65. A Property of English Sentences
with a Subordinating Connective

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January 1967

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0. Summary

Presupposing a familiarity with Zellig S. Harris's theory of trans-
formational grammar and its application to English,[1] this paper describes
a particular type of transformation of English sentences which contain a
subordinating connective C_{sub}. The transformation replaces the connec-
tive by a prepositional phrase to whose object noun the secondary sen-
tence is adjoined. The choice of the prepositional phrase and the nature
of the adjunction depend on the choice of the connective, so that a family
of related transformations is required. These are stated in #2, #3, and
#6 for three subclasses of C_{sub}. Properties of $S_1\ C_{sub}\ S_2$ and its trans-
form are compared in #5 and #7; procedures for decomposing $S_1\ C_{sub}\ S_2$
are discussed in #4 and #4.1. #7 and #8 deal with a few specific kinds of
subordinate clauses.

1. Introduction

This paper will attempt to establish that, in English, a conjunc-
tion in which the connective is subordinating can be transformed into a
sentence in which the subordinate conjunct becomes the adjunct of a noun.
A sentence structure in which two sentence structures, S_1 and S_2, are com-
bined by means of a subordinating connective C_{sub} is of the form $S_1\ C_{sub}$
S_2. A subordinate conjunct has the grammatical status of being an ad-
verbial clause and shares the mobility of elementary all-position adverbial
forms (e.g., now, quietly, in a moment). Thus $C_{sub}\ S_2$ can be permuted to
the beginning of S_1 or to some interior point within S_1. There are certain
restrictions; for example, $C_{sub}\ S_2$ cannot comfortably be placed in S_1 be-

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[1]Zellig S. Harris, Co-occurrence and transformation in linguistic
structure, Language, 33: 283-340, 1957. ------, The elementary transforma-
tions, TDAP 54, mimeographed, University of Pennsylvania, 1964. ------,
Transformational theory, Language, 41: 363-401, 1965.

tween the verb and a short object (*He reads, when he finds time, novels).
In interior positions of S_1 a subordinate conjunct is normally set off by commas and may occur with a comma when in front- or end-position.

Three subclasses of the class C_{sub} will be distinguished as follows:

1. C_{sub-1} includes as, if, because, although, and other connectives which introduce adverbial clauses of manner, condition, cause, etc.

2. C_{sub-2} contains the connectives of locative or temporal clauses, such such as where, when, before.

3. C_{sub-3} includes whether ... or, whatever, whoever, however, whenever, etc., occurring as connectives of adverbial clauses.
In the course of this paper many more members of these subclasses will be cited, but the various lists, confined to expressions in current and fairly wide usage, are not exhaustive.

Certain transformations will now be stated for sentence structures containing connectives belonging to each of the three subclasses. In general, a transformation will take $S_1 \, C_{sub} \, S_2$ into a sentence structure S_3 which comprises S_1 and S_2, the latter being adjoined, appositively or attributively, to a special subclass N of nouns, where N occurs in S_3 as the object of a preposition P.

2. A Transformation of $S_1 \, C_{sub-1} \, S_2$

Under the following transformation $C_{sub-1} \, S_2$ is replaced by a prepositional phrase whose object N_α has that S_2 as an appositive adjunct.

I. $S_1 \, C_{sub-1} \, S_2 \rightarrow S_1 \, P$ the N_α that S_2.

   We met him as he was crossing the street $\rightarrow$ We met him in the circumstance that he was crossing the street.
   If John calls, Mary will talk to him $\rightarrow$ On the assumption that John will call, Mary will talk to him.
   They, because we appeared, left at once $\rightarrow$ They, for the reason that we appeared, left at once.
As the examples indicate, P the N_α that S_2 can occur in the same positions relative to S_1 that $C_{sub-1} \, S_2$ can occupy. C_{sub-1}, P, N_α, the, and that are constants of the transformation in (I). In general, a

transformational constant is an affix, a word, or a specific subclass that is added to, or subtracted from, the sentence structure on which a given transformation operates.

Table A below correlates particular members of C_{sub-1} with appropriate instances of P the N_α + _that_. In some cases the preposition is composite, consisting of more than one word; e.g., _in view of_. The entries of the table are grouped, rather loosely, under six headings suggested by the traditional terms for adverbial clauses of various sorts. Often, for a given connective, there may be more than one rewording of C_{sub-1} S_2 as P the N_α that S_2, and not all such rephrasings are necessarily equivalent to one another in meaning. This points to the fact that the connective itself may be used sententially to help express more than one meaning, and a few connectives are listed under more than one heading. Moreover, some connectives appearing in adverbial clauses of place or time also occur, with suitably varied meaning, as members of C_{sub-1} and are listed accordingly in Table A. Examples are given in the table wherever an entry seems difficult or doubtful. When several prepositional phrases stand after the connective in an entry, shifts in meaning are marked by a semi-colon. Parentheses inclose alternative word-choices.

Table A

$$C_{sub-1} \longrightarrow P \text{ the } N_\alpha + \text{that}$$

i. manner or circumstance

1. as — in the circumstance that, on the occasion that; in the manner that, in the way that; in the state that, in the condition that; after the fashion that. (Also at (ii,1) and (v,3).)

