

The Discourse Conditions for That-Deletion*

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Abstract

A study of That-Deletion in journalistic English shows that it takes place under two partially overlapping general principles: (1) when the subject of the lower sentence, as opposed to the higher, is the topic; (2) when the speaker endorses the assertion of the lower sentence. A number of (frequently conflicting) principles governing That-Deletion are identified, some of them special cases of the general principles. An important syntactic consequence of That-Deletion is that the lower clause, when raised to the status of principal assertion, becomes more accessible to syntactic processes such as the extraction of constituents into the higher sentence.

1. We will start this paper with a syntactic puzzle, and then in trying to solve it we will go fairly far afield. The syntactic puzzle, a well-known one, is shown in (1):

- (1) a. Mary thinks that John is an idiot.
- b. *Who does Mary think that is an idiot?
- c. Mary thinks John is an idiot.
- d. Who does Mary think is an idiot?

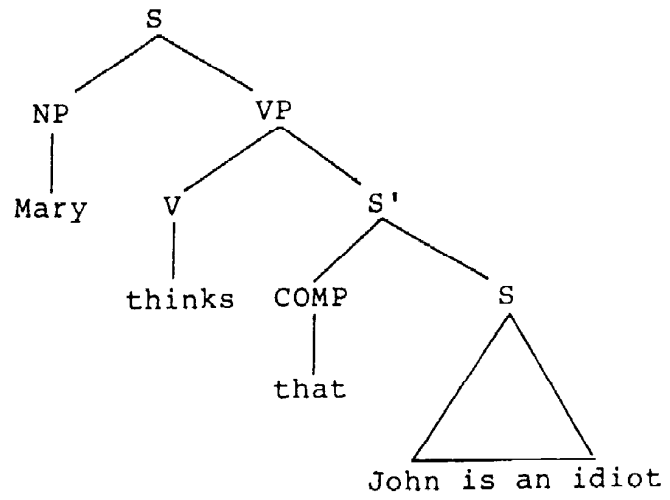
(1b) is (1a) with the lower subject John replaced by a wh-word, and an attempted extraction of this wh-word to the front; the result however is ungrammatical. However, if that is deleted from (1a), producing (1c), the corresponding wh-question (1d) is perfectly fine.

The question is why That-Deletion should have such an apparently major effect. That-Deletion, viewed from a purely syntactic perspective, looks like a completely optional, apparently stylistic, and not very interesting rule; yet it seems to have a syntactic effect here out of proportion to its importance.

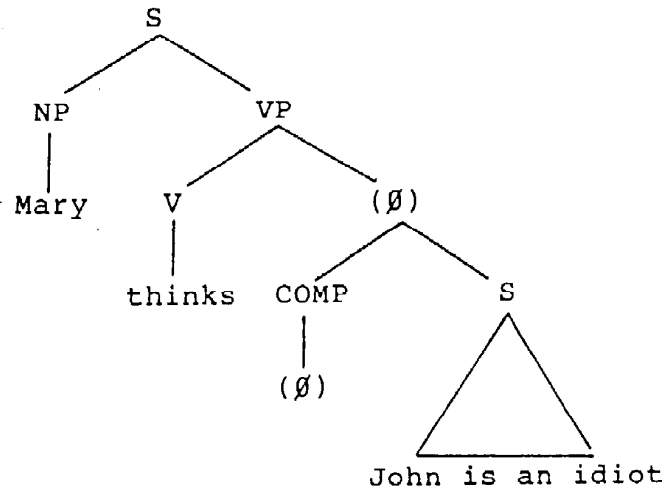
One possible approach to these facts-- by no means a new approach, cf. Perlmutter (1971)-- is in terms of clausehood. That is, in (2a), the structure of (1a), we

might assume that S' defines a clause (a lower clause anyway, leaving aside the question of whether the main clause should also be dominated by S'). There are clearly restrictions, codified elsewhere in many different forms, to tampering with clauses.

2) a.



b.



In (2b), where that is deleted, let us assume that S' is deleted or pruned also. Then the remains of the lower clause are more accessible to syntactic processes relating to the higher sentence; in particular here, to extraction of a constituent from the lower sentence into the higher.²

So we have a hypothesis, and all we need is some evidence. It turns out that there is evidence, but it comes not from syntax, but from discourse; that is, from knowing more about the discourse conditions for That-Deletion. In the following, we will show that the deletion of that correlates with a raising of the assertional content of the lower clause: it occurs when the subject of the lower clause is, or behaves more like, the topic of the entire sentence, or when the assertion of the lower clause is endorsed by the speaker as the assertion of the entire sentence.

To establish a framework, we will start in 2. by comparing two cases in journalistic English of use and non-use of that. This will lead us to two fundamental hypotheses, relating That-Deletion to the rhetorical and assertional structure of the passage. Those who are more urgently interested in the results than the process may wish to skip to these (Principles I and II, pp.

22-23). After some general matters in 3., we see in 4. some environments where that is normally retained: if there is a head noun, if the complement is a predicate complement or is extraposed, if the complement is separated from the governing verb, and possibly under certain conditions of presupposition. In 5. we look at two cases, relative clause formation and Negative Raising, where something is to be raised out of the lower clause and That-Deletion regularly occurs. In 6. we get to two special cases of our general principles on That-Deletion: cases where higher and lower subjects are the same, or where the higher subject is first person; this leads in 7. to more examples of our main thesis. Finally, we look in 8. at a series of examples from an article about a political figure, where the author's point of view towards his subject is clearly indicated by studying the distribution of that and Ø.

Previous work on That-Deletion includes that of McDavid (1964), Bolinger (1972), and Elsness (1984). McDavid examined a roughly 100,000 word sample of written English, from periodicals and contemporary non-fiction, and counted presence or absence of that. While she classifies the data differently, her statistics bear out several of our principles: that is

overwhelmingly retained after an overt head noun phrase, after linking verb be, and in extraposition sentences (initial expletive it). She generally does not attempt functionalist explanation, but does point out, as do Bolinger and Elsness later, the importance of overt that in avoiding ambiguity in cases where it might be unclear which clause an adverb phrase goes with (our Separation Principle). Elsness, using the Brown University Syntax Data Corpus, looks just at noun clauses functioning as direct object of an active verb. He notices that the frequency of zero increases where the lower subject is a personal pronoun, particularly first or second person; where the matrix and lower-clause subjects are coreferential; and where the lower-clause subject is definite. His interpretation is that "zero connective marks a closer clause juncture than that connective."

Bolinger's fact-filled essay That's That uses introspective examples; he works with single sentences, except in the last chapter where he also introspects discourse contexts. He restates and perhaps overstates the point about ambiguity, but his most interesting hypothesis is that that as a complementizer retains the anaphoric function that it has as a demonstrative: that it is used to introduce material that is already given

or inferrable from the context. There are many counter-examples to this hypothesis in our data;³ however, many of Bolinger's observations can be interestingly interpreted or reinterpreted in the light of our approach. Some of these cases will be pointed out as we go along.

2. The following text has been partially marked up to illustrate the structure of topics and chained predicates. Double square brackets mark topics, single square brackets mark anaphoric continuations of topics. Underlines mark the chains of predicates following each topic, where these will enter in the discussion. In addition, missing that's are made explicit with ∅.⁴

(3)

Los Angeles Times

Monday, July 25, 1983

ELEPHANT GOES
BERSERK, KILLS
PARK ZOOLOGIST

- (3a) [[An enraged three-ton elephant]] broke loose from thick chain tethers at Lion Country Safari in Irvine Sunday morning and crushed a zoologist to death, before running into the hills and causing evacuations and closure of the San Diego Freeway.
- (3b) [The female elephant] smashed a park pickup truck, scattered dozens of employees and forced evacuation of 300 people from a swap meet, before being calmed and captured by two animal trainers after a nearly three-hour pursuit involving fire trucks, helicopters and police marksmen.
- (3c) Fearful that [the massive animal] would bolt onto nearby traffic arteries, [[police]] closed the San Diego Freeway (Interstate 405) near the intersection with the Santa Ana Freeway (Interstate 5) for almost three hours. Sunday traffic was backed up

for several miles, while stalled motorists anxiously listened to radio reports of the escaped elephant.

