coordinating in syntax, where the (syntactic) CED applies, but subordinating in semantics, where the (semantic) ATB requirement applies. Section 7 showed, however, that asymmetric interpretation of conjunction does not automatically imply that one clause is semantically subordinated.

Our final conclusion is that it is possible to separate genuine syntactic conditions on linguistic form from the reflections of semantic conditions in the syntax. The reflections of semantics in the syntax are more numerous than are generally assumed within the Government-Binding tradition—but syntactic conditions do not wither away altogether. There is still room for an autonomous syntax, and autonomous conceptual structure, as the Chomskyan tradition has always maintained.

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