2. like — in the manner (way) that, in the same way that; with the appearance (semblance) that.
   He described the accident exactly like it had happened →
   He described the accident exactly in the manner that it had happened.
   He read the lines like he was an actor → He read the lines with the semblance that he was an actor.

3. where — in the situation that, in the circumstance that.
   No danger threatens where none is feared → No danger threatens in the situation that none is feared.

4. whereas — in the situation that; in view of the fact that, in consideration of the fact that. (Also at (iv, 2).)

5. while — at the same time that; in relation to the fact (circumstance) that. (Also at (iv,3).)

6. as if, as though — with (under, in) the appearance (semblance, guise, aspect) that.
   Mary lived in their house as if she were their daughter → Mary lived in their house with the appearance that she was their daughter.[2]

7. according as — according to (in accordance with) the way (manner) that; in accordance with the circumstance (condition, state) that. (Also at (ii,2).)

8. in that — in the fact (circumstance, matter) that. (Also at (v,4) and (vi,2).)
   You acted rightly in that you trusted him → You acted rightly in the

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[2] It seems doubtful that as if or as though has the status of a connective in such sentences as He looked as if he were sick. There is no He looked under the aspect that he was sick or the like.

fact that you trusted him.

9. besides that, beyond that — besides (in addition to) the fact (circumstance) that. (Also at (iii,10).)

The room was cluttered besides that it was tiny → The room was cluttered in addition to the fact that it was tiny.

ii. degree

1. as — to (in) the degree (extent) that.

John's story became more convincing as he gave more details → John's story became more convincing to the degree that he gave more details.

2. according as — according to (in accordance with) the degree (extent) that.

3. in proportion as — in the proportion (measure, degree) that.

4. so far as, in so far as, as far as, in as far as — to the extent (degree) that.

Mary described the episode so far as she could recall it → Mary described the episode to the extent that she could recall it.

5. so long as, as long as — to the extent (degree) that; for the duration that. (Also at (iii,6) and (v,6).)

So long as you persist in bothering him, he will not co-operate → To the extent that you persist in bothering him, he will not co-operate.

iii. condition

1. if — on the condition (assumption, hypothesis, premise) that; with the understanding that.

2. in case that — in the case that; in the event that, on the contingency (possibility) that.

3. provided that — with the provision that, on the condition that, under the circumstance that.

4. when — on (under) the condition that, in the event that, in (under) the circumstance that. (Also at (v,7).)

A flame flickers out when it receives too little oxygen → A flame flickers out under the condition that it receives too little oxygen.

5. once, once that — on (under) the condition that.

Once the reader has mastered this proof, he will find the others easy → Under the condition that the reader has mastered this proof, he will find the others easy.

6. so long as, as long as — on the condition that, with the proviso that; under the assurance that. (Also at (v,6).)
   We will stay so long as we can be of use → We will stay on the condition that we can be of use.

7. unless — on (under) the condition that ... not, in the case that ... not, under the circumstance that ... not.
   Unless you are ready, I'll go alone → On the condition that you are not ready, I'll go alone.

8. but that — without (except for, apart from, aside from) the fact (condition, circumstance) that.
   He never saw them but that he pitied them → He never saw them without the fact that he pitied them.

9. except that — except for the fact (condition, circumstance) that.

10. beyond that — beyond (except for, apart from, aside from) the fact (circumstance, condition) that.
    The house had little charm beyond that it was secluded → The house had little charm except for the fact that it was secluded.

11. only that — except for the fact (circumstance, condition) that, on the condition that ... not.
    This play would be good only that the third act is too long → This play would be good except for the fact that the third act is too long.

iv. concession

1. although, though — despite (in spite of) the fact (circumstance) that, despite the eventuality (possibility) that; despite the admission (concession) that.

2. whereas — despite the fact that; in comparison with (by contrast with, in opposition to) the fact (circumstance, case) that.

3. while — despite the fact that; in comparison to the fact that, etc. as in (2).

4. even if — even on the condition that, even in the circumstance that,

in spite of (despite) the condition (case) that.

5. notwithstanding that — notwithstanding the fact (case) that, despite (in spite of) the fact (circumstance, case) that, with (under) the admission that.

v. cause

1. because — for the reason that, by the cause that, on the ground that, by reason of (because of) the fact that; from the motive that.

2. since — for the reason that, in view of the fact (case, circumstance) that, on the consideration that.

3. as — for the reason that, on account of (in view of) the fact (circumstance) that.
   The maple should be pruned, as it is crowding the sapling → The maple should be pruned for the reason that it is crowding the sapling.

4. that, in that — for the reason that, from (on account of, by) the fact that.

5. inasmuch as — through (by, from, on account of) the fact (circumstance) that, for the reason that.

6. as long as, so long as — on account of the fact (circumstance) that.
   He was unhappy as long as you stayed away → He was unhappy on account of the fact that you stayed away.

7. when, after — on account of (in view of) the fact that.
   Your rose bush won't bloom when you neglect it → Your rose bush won't bloom in view of the fact that you neglect it.

8. now, now that — for the reason that, because of (on account of) the fact that.
   Now that the weather is improving, we can go → For the reason that the weather is improving, we can go.