(3d) [[The elephant]] broke loose from one of its chain tethers outside the park's perimeter fence just before 8 a.m., according to Irvine Police Capt. Jim Blaylock. He said Ø [four elephants] used in a show at the park and for children's rides had been chained in a maintenance yard Saturday night because [they] "sometimes react unfavorably to the music" of rock concerts at Irvine Meadows Amphitheater on the Lion Country grounds.

(3e) Lion Country spokesman Skip Alexander said Ø [[the dead man]], identified as chief zoologist Lee Keaton, 34, of Lake Elsinore, had been summoned by other park employees and was attempting to quiet the unruly beast, a 25-year-old Indian elephant named [[Misty]], when she broke loose from her second chain.

(3f) Blaylock said Ø [the animal] apparently pursued Keaton a short distance from where she had been tethered. [[Keaton]] then either fell to the ground or was knocked down and the elephant then "did a headstand" on him, Blaylock said.

- (3g) Orange County Fire Department [[paramedics and firemen]] were summoned and had to use a fire truck and several other trucks and four-wheel-drive vehicles to divert the elephant, while an effort was made to rescue Keaton, whose body was lying in the maintenance yard as the elephant paced nervously nearby. ...
- (3h) Officers said Ø [[the elephant]], apparently frightened by the activity of the rescue, then crashed through two oleander hedgerows, moved along Irvine Center Drive and circled the edge of the compound before fleeing into the hills immediately behind the park.
- (3i) Dozens of [[police officers and firemen]] descended upon the park, evacuating the vendors and early customers from the parking lot swap meet and blocking traffic on the freeway and on Laguna Canyon Road. [Riflemen from special weapons teams] in Irvine and Costa Mesa were stationed at several locations, but authorities said Ø [the officers] were instructed not to fire at the elephant unless efforts to subdue her failed.

In the first paragraph, (3a), the topic is elephant, followed by a chain of four predicates of which the elephant is the subject: broke, crushed, (before) running and causing. The chain of predicates changes from finite verbs to gerunds upon passing the high point of the sequence; while it might seem that in California the worst thing one can do is block a freeway, in fact the crushing of the zoologist is the most newsworthy action, and the paragraph recounts the events in chronological order but switches to gerunds after the high point is passed.

We are using here a reasonably local, i.e. sentence-based, notion of topic. For a definition, we follow Kuno (1972 and subsequent publications): "I can only say that the theme [topic] is what the rest of the sentence is about." According to Prince (1984), "there is no generally accepted method of determining, for English, what the topic of a sentence is." We will not attempt to improve on this situation here. We take it that the topic can be determined, although not always uniquely, by examining the previous discourse or the context. According to Chafe (1976), the topic of a sentence or of a short sequence of sentences in English is nearly always the subject. One criterion for

topichood is by the chain of predicates which leads back to a subject, although crucially it need not be the syntactically highest subject.

Paragraph (3b) exhibits a similar structure, where the topic is again the elephant, followed by a chain of five predicates: smashed, scattered, forced, (being) calmed, (being) captured. Again the predicates shift from finite verbs to gerunds as the action quiets down, and in addition there is a shift from active verbs to passive so that the elephant, the logical or underlying object of the last two verbs, may continue as the grammatical subject. At the beginning of (3c) there is an anaphoric noun phrase the massive animal, marked with brackets, although then police becomes the topic of the first part of that paragraph.

We may now look at paragraph (3i). The topic is police officers and firemen, followed by the predicates descended, evacuating, and blocking. The noun phrase riflemen from special weapons teams is taken as anaphoric to the topic, since these are a subset of the police officers previously mentioned. There follows another predicate, were stationed, another anaphoric resumption of the topic, the officers, and the final predicate in the chain, were instructed.

Notice the phrase authorities said towards the end of (3i). This grammatically introduces a new subject: authorities is the subject of said, and everything that follows is an embedded sentence. However it is clear that authorities is not a new topic; the chain of predicates and anaphors that begins with police officers goes right through the phrase authorities said, which is transparent to this process and is present simply because of journalistic conventions on attribution of sources.

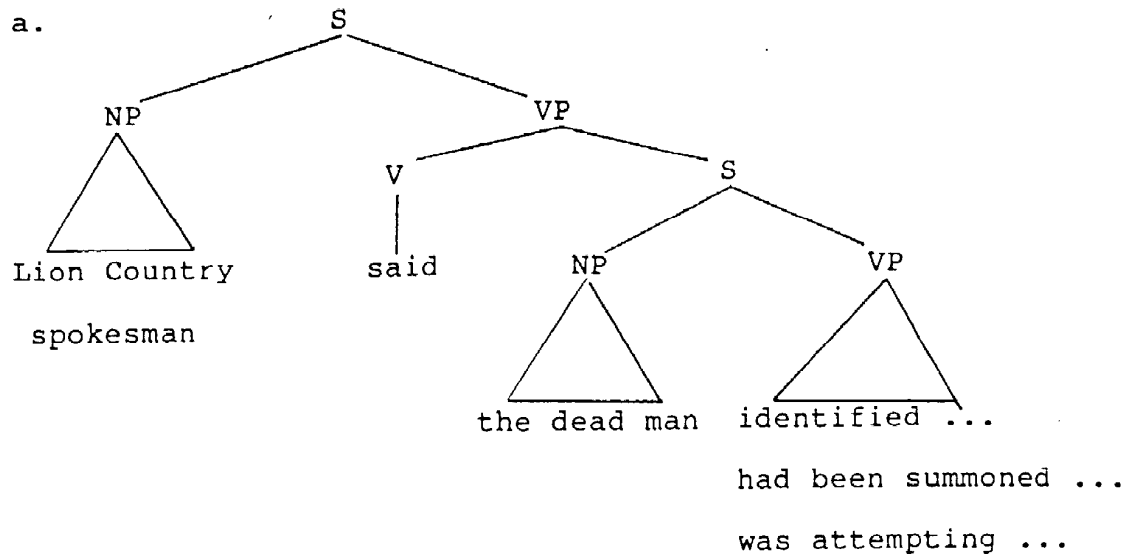
There is another example of the same principle in paragraph (3e), beginning: Lion Country spokesman Skip Alexander said. The Lion Country spokesman is the grammatical subject of this sentence, but as we continue it is clear that he is not the topic; rather the topic is the lower subject the dead man, and the sentence continues with a chain of three predicates referring to this person.

Three more examples may be found in paragraphs (3d, 3f, 3h). In (3d) the topic is again the elephant, followed by a predicate broke loose; then a noun phrase four elephants, anaphoric because the elephant in question is one of the four; a predicate had been chained; another anaphor they; and one more predicate, react.

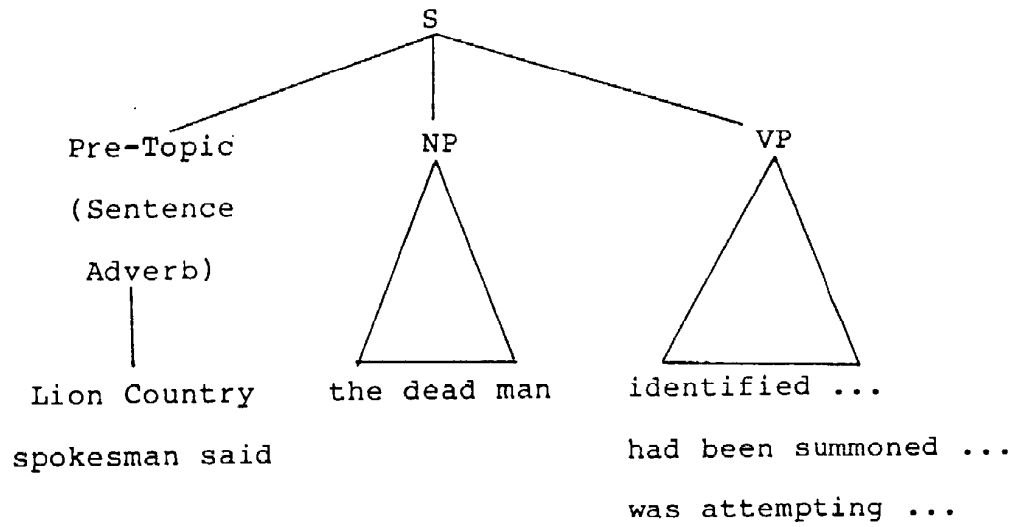
Again the chain of predicates and anaphors passes through a grammatical higher subject and verb, he said. (3f) and (3h) both start with attribution phrases, Blaylock said and officers said, but in each case the topic is the subject of the lower sentence which follows said.