9. lest — from (in, under) the fear (apprehension, dread) that, for fear of the consequence (circumstance, possibility) that. (Also at (vi,3).)
   The maple should be pruned lest it crowd the sapling → The maple should be pruned for fear of the possibility that it will crowd the sapling.

vi.   purpose or result

1. in order that — for the purpose that, with the intention (aim) that, to the end that.

2. that, so that, so as — for the purpose that; with the result (effect, consequence) that.

3. lest — for fear of the consequence (result) that, in (for, from) the fear (dread) that, in (from) the fear that ... otherwise, to the end that ... not, with (for) the aim (purpose) that ... not. We must hurry lest we be late → We must hurry in the fear that otherwise we would be late.

It seems clear that a sentence which satisfies $S_1 \, C_{sub-1} \, S_2$ has the same information content as does its transform under (I). But sometimes there are great stylistic differences between them. These differences of style are perhaps not absolute. It may happen that in some contexts either member of the pair is replaceable by the other without loss of naturalness while in others only one of the two is comfortable. Generally the connectives are more flexible, more idiomatic, than the corresponding instances of P the N_α + that. The somewhat formal, occasionally pedantic, character of the latter may be attributable in part to the fact that many members of N_α are abstract nouns and their grammatical construction in the transform may introduce certain metatext features.

Let S_3 be $S_1 \, P$ the N_α that S_2. At least two different grammatical analyses can be given for S_3. (1) S_3 can be said to consist of S_1 expanded by an adverbial $P \, N$ insert, where N_α of the insert has S_2, nominalized by that, as an appositive adjunct anticipated by the definite article preceding N_α.[3] This analysis will be examined more fully below, when members of the subclass N_α are discussed in relation to problems of deriving or decomposing $S_1 \, C_{sub-1} \, S_2$. (2) S_3 might be analyzed as S_1 + P the N_α that + S_2. Here P the N_α that is taken as a composite preposition which in turn is construed as a prepositional subordinating connective. There would be some precedents for this approach: on the one hand, the analogy with such composite prepositions as on account of, in view of, for the sake of, by comparison with, etc.; on the other hand, the analogy furnished by the fact that some P, including those just mentioned, occur as C_{sub} before an S_2 that has been transformed in certain ways. (The relevant deformations of S_2 are listed in §5.)

The possibility of construing $S_1 \, P$ the N_α that S_2 in the manner of (2) would seem to increase the plausibility of proposing (I) as an English transformation. It also tends to suggest it is partly a subjective impres-

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[3] Noun-phrase structure of this type is studied in Chapter 6 of my The Definite Article in English Transformations (The Hague: Mouton, in press).

sion that sentences satisfying $S_1 \ C_{sub-1} \ S_2$ are more natural or more expressive than the corresponding sentences satisfying $S_1 \ P$ the N_α that S_2. Nevertheless, the analysis in (1) is, I think, of greater grammatical interest. It constitutes an initial step toward a demonstration that the system of subordinate conjunction in English is transformationally equivalent to a system built on the prepositional phrase and adjunction.

3. Adverbial Clauses of Place and Time

The following examples illustrate the replacement of C_{sub-2}.

1. We will stop to rest where the oak is $\rightarrow$ We will stop to rest at the place where the oak is.

2. When the sun sets, the children will come indoors $\rightarrow$ At the time when the sun sets, the children will come indoors.

3. After you arrived, John appeared $\rightarrow$ After the time at which you arrived John appeared.

In (1) where changes in status from a conjunction to a relative pronoun; similarly for when in (2). Thus we might have written at the place in which the oak is, at the time at which the sun sets. The that or zero variants of the wh- words could also have been used: at the place that the oak is in, at the place the oak is in, at the time that the sun sets, at the time the sun sets.

After in (3) functions first as a conjunction then as a preposition. By way of comparison with (1) and (2), it is of some interest to note that the words after, before, until, since, while, can introduce clauses adjoined to nouns of time.[4] Thus after the time at which you arrived has several variant forms, all retaining P N + adjunct structure: after the time when you arrived, after the time that you arrived, after the time you arrived, at a time after you arrived, at some time after you arrived.

By using the that variant of wh-, followed by -ere or -en in zero variant form, our transformation for $S_1 \ C_{sub-2} \ S_2$ can be stated as in (II) below.

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[4]Ibid., Chapter 3, #3.8.

II. $\underline{S_1 \; C_{sub-2} \; S_2} \; \rightarrow \; \underline{S_1 \; P \; the \; N_\beta \; that \; S_2}.$

$\underline{N_\beta}$ is a small class of temporal and locative nouns, such as $\underline{place}$, $\underline{spot}$, $\underline{location}$, $\underline{time}$, $\underline{instant}$, $\underline{day}$. In Table B a number of temporal connectives are related to corresponding expressions of the form $\underline{P \; the \; N_\beta + that}$. The connectives in (8) - (15) occur with or without $\underline{that}$; e.g., $\underline{once}$, $\underline{once \; that}$. The applicability of (II) will be extended in §4.1 to paired sentences containing $\underline{C_{sub}}$ and $\underline{P \; N}$ of manner or degree.

Table B

$$C_{sub-2} \longrightarrow P \text{ the } N_\beta + \underline{that}$$

1. when — at (in, for, by, during) the time that.

2. before — before the time that.