Let us return now to (3e). The grammatical structure of (3e) is displayed in (4a), with the Lion Country spokesman as the subject and said as the main verb. However, (4a) does not fairly represent the rhetorical or informational content of (3e); the informational structure is perhaps better shown as (4b):

(4) a.



b.



The lower subject the dead man is the topic, there are three predicates referring to him, and the assertion of the sentence consists of the dead man and the predicates about him. The initial phrase about the spokesman functions almost as a sentence adverb, giving the source of the information, and can be relegated to a node labelled 'Pre-Topic' or something of the sort.

Notice that there is no that in any of these examples. The question may arise whether that is ever used in journalistic English. To see that it is, consider the next example. Here we use single and double square brackets as before, but have stopped using underlining for predicates; instead we underline verbs of saying and the following that or ø.

(5)

Los Angeles Times

Wednesday, July 27, 1983

REAGAN PLANS NO
LATIN INTERVENTION

- (5a) [[President Reagan]], defending his decision to order massive military maneuvers in strife-torn Central America, insisted Tuesday that the United States has no plans for armed intervention in the region, but [he] said that this country must continue to "be the foremost protector of democracy" in the Western Hemisphere. ...
- (5b) Nonetheless, Reagan said Ø [[the exercises]]-- which involve two aircraft carrier battle groups, the battleship New Jersey and about 4,000 American troops over a period of six months or more-- have been planned "as a way to provide a shield for democracy" in Central America.
- (5c) [[The President]] said Ø [he] was "heartened" by the efforts of the Contadora countries-- Mexico, Colombia, Venezuela and Panama-- to promote a peaceful settlement in the region and has been

"encouraged" by recent comments by Cuban and Nicaraguan officials who said they are interested in peaceful negotiations. ...

(5d) Reagan, whose critics have accused him of "gunboat diplomacy" noted that the United States has only 55 military trainers in El Salvador and said that Cuba has "thousands of military personnel in Nicaragua." ...

(5e) The President charged that members of Congress who are trying to cut off covert aid to opponents of the Sandinista regime in Nicaragua may produce "a giant headache down the road" if they succeed in their efforts. ...

(5f) In response to a question about Lebanon, Reagan disagreed with Lebanese President Amin Gemayel, saying that he does not believe a partial withdrawal of Israeli troops from their positions in Lebanon would be a step toward de facto partitioning of the country by Israel and Syria.

In the first paragraph here, (5a), the important news is not the content of the lower sentence, but the fact that Reagan said it; Reagan is not merely a source here, but the topic of the sentence. This is indicated by, among other things, the mention of Reagan in the headline, and the picture of Reagan in the adjacent column. The assertion here is "Reagan said X", with "X" being further specified, and in this case we get a that. There are similar examples in (5d, 5e, 5f). In each case the newspaper is making no claim itself, rather it is reporting that Reagan made some claim.

(5b), which has no that, would seem to be a counterexample to our emerging principle that statements by public figures, where the public figure himself is the topic, get a that. (5b) merits further attention. We claim that the topic in (5b) is not Reagan, but the exercises: this is shown by the factual parenthesis which follows, and the two predicates, involve and have been planned. Both assertions are made by the newspaper, not by Reagan, and when the paragraph returns to Reagan talking, rather than the newspaper talking, this is signalled by quotes. If we were to try inserting a that ("Reagan said that the exercises ..."), the effect would be to tag Reagan with responsibility for the

assertion.

There is another apparent counterexample in (5c): "Reagan said \emptyset he was heartened ...". This will be shown to obey a very regular principle that that is deleted when the higher and lower subjects are the same. We will see that there are many different and often conflicting factors affecting That-Deletion.

The elephant story was entirely the newspaper talking; there was no indication, for example, that the reporter doubted any of the sources. The Reagan story, however, is mostly Reagan talking, and the reporter withdraws from endorsement of the assertions, except occasionally as in (5b). Furthermore, a structure such as (4a), mutatis mutandis, really does display the informational content of the Reagan sentences, since in these cases the higher subject is the topic, the verb of saying is part of the assertion, and the lower sentence is informationally subordinated.

So we have two partially overlapping principles:

- I. That is deleted when the subject of the lower sentence is the topic of the utterance; that is retained when the subject of the higher sentence is the topic.

II. That is deleted when the speaker makes or endorses the assertion of the lower sentence; that is retained when the speaker does not (necessarily) endorse the assertion, but attributes it to someone else. In such a case the speaker may deny the assertion, doubt it, evade responsibility, or simply be non-committal.

3. We now turn to a survey of that-deletion and retention in a wider sample of material. It appears at once that there is a very strong stylistic component to deletion: there is more deletion in direct quotations, and more deletion in advertisements, which often try to mimic a conversational style; on the other hand, there is much less deletion in more formal written styles. Here, our intention is to examine the factors other than style which influence deletion, and we have therefore tried to hold style constant, to the genre of expository, journalistic English. Within this genre, however, we have sampled a range of texts, from straight news stories to expository and editorial prose.⁵

Samples of roughly equal size from five different

publications give an overall retention or [+that] percentage of 71%. There is, however, considerable internal diversity, ranging from 63% [+that] in the straight news columns of the Los Angeles Times, to 69% [+that] in the TWA Ambassador Magazine and New York Times Magazine, to 77% and 81% respectively (and 100% for some authors) in the New York Times Book Review and Time. In this genre overall, [+that] is the unmarked case, so it is more important to explain a deletion than a retention.

Where the complement is the direct object of a higher verb, just five verbs account for 73% of the cases of deletion: believe, feel, know, say, think. This is much higher than the frequency (47%) of these higher verbs in the total sample. 38% of the cases of \emptyset involve say, but only 18% of the cases of that. (This is undoubtedly affected by the preponderance of 'say' in straight news stories.) Higher clauses without that thus tend to be low in semantic and functional content.⁶

We take the view here that discourse principles differ in kind from syntactic rules. Syntactic rules, when formulated correctly, are exceptionless: that is, in a given environment it should always be possible to know whether a rule will or will not, or in the case of

an optional rule whether it may or may not, apply. Violations of syntactic rules are easily recognized since they result in ungrammatical sentences. Violations of discourse principles result in sentences that do not fit well in a particular context, sometimes strikingly bad, sometimes merely seeming slightly odd or giving the impression of being badly written. Discourse principles are tendencies, rather than rules; they may get in each other's way or contradict one another. Discourse principles may be established by counting frequencies or preponderances, while there is no counting in syntax. Thus when a discourse principle is formulated, there may be many exceptions, some of which turn out to be instances of other principles, while others remain intractable. This will be the case in our study of the principles governing That-Deletion.⁷

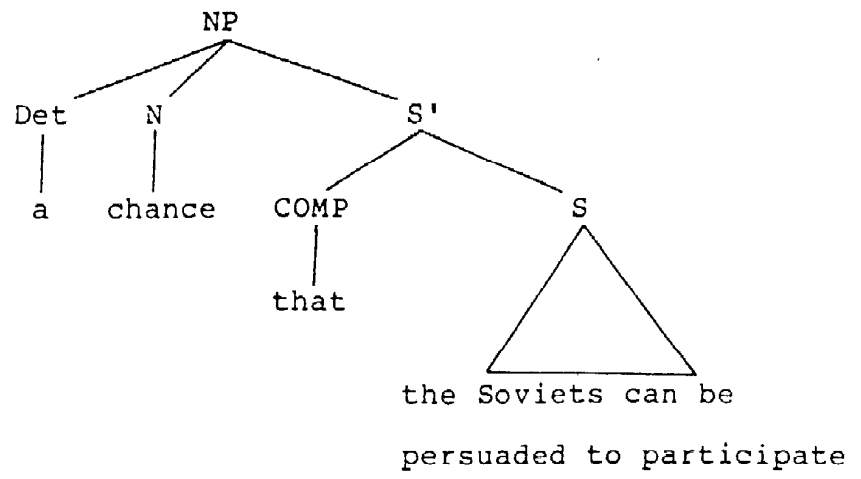
4. We begin with certain grammatical environments which seem to normally require that regardless of the rhetorical structure of the sentence.

III. A head noun, in a complex NP complement structure, almost always requires that.

- (6) Every recent President has taken the position that there is no greater priority than arms-control negotiations. (NYM)
- (7) There is no question that acid rain contributes to the toxic levels of free aluminum in our environment. (TIME)
- (8) Los Angeles Olympic Organizing Committee President Peter V. Ueberroth said Wednesday that he still believes there is an even chance that the Soviets can be persuaded to participate ... (LAT)

Of 72 cases where the complement is preceded by a head noun in its noun phrase, 68 or 94% have that. (Here, as throughout, we are not concerned with That-Deletion in relative clauses, a separate but possibly related topic.) III, of course, correlates with Ross' (1967) Complex NP Constraint. Here is the structure of a complex NP such as that in (8):⁸

(9)



The Complex NP Constraint says that nothing can be extracted from the S in this configuration. Our theory suggests that the deletion of that entails the loss of S', and the consequent opening of S to processes such as extraction. Thus the obligatoriness of that, by III, and the inaccessibility of S to extraction (i.e. its islandhood) are inter-dependent (we will not venture a claim, here, as to which of these conditions entails the other).⁹

Since III is generally treated as an absolute in the literature, it's worth looking at some exceptions:

- (10) ... there's a good chance \emptyset an HP 250 can fit your business a lot closer than you ever thought possible. (TWA)
- (11) ...and for the refusal to accept Oleg Yermishkin as the Soviets' Olympic attache in Los Angeles. Yermishkin was denied permission to enter the United States on grounds that the U.S. government had "conclusive evidence" \emptyset he is a Soviet intelligence agent. (LAT)
- (12) The confirmation of the Soviet intent ... was taken as a sign \emptyset the Soviets intend to keep their options open regarding participation in

the Games. (LAT)

(10) comes from an advertisement for the Hewlett-Packard 250, which is topical throughout the text; here as in most advertisements, as we will see later, the speaker is concerned with giving the impression that the lower sentence is a fact. Compare (10), where chance is not meant seriously, with (8), where the existence of a chance is meant seriously as part of the news item.¹⁰

The Head Noun principle is regular enough that henceforth we will usually abstract away from cases where head nouns are involved.¹¹

IV. An extraposed complement or complement in predicate position, after main verb be, almost always requires that.

(13) It seems that most people come out of a performance review reasonably convinced that their boss doesn't know what they do. (TWA)

(14) It's less clear that Lulu's life wouldn't have taken exactly the same course whether Dawn had entered it or not. (NYB)

(15) One of the clearest messages of television is

- that businessmen are bad, evil people... (TIME)
- (16) The major complaint I have against "August" is
that it's too austere, not sensational enough.
(NYB)

Of 23 cases where the complement is itself a predicate NP, as in (15-16), retention is exceptionless; of 28 cases where, by the classical standard theory, the complement is extraposed from subject position, as in (13-14), 24 cases or 86% have that. Representative exceptions are:

- (17) For three years, since 1779, the Spanish had been besieging [Gibraltar], unable to hack their way inside by land or sea. It seemed a pity \emptyset they could not come by air. (NYB)
- (18) [Quotation of lyrics by Ira Gershwin] Wrote Broadway songwriters Betty Comden and Adolph Green of lyrics like these: "It's very clear \emptyset they're here to stay-- as long as anyone remembers anything about the 20th century."
(TIME)

In (17), Spanish is the topic, and in the anaphoric form

they is the subject of the lower sentence. In (18), the topic is Ira Gershwin's lyrics, again the lower subject. However, in many similar cases, that is retained. Constructions of this type seem to be characteristic of formal written language: they are concentrated in TIME and NYB, the two publications with the lowest percentage of deletion, and are rare in the news columns in LAT.

V. Separation between the higher verb and the subject of the complement almost always requires that.

(19) The Soviet Union ... said Tuesday that it would not participate in the Los Angeles Olympic Games. (LAT)

(20) Los Angeles Mayor Tom Bradley said at a City Hall news conference Wednesday that "wheels are already in motion" for a trip he is willing to make to Moscow ... (LAT)

(21) "I see clearly that I achieved practically nothing." (TWA)

(22) The legion of parameter-crazed mathematicians about to write me that 'evolute' is a noun meaning "a curve that is the locus of the

center of curvature of another curve ..."

(NYM: William Safire)

(23) Please enroll me in TWA's Frequent Flight Bonus Program. I understand \emptyset I will be sent everything I need to participate in the program. And that I should save copies of my tickets ... (TWA)

(24) It must therefore be considered a game. The speakers know \emptyset they are manufacturing myths ... and that their own arguments will be as transient as all past arguments. (NYB)

If anything comes between the main verb and that, that is retained in 92 of 101 or 91% of cases. The "anything" is most often an adverbial phrase belonging to the main clause. Principles IV and V together have the effect that for deletion, the that-clause should be the object of the main verb and should follow it immediately. We will get to the exceptions shortly, after discussing some of the examples further.

(19) and (20) illustrate a regularity that a favorite place for a time adverb, in a news story, is between the main verb and that. In (19) we have Tuesday in that position, while (20) has both a time and place

adverb. Given the presence of the adverb in that slot, that is always retained after it. Notice that the adverb is in an unusual position here, since adverbs can't normally appear between a verb and its object (*"John kissed Tuesday Mary").¹² Its effect is to put greater focus on the statement itself, which is the news item; the time, place, and content of the statement follow in a regular format.

(23-24) show that when more than one clause follows a verb, even if the first that is deleted, the second and subsequent clauses regularly have that. Notice that that is required in (24) to preserve the meaning; observe what would happen if it were deleted:

(24') It must therefore be considered a game. The speakers know \emptyset they are manufacturing myths ... and \emptyset their own arguments will be as transient as all past arguments.

In (24') the last clause reads as a main clause, with a different meaning, and the deletion is consequently unrecoverable. We suggest that that-clauses separated from their main verbs tend to retain that for easier recognition and processing.

The exceptions to V are systematic: 6 of 9 involve personal direct objects or advanced indirect objects of verbs of communication:¹³

(25) "My boss convinced me \emptyset I was doing better than I thought." (TWA)

(26) Reagan has not told a single friend \emptyset he definitely will seek a second term. (TIME)

The Separation principle extends to the case where an adverbial phrase or clause is preposed in the lower sentence, so that the lower subject does not follow the complementizer immediately. Here too that is normally retained (36 of 42 cases or 86%):

(27) Paul Ziffren, the board chairman of the Olympic committee, said that Tuesday morning, shortly after the Soviet statement ..., he began receiving telephone calls ... (LAT)

(28) It is also fair to say that, as I see it, the information we receive is remarkably error-free. (NYB)

Processing concerns seem to be involved here too. In

(27) that is clearly needed to determine the scope of the time adverb, compare (27) with (19-20); and in (28) and similar examples that seems to be helpful in marking where the lower sentence begins.¹⁴

VI. That tends not to be deleted when the complement is presupposed.

One piece of conventional wisdom in syntax is that that may not be deleted after factive verbs (Stockwell, Schachter & Partee 1973). In terms of the original Kiparsky & Kiparsky (1971) list of factive verbs, this principle is not of great import, because these verbs simply did not come up with great frequency in the present corpus of texts. Furthermore, much of this work is done independently by the Extraposition principle (IV). Direct counterexamples can be found; for example, forget is factive on most people's lists:

(29) Joseph [Montgolfier] ... was possibly dyslexic, always in debt and usually preoccupied. Once on a trip he entirely forgot \emptyset he had a wife and left her behind at a country inn, meandering on to his destination alone. (NYB)

(Cf. IX, the Same-subject principle.)

Hooper and Thompson (1973) elaborate the Kiparskys' two-way classification into five classes, three non-factive and two factive, according to whether the higher or lower clauses are asserted and/or presupposed. Their classification is not entirely diagnostic for That-Deletion because each of the five classes can be found with both that and \emptyset . But there are some interesting correlations. Their class B contains verbs such as believe, expect, feel, guess, imagine, suppose, think, which are said to be "practically meaningless in themselves," so that the main assertion is in the complement. Thus in an example like:

(30) I suppose that most embarrassing of all was
falling off the stage.

the assertion is most embarrassing of all was falling off the stage, with I suppose merely qualifying the assertion. If we look at That-Deletion with this class, we find that these verbs delete that in 68 cases as opposed to 28 retentions; that is, they delete that more

than twice as often as they retain it.