3. after — after the time that, from (by) the time that.

4. until — until the time that.

5. since — since the time that, during the time that.

6. while — during (for, through) the time that.

7. as soon as — at (by) the time that; at (on) the instant that.

8. once — after the time that, from (at, by) the time that.

   <u>Once she learned the facts she forgave him</u> → <u>From the time that she learned the facts she forgave him.</u>

9. now — at (for, in, during) the present time that.

   <u>He will buy a car now that he has a job</u> → <u>He will buy a car at the present time that he has a job.</u>

10. immediately — on (at) the instant that, at the moment that.

    <u>Immediately that she leafed through the book, she remembered reading it</u> → <u>On the instant that she leafed through the book, she remembered reading it.</u>

11. instantly — on (at) the instant that.

12. directly — at the moment that.

13. the moment — at the moment that.

    <u>He greeted them the moment he saw them</u> → <u>He greeted them at the moment that he saw them.</u>

14. the day — on the day that.

15. the week — in (during, for) the week that.

Similarly for other C_{sub-2} = <u>the</u> + temporal N. We also find one N_{tem}, the next N_{tem}, the last N_{tem}, the first N_{tem}, the second N_{tem}, etc., frequently with <u>that</u> following, used as C_{sub-2}.

The choice of P in a (II)-transform may depend on the tenses which are used for the verbs in $S_1 \, C_{sub-2} \, S_2$. For example, We have done many things since you have been here $\rightarrow$ We have done many things during the time that you have been here; We have done many things since you were here $\rightarrow$ We have done many things since the time that you were here. Both of these conjunctions are also transformable by (I) and perhaps We will do many things since you were here only by (I): We will do many things because of the fact that you were here. Some sentences obtained by applying (II) are not quite satisfactory. Thus neither After the time that he found a job he rented a room nor After the time at which he found a job he rented a room has the same acceptability as After he found a job he rented a room. The selection of by or from as the preposition, while leading to more naturally occurring sentences, would depart from the meaning of the conjunction. A better paraphrase would seem to be At some particular time after he found a job he rented a room. This sentence embodies the basic ideas behind (II). The words some particular have somewhat the force of the, and the after clause which follows some particular time is a relative adjunct.

The occurrences of that in (I) and (II) have connective function but the clauses thus introduced are not adverbial . Jespersen has observed the use of that to repeat members of C_{sub}.[5] He cites, among other examples, I should have been still in a fright, lest I should meet him on the road again, and that he should know me. Such sentences, which would accept an appropriate P the $N_{\gamma/\beta}$ before the that, seem to offer confirmation for (I) and (II).

4. Problems of Derivation and Decomposition

The transformations in (I) and (II) can be considered rules for rewriting sentences of the form $S_1 \, C_{sub-1} \, S_2$ or $S_1 \, C_{sub-2} \, S_2$, but it is not intended that the structure containing C_{sub} is a transformational source for the related structure containing P the N + that. This section will take up the problem of specifying sources for the sentence structures whose

[5] Otto Jespersen, A Modern English Grammar on Historical Principles V (London: George Allen & Unwin, 1940), pp. 369, 386-7, 393, 398.

formulas flank '→' in (I) and (II).

Let S_1 be S_i plus the insert $P_1 N_\beta$ and let S_2 be S_j plus the insert $P_2 N_\beta$; P_1 and P_2 may be the same or different. Given $S_i C_{sub-2} S_j$, the corresponding $S_3 = S_i P_1$ the N_β that S_j is derived through the wh- combination of S_1 and S_2. Thus S_3 follows from $S_i P_1$ the N_β where/when S_2 $(-P_2 N_\beta)$, -ere or -en being the post-wh- promorpheme of $P_2 N_\beta$. (The notation '$S_2(-P_2 N_\beta)$' indicates that $P_2 N_\beta$ has been excised from S_2 leaving S_j.) Equally S_1 and S_2 can combine under a transformation whose constants are the, wh-, and post- wh- pro-N_β, to yield $S_i P_1$ the $N_\beta P_2$ which $S_2(-P_2 N_\beta)$. For example, John appeared after the time at which you arrived ← John appeared after a time, You arrived at some time.

A necessary condition for closely appositive wh- adjunction is that the primary and secondary sentences each contain the same noun. This fact raises the question of whether, among the sentences which underlie a conjunction using C_{sub-2}, there are any paired sentences having one or more constituents in common, in such a manner that the underlying sentences exhibit in themselves some ground of their combination in the conjunction. Our question can be answered affirmatively by choosing S_j and $S_i P$ the N_β that S_j as sources for $S_i C_{sub-2} S_j$. The proposed method of decomposition will first be shown diagrammatically.