On the other hand, Hooper and Thompson's two factive classes together delete that in 22 cases as opposed to 49 retentions. Here are some examples where deletion would be extraordinarily unnatural:

(31) I am delighted that the public outcry thwarted the Defense Department's plans to wound dogs by firing squads so that military doctors can learn to treat the injuries. (TIME)

(32) We recognize that they are behaving as gods and goddesses behave. (NYB: 'they' = characters in a novel)

There are various ways to formulate VI:

VI'. That tends not to be deleted when the main verb is not lexically marked for That-Deletion.

VI''. That tends not to be deleted when the main verb is factive.

We suspect that the true generalization lies along the lines in which we first formulated VI above. Notice

again that That-deletion is impossible for sentential subjects (cf. fn. 9), and this may well correlate with the tendency discussed inter alia by Horn (1986) for sentential subjects to be presupposed (examples adapted from Horn):

- 33) a. He might have discovered that there were problems with his analysis.
- b. That there were problems with his analysis might have been discovered.
- c. It might have been discovered that there were problems with his analysis.

Only in (33b) is the truth of the complement presupposed. This line is left for further research.

5. We now turn to two grammatically-defined cases where deletion of that is regular. In each case, some element is to be raised (by the classical standard theory) from the lower sentence into the higher, and That-Deletion seems to be a prerequisite.

VII. If a noun is to be extracted from the lower sentence to form a relative clause, that is

deleted.

This is syntactically obligatory if the noun is in subject position:

- (34) a. ... the boycott, which some observers
believe \emptyset is in direct retaliation for the
 U.S. boycott of the 1980 Games in Moscow.
 (LAT)
- b. *the boycott, which some observers believe
 that is in direct retaliation ...
- (35) a. (E.M.) pores through a haystack of
 statistics, looking for the needle he
hopes \emptyset is there ... (TWA)
- b. *the needle he hopes that is there ...
- (36) a. ... the book ... changed child rearing ...
 to a more complex, more perilous, more
 democratic process, one that many parents
felt instinctively \emptyset was beyond their
 powers to pull off successfully. (NYB)
- b. *one that many parents felt instinctively
 that was beyond their powers ...
- (37) I've enclosed our second American catalog
 which I think \emptyset you'll agree \emptyset includes many

exciting titles. (Blackwell's)

VII goes back to the syntactic puzzle with which we started, cf. (1): if a noun phrase is to be extracted from the lower sentence to form a relative clause, that must be deleted, otherwise the result is ungrammatical, compare (34a-b), (35a-b), (36a-b). This principle might seem esoteric and unlikely to play a major role in real discourse; in fact there are a fair number of examples. Grammatically, this rule is supposed to be obligatory only when the extracted noun is the subject of the lower clause:

- (38) a. Mary thinks that Bill despises John.
b. Who does Mary think that Bill despises?

In actual practice, however, deletion occurs in all cases, even though cases involving lower subjects predominate (13 of 19). Examples involving non-subjects include:

- (39) ... carrying and giving birth to a child she
knows \emptyset she cannot keep, Phoebe knows what she
wants to be when she grows up. (NYB)

- (40) The ebullient Corrigan comes to her cottage to ask for contributions to St. Crispins, a nursing home where he says \emptyset he was once a patient. (NYB)
- (41) Balloons ... could not be made dependably navigable, even when fitted out with the broad sweeps with which Etienne briefly believed \emptyset a skilled oarsman could row them through the heavens. (NYB)
- (42) ... publishing is not the prodigiously profitable industry they supposed \emptyset it was when they entered it during the wave of takeovers from 1965 to 1975. (NYB)¹⁵

In (41) the extracted noun comes from a prepositional phrase, which pied-pipes, and in (42) the extracted noun is a predicate noun phrase.¹⁶

VIII. If a negative is to be raised out of the lower sentence, that is normally deleted.

- (43) "...this is such an innovative industry at the moment and so much is happening that I don't think \emptyset there is any overabundance." (TWA)

(44) "We'll have to wait and see what happens. I wouldn't say \emptyset we've absolutely ruled it out. A lot goes on privately we never talk about."
(LAT)

(45) He added pessimistically, "I don't think \emptyset anybody is interpreting this (Soviet action) as giving them much wiggle room (for changing their mind)." (LAT)

Negative Raising (Lakoff 1969, Horn 1975, Horn & Bayer 1984) is the process by which a higher clause negative is understood to go with the lower clause, whether this is done syntactically by an actual raising rule, or handled interpretively or pragmatically. It is definitely a feature of spoken as opposed to written language. There are 8 clear examples in the sample; 6 of the 8 come from direct quotations, mostly in the straight news stories in the Los Angeles Times. 7 examples have \emptyset versus one that. Treais (1987) collected 22 examples from news stories, all but 2 of them in direct quotations, and another 47 from the transcript of the Warren Commission hearings. 57 of her 69 examples, or 83%, have \emptyset .

Counterexamples to VIII are hard to identify since

it is not completely clear what would be a counterexample to VIII. The presence alone of a negated verb in the higher sentence does not make a counterexample; examine (46-47):

(46) "I can't believe that the Russians would be intimidated by a tiny group like the Ban the Soviets Coalition," Gates added. (LAT)

(47) Said Cora Handy, 73, as she walked through a shelter, ... "I just couldn't see that I could stay in my house, so I left." (TIME: article on floods)

In (46) the negative belongs with can believe; the non-synonymy of (46) and (46'):

(46') I can believe that the Russians wouldn't be intimidated ...

shows that (46) is not an example of Negative Raising. Neither is (47); see is not a Negative Raising verb, particularly with can. More likely counterexamples would resemble (48-50):

- (48) Gossage makes no concessions to age, either. "It doesn't get any easier the older you get, but I don't really feel that I've lost that much," he says. "I still throw harder than 98 percent of the guys in the game..." (San Diego Union, 5/7/1987)
- (49) In its most recent report to Congress, the embassy said: "Recent actions by Mexican officials indicate an increased awareness of the role tourist safety plays ..." ... In view of those efforts, the report said, "the embassy does not believe that the issuance of a travel advisory is warranted at this time." (TIME)
- (50) Mr. McKENZIE. Do you believe or have you formed an opinion now ... as to whether or not Marina N. Oswald is a Communist or a Soviet agent, either now or at any time since you met her at Dallas, Love Field, in June of 1962? Mr. OSWALD. No, sir; I do not believe that she is any of those things. (Trais 1987)

However, every sentence where Negative Raising could have applied (if Negative Raising is a rule) is ambiguous as to whether the negative started in the

higher or lower clause. Thus VIII could be somewhat trivially defended by claiming that every example like (48-50) involved a negative originating in the higher clause, and thus was not an example of Negative Raising. It is probably more useful to note that as the utterances get more formal or even formulaic, there is a tendency for that to reappear.

6. We now turn to principles which are more interesting special cases of the general principles I and II, namely that that is deleted when the lower subject is topical, or when the lower sentence is the principal assertion, or when the speaker endorses the assertion of the lower sentence.

IX. If the higher and lower subjects are the same, that is frequently deleted.

(51) Both Bradley and Ueberroth said \emptyset they will pursue the matter, but Reagan Administration officials in Washington said \emptyset they will not make overtures to Moscow. (LAT)

(52) L.B.J. loved power so much ... that nobody believed him when he said \emptyset he planned to give

up the job. (TIME)

- (53) The Olympic president still vowed \emptyset he would "accordion downward" committee expenses of putting on the Games ... (LAT)
- (54) ... Romania ... issued a statement saying \emptyset it will indeed take part in the Los Angeles Games. (LAT)
- (55) Andrei arrived back on Soviet soil ... He said \emptyset his plans were to return to school and possibly study to become an actor. (TIME)
- (56) The official Polish news agency, PAP, was quoted as saying \emptyset the country's participation in the Games had been placed in doubt. There was no immediate comment from Polish Olympic officials. (LAT)

IX is a very regular principle, especially in straight news stories. Of 102 cases where higher and lower subjects are the same, that is deleted in 65 or 64% (remember that the overall deletion rate, from fn. 11, is only 32%).¹⁷ Notice that when higher and lower subjects are the same, there is no confusion about what the topic is, and principle I, that the lower subject is topical, is met. (55-56) show that identity of

reference and continuation of topicality are important rather than formal identity of higher and lower subjects; in (55) the lower subject is strictly his plans rather than Andrei, but Andrei is clearly topical throughout the passage. In (56) the topic is "Poland"; the article is a survey of each Communist country in turn to see who is coming.

It might be instructive to look at a couple of examples where this principle is not observed. To aid in the interpretation of (58) we have added referential indices.

(57) LAOOC Board Chairman Paul Ziffren said that he hopes the Soviet decision is not final but that the Games would "be successful" even without them. Mayor Tom Bradley ... issued a statement saying that he, Ueberroth, and Samaranch "intend to do everything in our power ..." (LAT)

(58) Charge Oleg Sokolov(i) telephoned Assistant Secretary of State Richard Burt(j) to announce that he(i) was scheduling a press conference that afternoon, after which Andrei would depart Washington. As a "big concession from

Moscow," he(i) added, Burt(j) could attend. The U.S. diplomat(j) replied that the plan was "totally unacceptable" and promised to denounce it in advance at the State Department's noon press briefing. Sokolov(i) replied that he(i) had already notified the U.S. press of his plans ... (TIME)

In (57), Ziffren is coreferential with he in the first sentence and Bradley with he in the second. The structure of (57) is a series of reactions by various prominent people to the Soviet withdrawal. The attention is on each prominent person in turn and the topic of each sentence is the official himself, and secondarily what he said. (58) describes an elaborate interplay between Sokolov and Burt, with first Sokolov, then Burt, then Sokolov again as the topic; the passage is organized around the interplay between these two people, rather than their utterances.

- X. If the subject of the higher verb is first person, that tends to be deleted.

(59) "I happen to think \emptyset the world has misread the

Soviet remarks. They are serious, no question. I think Ø it is a serious, strong statement, but I don't think Ø it is irrevocable." (LAT: Uebberroth)

- (60) Why then do I feel Ø it is insensitive on the part of relaxing beach folks to lie or stroll about in the buff? (NYM: Russell Baker)
- (61) We can assume Ø 'evolute', from the Latin for 'to unroll', was used by Senator Baker jocularly ... (NYM: Safire)
- (62) Every time you decide what a given passage is about you discover Ø it is also about something else. (NYB)
- (63) McMurray begins to boast, just as his listener begins to feel Ø this will not be McMurray's last stay [in prison] ... (TIME)
- (64) "People have a hard time when it comes to bodies," Charlie observed. "I say Ø it's the live ones you got to worry about ..." (TIME: article on gravediggers)
- (65) "Hey, Tony, I hear Ø your wife beat you up again last night." (TIME: Same article)
- (66) "Don't look back and wring your hands and say, 'Gee, I wish Ø I had done it this way.'" (NYM)

Of 109 cases where the higher subject is first person, that is deleted in 54 or 50% (remember again that the overall deletion rate is only 32%). The motivation for X is straightforward: the speaker ought to endorse his own assertion. For this reason we would expect that to be regularly deleted in this case. A good example is (59): clearly Uebberoth thinks these things, otherwise he wouldn't say them, and I think could be omitted here with no effect on the meaning. Included under first persons are editorial we, and the indefinites you and one when they mean I. (63) is a case of the journalistic convention by which a reporter, reporting an interview, can refer to himself somewhat coyly as "a listener", "a visitor" or some other third person expression. (66) is a particularly strong example combining IX and X; that would be very difficult here.

(65) is of course a joke, presented as a seeming assertion. Notice that that would not be possible here: "Hey, Tony, I hear that your wife beat you up again last night" would sound labored and unfunny. We suggest that retention of that would place the assertive focus on I hear, implying that the speaker actually heard

something. But the part that is supposed to be funny is not the assertion "I heard something", but the supposed assertion "your wife beat you up".

An interesting example comes from an interview in Time with the foreign minister of Mexico. Throughout the interview the minister states official positions of his government in the format We believe that ... using we and that. At the one point in the interview where he states a personal opinion, however, he switches to I think \emptyset :

(67) [On El Salvador] "We believe that at some point we may be able to play a useful role in getting the two parties together. But I think \emptyset it would be extremely risky to say what will happen next."

In the first sentence of (67), believe is part of the assertion; in the second sentence, the assertion is it would be risky, and think is not asserted. It is an interesting exercise to try making tag questions on the two sentences (shortened for convenience); assuming that the tag is made on the main assertion, whenever this is grammatically possible, it gives us a diagnostic:¹⁸

- (67') a. We believe that we may be able to play a useful role, don't we?
- b. I think it would be risky to say what will happen next, wouldn't it?

If we would expect that to be regularly deleted after a first person subject, why isn't the deletion rate in this environment higher than 50%? There are at least two other factors. One is that the Separation principle (V) overrides the First-person principle, as it does the Same-subject principle (see e.g. (23)). If we exclude the 11 cases where retention is explained by the Separation principle, the deletion rate rises to 55%. Secondly, speakers very often voice assertions which they do not endorse:

- (68) "I suspect that there will be a two-tiered market," E. predicts. (TWA)
- (69) I found it difficult to believe that she was completely serious, but obviously she is.
(NYB)
- (70) We know that Bonnie Parker and Clyde Barrow, the Depression-era bank robbers and murderers,

were really a couple of lovable kids who just got their stars crossed. The movies told us so. (TIME)

(71) It is the story of the doctor's boyhood, training, and career, yet it is also a book about science ... "We like to think that we take aim and hit targets by taking advantage of a human gift for accuracy and precision," he writes ... "But there is this secret ... we become accurate only by trial and error, we tend to wander about, searching for targets ..." (TWA)

In (68) suspect has to be taken literally, and the speaker is hedging his claim. In (69), the speaker is initially dubious about the assertion, but eventually endorses it; there is a recorded change in the speaker's beliefs. The assertion in (70) is made ironically. (71) shows an interesting thesis/antithesis structure: a thesis is introduced, with that, for the purpose of being knocked down and replaced with the antithesis, introduced by but. (71) does this in a particularly interesting and subtle way. Further examples of this will be found in the last section.^{19,20}

7. We now turn to some additional examples illustrating our primary thesis, that deletion occurs when the subject of the lower sentence is the topic of the passage.

(72) While a temporary glut has taken the price down, oil is still neither an economical nor a secure source for making electricity. Most experts agree Ø oil will become more and more expensive in the future. (TWA)

(73) Neither the Chinese Olympic Committee nor the Chinese Foreign Ministry would comment immediately on the Soviet action, but informed Chinese sources said Ø it would not change Peking's intention to send a team of 200 to the Games. (LAT)

(74) He had been kept hidden in the family attic since he was 9 years old ... reading heavy tomes about the Second World War ... The family loves and protects him but thinks Ø he's retarded. Phoebe tries to explain to them that retarded people don't spend all their time reading. (NYB)

(75) At present (I would have written "presently," but hordes of nitpickers still think \emptyset that means "soon") ... (NYM: Safire yet again)²¹

(76) Professional polygraphers say \emptyset their tests are reliable in more than 90% of the cases if interpreted by a competent examiner. But Professor D.L. ... says \emptyset the tests are accurate only two-thirds of the time and are far more likely to be unreliable for a subject who is telling the truth. (TWA)

In (72) it is clear that the second sentence is about oil, not about most experts. In (73) the topic of the second sentence is the Soviet action, represented by it. In (74), the he introduced in the previous paragraph is the topic throughout. In (75), the topic of the lower sentence is that, the word presently. In (76) we have two contrasting statements about polygraph tests; the tests is the topic of each sentence.

It might be interesting to compare some examples where the higher subjects are topical:

(77) Andrei repeatedly denied having written any letters requesting asylum. He noted that the

letter to the Times did not even have his name right. Added his father, Valentin Berezhtkov, a first secretary in the ... embassy: "You can agree with me that a 16-year-old boy knows how to spell his name."

(78) And it was apparently done well enough to fool even some prominent people in the Olympic movement. Richard Pound, IOC board member from Canada, said Wednesday ... that he talked to Samaranch shortly after the Soviet announcement and was told that everything had come as a surprise. And F. Don Miller, USOC president, said that other USOC officials ... got no hint that the IOC president expected a Soviet announcement. Even Harry L. Usher, LAOOC general manager ... told reporters Tuesday afternoon that the Soviet announcement was a surprise.