$$S_4 \quad = \quad C_{sub\text{-}2} \; S_j \; S_i$$

$$S_2 \quad = \quad S_j \; P_2 \; N_\beta$$

$$S_3 \quad = \quad S_i \; P_1 \; the \; N_\beta \; P_2 \; which \; S_2(\text{-}P_2 \; N_\beta)$$

$$S_1 \quad = \quad S_i \; P_1 \; N_\beta$$

$$S_2 \quad = \quad S_j \; P_2 \; N_\beta$$
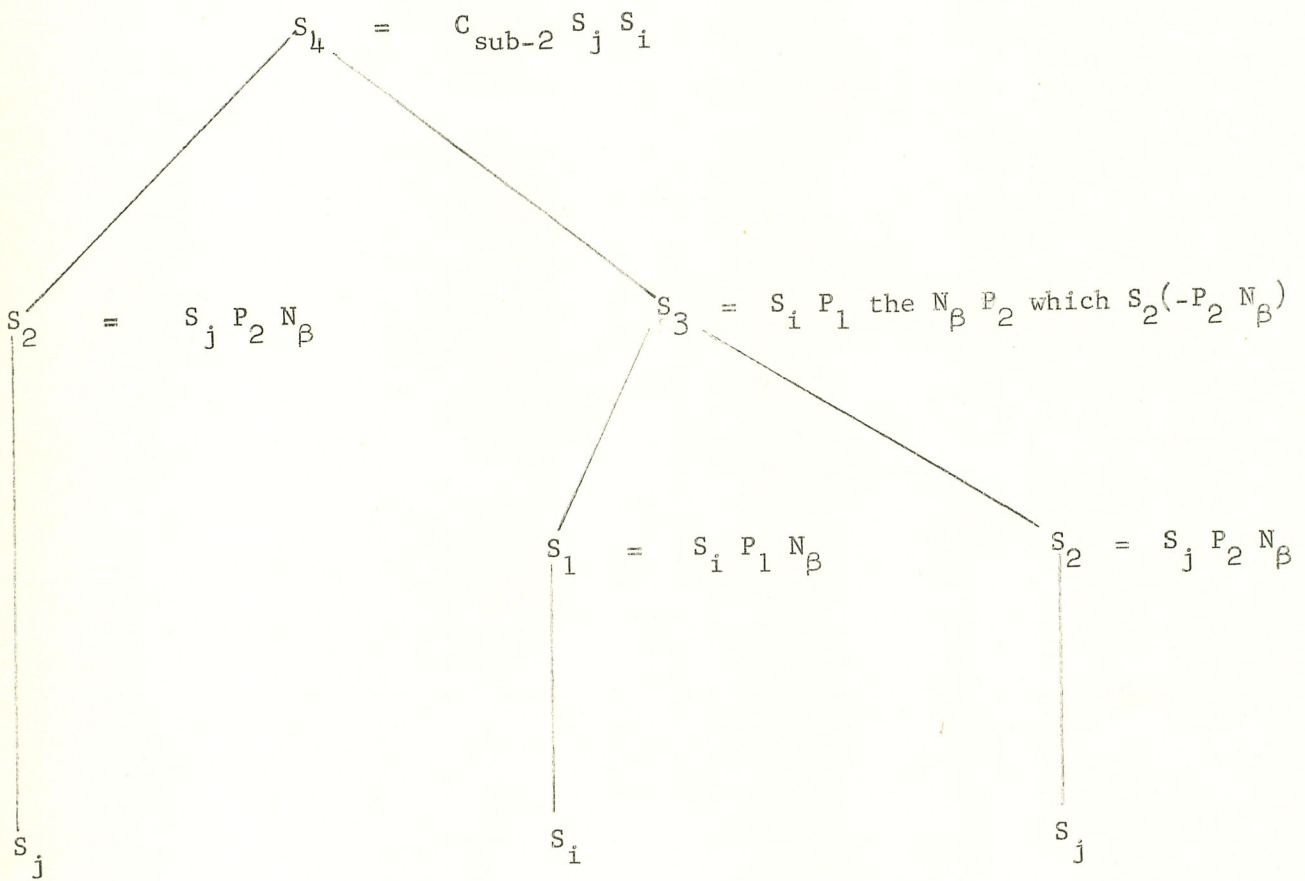
$$S_j$$

$$S_i$$

$$S_j$$

Figure 1

Examples: After you arrived John appeared $\leftarrow$ You arrived at some time, John appeared after the time at which you arrived $\leftarrow$ John appeared after a time, You arrived at some time $\leftarrow$ John appeared, You arrived. When Tom saw Ann, he walked slowly toward her $\leftarrow$ Tom saw Ann at some time, Tom walked slowly toward Ann at the time that he saw her $\leftarrow$ Tom walked slowly toward Ann at some time, Tom saw Ann at some time $\leftarrow$ Tom walked slowly toward Ann, Tom saw Ann.

The transformations for passing from the sentence structures at the bottom of Figure 1 to those at the top start with the insertion of $\underline{P_1 \ N_\beta}$ in $\underline{S_i}$ and $\underline{P_2 \ N_\beta}$ in $\underline{S_j}$,[6] yielding $\underline{S_1}$ and $\underline{S_2}$ respectively. Then, to derive $\underline{S_3}$, the $\underline{wh\text{-}pro\text{-}N_\beta}$ transform of $\underline{S_2}$ is adjoined to $\underline{N_\beta}$ in $\underline{S_1}$. Thus $\underline{S_2}$ and $\underline{S_3}$ are such that $\underline{S_2}$ recurs in $\underline{S_3}$ as an adjunct of $\underline{N_\beta}$. When, next, $\underline{S_2}$ and $\underline{S_3}$ are conjoined to obtain $\underline{S_4}$, the introduction of $\underline{C_{sub\text{-}2}}$ is accompanied by the deletion of the $\underline{wh\text{-}}$ adjunct and the $\underline{P \ N_\beta}$ increments. In a sense equals have been put for equals: the temporal or locative $\underline{C_{sub\text{-}2}}$ for the temporal or locative $\underline{P_2 \ N_\beta}$ and $\underline{P_1 \ N_\beta}$, the occurrence of $\underline{N_\beta}$ in the latter carrying a $\underline{wh\text{-}}$ clause which becomes the subordinate clause in $\underline{S_4}$.