(77) is a passage about Andrei (the son of a Soviet diplomat, who was suspected of wanting to defect to the U.S.; a letter purportedly by him was sent to the Times). Andrei is the topic of the first sentence, and continues as the topic of the second. In the second

sentence, therefore, the higher rather than lower subject is the topic. Our intuition is that if we were to delete that ("He noted the letter did not even have his name right") it would shift topicality to the letter, that is, yield a sentence about the letter rather than about Andrei (not everyone we have consulted agrees on this intuition).

The context of (78) is that certain officials were aware in advance of the Soviet withdrawal from the Olympics, but concealed their knowledge, so that even most other Olympic officials were kept in the dark. The paragraph is about three officials who were thus kept in the dark. Each official in turn is the topic of one sentence, and in each sentence we get a that (although, as often, there are also other grounds for two of the three that's). Furthermore the speaker (the reporter) clearly does not endorse the assertions made by these three people, since each assertion is fallacious.

The structure by which a passage is organized around the statements of a number of people in turn, where the people themselves, rather than their utterances, are treated as the topics, is reasonably common and produces what we might call "interview format." Each paragraph then begins with the name and

identification of some interviewee, followed by a formula such as says that, feels that, suggests that, followed by the person's views. This is not necessarily a particularly insightful way of organizing the material but occurs frequently. (The format can be made somewhat less dull by alternating direct and indirect quotations.)

The other part of our hypothesis is that deletion occurs when the speaker endorses the assertion of the lower sentence. Observe the nice contrast of endorsement and lack of endorsement in (79-80):

(79) ... Cutler (a spokesman) added. "When the Soviets say safety, they mean defections ... They were told Ø the security precautions in Los Angeles are no less strong than they were in Lake Placid." (LAT)

(80) ... Tuesday's statements centered almost entirely on the issue of security. The (Soviet) statement claimed that the International Olympic Committee had "found that the (Soviet) stand was just and substantiated," although no such substantiation was announced by IOC officials. (LAT)

We are especially likely to find deletion in cases where the speaker not only endorses the assertion, but wants the reader to endorse it too. This happens particularly in advertisements, which could be called the stronghold of That-Deletion:

- (81) So many things can remind you of the folks back home. And even though there's a big ocean between you and the ones you love, it's nice to know \emptyset you can feel close again just by picking up the phone. So give them a call and let them know \emptyset you really care. (TWA)
- (82) Now when you rent a car from National, we'll guarantee \emptyset it will be waiting for you. (TWA)
- (83) We know \emptyset you hate standing in line at the cashier's counter, for example. (TWA: Ad for hotel chain)
- (84) If you're not convinced \emptyset it's the fastest, easiest, most painless way to learn Spanish, return it and we'll refund every penny you paid. (TWA)

You is the topic throughout (81); in (82), car is the topic. The subliminal message of (83) is: "We share

your beliefs, so come stay with us." A grammatical negative is deftly turned into a rhetorical positive in (84). We did, however, find at least one case where that is retained in an advertisement:

(85) Warning: The Surgeon General Has Determined
That Cigarette Smoking Is Dangerous to Your
Health.

There shouldn't be too much trouble figuring out the context of (85): it comes from a cigarette advertisement, and is the mandatory warning required in such advertisements. The speaker here, a cigarette company, clearly does not endorse this assertion, and for a lawyer for the Tobacco Institute, there could be no better way to give the impression that this is a totally outlandish idea, besides retaining that, than to capitalize every word but one.

8. We present finally a series of examples, from an article in The New York Times Magazine by correspondent Steven R. Weisman, on William P. Clark, who at that time was national security advisor to President Reagan. The purpose is to see whether there is a consistent

pattern of that deletion and retention in the overall text.

- (86) Associates of Mr. Clark agree that, upon first becoming national security adviser, he felt \emptyset he could simply serve as an honest, anonymous broker for others ... Mr. Clark took nearly a year to conclude that this idea was impractical ...
- (87) Colleagues say that, since deciding to stay, Mr. Clark has become increasingly willing to assert himself.
- (88) However, a friend says \emptyset he "still has a chip on his shoulder about academia" that shows itself when he is offered honorary degrees. He turns them all down.
- (89) Defense Secretary Caspar W. Weinberger acknowledges \emptyset Mr. Clark has had neither the academic nor work experience of past national security advisers, but says that to assume \emptyset this disqualifies him is "a mistaken ... sort of notion."
- (90) Mr. Shultz says that Mr. Clark and he have had no "fundamental" policy disagreements. ...

Still, Administration officials say Ø there is widespread consternation at the State Department over its tangles with the national security adviser.

(91) [Mr. Clark] is convinced that Soviet behavior can be modified with such sanctions. He has asserted that somehow United States policy can "convince the leadership of the Soviet Union ..." ... Mr. Clark maintains that the pipeline crisis convinced Europeans of American seriousness and flexibility ...

(92) A key Administration official says Ø Mr. Clark "doesn't believe in arms control as an end in itself," but as a tool to eliminate Soviet superiority ... An influential Republican ... says Ø Mr. Clark has "no conceptual framework" in which to approach arms control. This official says Ø Mr. Clark is bound to fail, given his current approach.

(93) Mr. Clark got involved because of a court decision in People v. Tanner rejecting a state law requiring a jail term for any crime committed with a gun. When he wrote a stinging dissent, Chief Justice Bird claimed Ø

- he was deliberately trying to embarrass her before the voters, who were about to vote on her confirmation to the bench.
- (94) When the incident was investigated in 1979 ... it was clear that Justice Clark had been a source for the newspaper story. Mr. Clark testified that he had had no evidence of political motivation and had never intended to suggest to the Los Angeles Times that he did.
- (95) Mr. Clark recalls that he simply did not enjoy sparring with other judges.
- (96) Like many judges, Mr. Clark left the writing of most of his opinions to his clerks. Mr. Clark and his clerks deny allegations by some critics that he farmed out some opinions to outside experts. He left the bench with many liberals feeling \emptyset he had been a competent though undistinguished judge.

Some of these examples can be accounted for by special principles, for example same-subjects in (86); on the other hand, there is a violation of same-subjects in (95). Clark, the higher subject, is the topic in (91); Clark is still the topic, but the lower subject, in

(92). Most of the examples can not be explained by special principles, perhaps most notably (89) and (90). There is a general theme which runs through this text, and to find it one has to remember that the New York Times Magazine is a liberal publication, and Mr. Clark was a conservative working for a conservative President. The theme is that statements which are favorable to Mr. Clark, or his own statements, tend to have a that, and statements negative or hostile to Mr. Clark have Ø. Compare (89') and (90'):

(89') Defense Secretary Caspar W. Weinberger acknowledges Ø [negative] Mr. Clark has had neither the academic nor work experience of past national security advisers, but says that [positive] to assume Ø [negative] this disqualifies him is "a mistaken ... sort of notion."

(90') Mr. Shultz says that [positive] Mr. Clark and he have had no "fundamental" policy disagreements. ... Still, Administration officials say Ø [negative] there is widespread consternation at the State Department over its tangles with the national security adviser.

Other telling examples are the contrasts between (87) and (88), and (91) and (92); and most remarkably, (96): "He left the bench with many liberals feeling \emptyset [negative] he had been a competent though undistinguished judge," which is as good as a confession in revealing the author's point of view. The result reads as a rhetorical hatchet job, unconscious of course, if only because the author could not have read this paper. The author undoubtedly simply found that some sentences "felt better" with that and others felt better without it.

9. Previous work on That-Deletion has primarily identified its stylistic nature, and requirements related to ambiguity, along the same lines as our Separation principle: if anything comes between the higher verb and the subject of the lower clause, that is normally called for to mark the clause boundary.²²

Further progress requires subtle and difficult judgements-- as Bolinger points out (9), "One would think that if a semantic distinction were detectible, someone would have mentioned it by now." Yet he also aptly observes (61): "If a husband is asked Do you love

me? and replies You know that I do, his words sound argumentative-- he is answering the question; but if he replies You know I do he is affirming the fact." Restated in our theory: the assertion of the first example is "You know something," the assertion of the second example is "I love you."

We hope to have shown that a number of frequently conflicting principles play a role and must be sorted out. We further believe that there are general underlying principles related to the rhetorical and assertional structure of the text. The best contrast we can find to illustrate our principal thesis (slightly illegitimately because of the idiom) is (97):

- (97) a. God knows John is an idiot.
- b. God knows that John is an idiot.

Our claim is that (97a) is a sentence about John, (97b) is a sentence about God.²³

Footnotes

*Earlier versions of this paper were given at San Diego State University, November, 1983; the Linguistic Society of America, December, 1983; and UCLA, May, 1984. I am particularly indebted to Sandra Thompson, the members of her UCLA seminar, and Ellen Prince, for perceptive discussion. Errors and misinterpretations of course remain my own.

¹For example, many of the Ross Constraints can be interpreted in this way; some of this is discussed later. Perlmutter proposes a constraint by which every nonimperative sentence, in surface structure, must have a subject; he does not use the notions either of S' or clausehood, but does suggest that deletion of that causes the lower S-node to prune and the lower sentence to cease to be a sentence. The descendant of Perlmutter's constraint is the *[that [e]] filter of Chomsky & Lasnik (1977) and subsequent literature. We regard the *[that [e]] filter as having merely observational adequacy. We have also not attempted to trace the GB rule of S'-Deletion here.

²By an alternative approach, of course, the complementizer is not deleted, but is never there in the

first place. As far as we can tell, the effect is the same as far as the phenomena that we will be discussing are concerned, except that we would have to insist-- to prevent chaos-- that when the complementizer isn't there, it is that that isn't there.

³Thus he claims (66-7) that the normal pattern should be \emptyset in a conversation-opener, that in a continuation of previous discourse; but in fact the much more common pattern in a series of complements is that for the first one or two, \emptyset subsequently.

⁴This text was used in the Paul Hopper/Sandra Thompson course on discourse at the Linguistic Institute, UCLA, Summer 1983.

⁵Sources of texts are: a series of news articles on the Olympics, Los Angeles Times, May 9-10, 1984 (LAT); TWA Ambassador Magazine, August 1983 (TWA); Time, August 29, 1983 (TIME); New York Times Magazine, August 14, 1983 (NYM); New York Times Book Review, August 14, 1983 and July 14, 1985 (NYB). It has not been thought necessary to give specific page numbers.

⁶Bolinger (18ff) also notes that the more common the verb, the more likely is \emptyset (he does not believe deletion is involved):

- (i) He said he liked it.
- (ii) He shouted he was ready.
- (iii) *She gushed she simply loved it.
- (iv) *They chortled it was only a joke.

I would point out that in (iii-iv) the focus is on the act of communication itself, that is, the higher verb, while in (i-ii) the focus is on the content of the communication, the lower sentence. Bolinger observes that \emptyset is more likely with more common collocations of verb and object:

- (v) We got the message they were coming.
- (vi) *We lost the message they were coming.
- (vii) They made a rule (=they ruled) we had to be in by six.
- (viii) *They enforced the rule we had to be in by six.

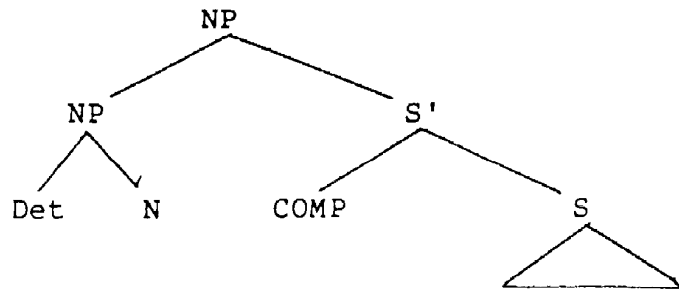
Here in (vi) the main assertion is that we lost a message, and in (viii) that they enforced a rule; in (v) and (vii) the main assertion seems to be the content of the message or rule.

⁷For these reasons we prefer to reserve the term

"rule" for syntax while using the term "principle" for discourse.

⁸A more psychologically real structure for most native speakers, for example students in introductory linguistics classes, would look like this:

(i)



We don't believe the difference is crucial for our purposes here.

⁹Similarly it can't be accidental that Ross' Sentential Subject Constraint:

(i) *What would for me to give up (e) be a pity?

involves another environment where deletion of the complementizer, whether that or for, is ungrammatical:

(ii) That John is an idiot doesn't surprise me.

(iii) *John is an idiot doesn't surprise me.

¹⁰An interesting extension of the Head Noun Principle is that gerunds, apparently obligatorily in a small sample (9 cases of 9) retain that:

(i) ... inching slowly toward some esoteric scientific truth, with few rewards beyond knowing that the work of science must be done. (TWA)

(ii) ... there is no denying that this attractively produced work offers real delight. (NYB)

Two other non-finite verb forms, present participles and

infinitives, however, are under no such restriction:

- (iii) In 1978 ... he applied to NASA to become an astronaut, thinking \emptyset it would give him the opportunity to combine his flying and engineering interests. (TIME)
- (iv) "He had come up with all these reasons, to prove \emptyset Bligh's logs were right, to prove \emptyset Bligh was a good sailor, but none of it sounded right." (TIME)

A reasonable explanation is that gerunds, because of their greater "nouniness", head noun phrases with a structure sufficiently similar to (9) to come under the Head Noun Principle.

¹¹If we revise the statistics in 3. to exclude cases with head nouns, we get an overall retention or [+that] percentage of 68%, ranging as follows:

Los Angeles Times	58%
New York Times Magazine	66%
TWA Ambassador Magazine	67%
TIME	74%
New York Times Book Review	75%

¹²Notice also that the adverb must appear immediately after the main verb to avoid potential ambiguity: "The Soviet Union said it would not participate in the Olympic Games Tuesday" doesn't mean the same as (19).

¹³1 of the 3 remaining is accounted for by the Relative Clause Principle, cf. VII and (36) below.

¹⁴By way of contrast, observe what happens if the beginning of the complement is not marked:

(i) It's as if he thinks like Pygmalion, he has somehow created her. (NYB)

The analysis of (i) is as in (i'), but this is not obvious on a first pass:

(i') It's as if he thinks \emptyset like Pygmalion, he has somehow created her.

¹⁵The grammatical structure of the complement in (42) can be clarified by restoring the deleted that, the referent of it, and the removed head noun phrase: "...they supposed [that] [publishing] was [a prodigiously profitable industry] when they entered it ..."

¹⁶A couple of examples involve reason:

- (i) One reason \emptyset so many Gershwin songs are so memorable is that Ira punched through the theme in the first few words ... (TIME)

It's not totally clear that (i) is a relative clause because there is no stranded preposition; if not, (i) and similar examples involving reason are additional exceptions to III, the Head Noun principle.

¹⁷18 of the 37 exceptions, or almost half, are accounted for by the Separation principle (IV), which quite regularly overrides the Like-Subjects principle, except in the case of indirect objects as in (25-26).

¹⁸I am indebted to Sandra Thompson for this suggestion and for discussion of this example.

¹⁹A third factor is that first-person subjects seem to appear with a particularly high concentration of factive main verbs, with their associated presupposed complements. See (31-32). The reasons for this are left for further study.

²⁰Bolinger (39ff) talks about cases of apparent contradiction between main clause and subordinate clause, where "one appears to deny what the other

affirms"; apparently by accident, many of his examples are first person:

- (i) I believe he'll do it.
- (ii) *I disbelieve he'll do it.
- (iii) ?I doubt he'll do it.
- (iv) *I question he'll do it.
- (v) I'm convinced he did it.
- (vi) *I'm unconvinced he did it.

Other examples equally clearly show the effect of the speaker's attitude toward the assertion in the lower clause:

- (vii) It's true they can't help it.
- (viii) *It's untrue they can't help it.
- (ix) It's the height of probability they will agree.
- (x) *It's the height of improbability they will agree.

²¹While we discount reports of a *[that [e]] filter, there does seem to be a *[that that] filter; there are no occurrences of that that in the sample, but

four occurrences of that \emptyset , or, cases where the two that's appear as one.

²²One case that we have not even looked at, because there is no doubt that that is obligatory, is the case where the complement is the subject. Bolinger points out that that is needed here for ease of processing.

- (i) That the picture was by a well-known artist was not revealed.
- (ii) *The picture was by a well-known artist was not revealed.

²³Cf.:

- (i) God knows John is an idiot, isn't he?
- (ii) God knows that John is an idiot, doesn't he?

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