It would perhaps be possible to take $\underline{S_3}$ by itself, or for that matter simply $\underline{S_i}$ and $\underline{S_j}$, as the most proximate source for $\underline{S_4}$. But the choice of the pair $\underline{S_3}$ and $\underline{S_2}$ for this purpose seems to me to provide a more analytical decomposition. The fact that $\underline{S_2}$ recurs in adjunct form in $\underline{S_3}$ can be made to explain why $\underline{S_3}$ and $\underline{S_2}$, each appropriately reduced, can occur conjoined together in $\underline{S_4}$. In general, our criterion for two sentences to be conjoinable by $\underline{C_{sub}}$ will be that one contains a repetition of the other, the latter being repeated in the former by being adjoined to one of its constituent nouns.

In our discussion conjunction and $\underline{wh\text{-}}$ adjunction have been treated

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[6] Concerning adverbial and other inserts, see Zellig S. Harris, Transformational theory, $\underline{Language}$, 41; 363-401, 1965, pp. 374-7 (henceforth abbreviated T. T.).

as binary transformations. But this was not essential to the argument. One could also appeal to unary transformations only, the secondary sentence being transformed into a sentential segment headed by _wh-_ or C_{sub} and this resultant then being inserted into the primary sentence.[7] The problem would still remain of accounting for the conditions of occurrence of the increment in the host sentence.

4.1 The Class N_α

Turning to $S_i \, C_{sub-1} \, S_j$, we shall specify $\underline{S_j}$ and $\underline{S_i \, P \, \text{the} \, N_\alpha \, \text{that} \, S_j}$ to be the sentence structures into which the conjunction directly decomposes. For example, _If we send for him, he will come_ ← _We may send for him, He will come on the condition that we send for him._ In discussing the derivation of $\underline{S_i \, P \, \text{the} \, N_\alpha \, \text{that} \, S_j}$, three cases must be distinguished depending on the mode of occurrence of $\underline{N_\alpha}$ in the underlying structures.

Case One: $\underline{P \, N_\alpha}$ is an insert of $\underline{S_i}$ only. In this case, mentioned above in §2, that $\underline{S_j}$ has the status of an appositive nominalized sentence adjoined to $\underline{N_\alpha}$. Taking $\underline{S_1} = \underline{S_i \, P \, N_\alpha}$, we would derive $\underline{S_3} = \underline{S_i \, P \, \text{the} \, N_\alpha \, \text{that} \, S_j}$ as a shared-noun combination of $\underline{S_1}$ and $\underline{S_2} = \underline{\text{The} \, N_\alpha \, \text{is that} \, S_j}$. In turn, $\underline{S_2}$ is a _the_-introducing permutation of $\underline{\text{That} \, S_j \, \text{is} \, N_\alpha}$, whose sources are $\underline{S_j}$ and the sentence-operator is $\underline{N_\alpha}$.[8] Thus _He will come on the condition that we send for him_ ← _He will come on a condition, The condition is that we send for him_ ← _He will come on a condition, That we send for him is a condition._

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[7] Cf. _ibid._, p. 387, fn. 34.

[8] The sentence-operators $\underline{W}$ are certain word-class sequences containing a verb or predicate which requires a nominalized sentence as its subject or object. The deformation of $\underline{S}$ under $\underline{W}$ results in a derived sentence structure of a particular type. See _ibid._, pp. 375-6.

The decomposition of S_i C_{sub-1} S_j relative to Case One is represented by the diagram in Figure 2 below. The major connectives to which the analysis is pertinent are if, because, although, in order that.

$$S_4 \quad = \quad C_{sub-1} \ S_j \ S_i$$

$$S_3 \ = \ S_i \ P \ \text{the} \ N_\alpha \ \text{that} \ S_j$$

$$S_j$$

$$S_1 \ = \ S_i \ P \ N_\alpha$$

$$S_2 \ = \ \text{The} \ N_\alpha \ \text{is that} \ S_j$$

That S_j is N_α

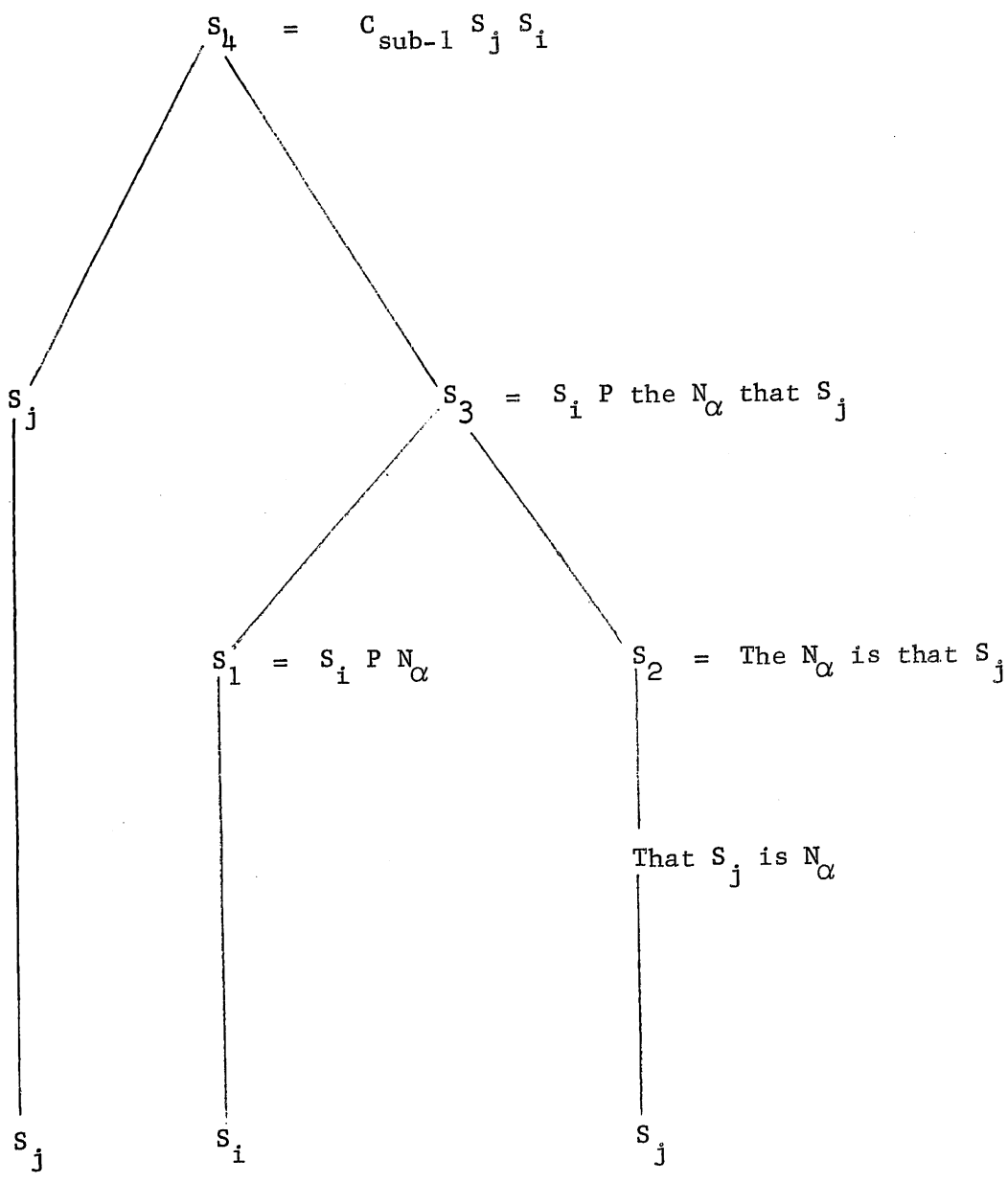$$S_j \qquad\qquad S_i \qquad\qquad S_j$$

Figure 2

Here the presence of the connective in $S_i \, C_{sub-1} \, S_j$ is bal-
anced, so to speak, by the presence of N_α in the P N insert on S_i and in
the sentence-operator on S_j. These elements, along with S_i and S_j, are
recovered in the process of decomposing the conjunction. Correlatively,
when S_j is conjoined by C_{sub-1} to S_i P the N_α that S_j, the appositional
occurrence of S_j and its governing N_α are deleted. Or, if we think of
$C_{sub-1} \, S_j$ as being a sentence-insert, we would say that it operates not
on S_i but on S_i P the N_α that S_j, the connective-headed increment cancel-
ling the prepositional one because of the shared S_j.

Some values of N_α found in Table A are formed by the addition of
a nominalizing suffix to a verb or an adjective. There are transforma-
tions for deriving sentence structures containing nominalizations of the
type the Xxn that S_2,[9] but it does not seem possible to derive S_1 P the
Xxn that S_2 without taking the preposition as a subordinating connective.[10]
Therefore, for our purposes here, we may confine our attention to those
values of N_α which are primitive nouns. For every member of C_{sub-1} listed
in Table A there is at least one transcription into P the N_α that in
which the value of N_α is an unaffixed noun belonging to the kernel grammar.
This course was open to us partly through the inclusion in the class P of
complex phrases like for fear of, by contrast with, in consideration of,
which might otherwise have been analyzed as P_1 Vvn P_2.

Case Two: P N_α is inserted in both S_i and S_j. As in the dis-

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[9]Here X is V (verb) or A (adjective) and xn is a class of suffixes
(including zero) which, added to members of X, give words that can occur
in positions of N (noun).

[10]A possible exception to this statement will be discussed in
#5.11.

cussion in §3 of adverbial and relative clauses of place and time, here also
that in $S_i P_1$ the N_α that S_j is a variant of wh-. $C_{sub-1} S_j$ in the corres-
ponding conjunction is an adverbial clause of manner or degree. The method
of decomposition conforms to the pattern in Figure 1. For example, Mary
described the episode so far as she could recall it is transformable into
Mary described the episode to the extent that she could recall it. On the
interpretation of that as equivalent with to which, the latter decomposes
into Mary described the episode to some extent and Mary could recall the epi-
sode to some extent. The phrase to an/some extent is a P N of degree matching
the connective so far as.

In relative clauses in which the promorphemed N is the object of
a preposition, it is somewhat unusual to find the that or zero variant of
wh- unless the post-wh- promorpheme, to occur then in zero form, is -en (or
perhaps occasionally -ere or -y) or it is -ich and the preposition can stand
at the end of the clause. Nevertheless, in Case Two there seems no ob-
stacle to accepting $S_i P$ the N_α that S_j as coming from $S_i P_1$ the $N_\alpha P_2$
which $S_2 (-P_2 N_\alpha)$, where S_2 is $S_j P_2 N_\alpha$, N_α is manner, extent, degree, way,
or similar words, and $P_1 = P_2$. We may note that in substantive clauses in-
troduced by how the -ow can be a promorpheme for P N of manner or degree.
It simply happens that how is not normally used in relative clauses: There
occurs, for example, the way in which he speaks or the way that he speaks or
the way he speaks, but the way how he speaks is avoided.

The question arises whether a sentence satisfying $S_i P$ the N_α
that S_j with the grammatical analysis assigned in Case One could be reinter-
preted as falling under Case Two. I believe such a reinterpretation is
sometimes possible but the reinterpreted sentence will not correspond to
whatever conjunction matched the originally given sentence. Let us con-
sider, for example, John quit school because he took a job and its trans-
formation by (I) into John quit school for the reason that he took a job.
In accordance with Case One that he took a job is an appositive substantive
clause. Reconstruing it as a relative clause, we would have in effect
John quit school for the reason for which he took a job. This sentence
implies that John's quitting school and his taking a job had one and the
same reason behind them. This is not implied by John quit school because
he took a job.

Case Three: $P\ N_\alpha$ is inserted in S_j only. Sentences like So far as I know, he wrote the letter yesterday exemplify this case. The subordinate conjunct contains a sentence-operator $N\ t\ V_{(n,s)}$[11] whose object can be assumed to be a zero occurrence of the sentence which is the principal conjunct. Thus the sample conjunction might be decomposed into He wrote the letter yesterday and To some extent I know that he wrote the letter yesterday. The second sentence is derived by embedding the first one in the object-position of I know and attaching to some extent to the resultant.

So far as I know, he wrote the letter yesterday is transformable by (I) into To the extent that I know, he wrote the letter yesterday. Under the assumption made above concerning the object of know, this sentence has the same kernelization as the one containing so far as and is itself a conjunction of the same primary and secondary. Now, however, To some extent I know that he wrote the letter yesterday undergoes a wh- permutation into to the extent that I know that he wrote the letter yesterday. This is conjoined by zero C_{sub} with comma to He wrote the letter yesterday, whose occurrence in nominalized form in the secondary sentence is simultaneously deleted.

The deletion of the that clause is probably obligatory in So far as I know that he wrote the letter, he wrote the letter or in He wrote the letter, so far as I know that he wrote the letter. A substantive wh- clause chosen as the object of know would be optionally deletable: So far as I know whether he wrote the letter or not, he wrote the letter; So far as I know what he did, he wrote the letter. But I believe no advantage would accrue from supposing generally that conjunctions falling under Case Three are reduced forms of conjunctions of the type just illustrated and which in fact also belong in Case Three. Unless a particular nominalization of S_1 is already given with the sentence-operator W in $C_{sub-1}\ S_2$, any nominalizing transformation which is applicable to S_1 in subject- or object-position of

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[11]The class t contains the tense morphemes — -s or zero (present) and -ed (past). The tense auxiliaries will, can, could, may, etc., can be considered members of t or inserts to the left of t. To the subclass $V_{(n,s)}$ belong verbs whose subject and object are N and nominalized S respectively.

the given $\underline{W}$ and which is consistent with the meaning of the conjunction may be used. Sometimes indeed whether $\underline{S_1}$ will be preferred to that $\underline{S_i}$: So far as we are concerned, the new system will not work ← So far as whether the new system works concerns us, the new system will not work. Possibly this example represents a more complicated type of conjunction involving a sentence-operator in both conjuncts: So far as whether the new system works concerns us, we say that the new system will not work. Conjunctions of still another subtype under Case Three contain a pronominalization of $\underline{S_1}$ or of one of its constituents in the subordinate conjunct: The new system, so far as we understand it, will not work ← The new system will not work, We understand the new system to some extent.

The connectives used in conjunctions belonging to Case Three include as, so far as, and if. Thus If it is possible, he will leave early might be retraced to If it is possible in any degree for him to leave early, he will leave early, whose primary and secondary S would be He may leave early and For him to leave early is possible in some degree.

The sentence structure $\underline{N\ t\ V_{(n,s)}}$ that S is permutable to $\underline{S,\ N\ t\ V_{(n,s)}}$; I know that he wrote the letter → He wrote the letter, I know. When a sentence-operator is shifted to the position of an insert it becomes similar to a conjunct. But I am doubtful that $\underline{S\ C_{sub-1}\ N\ t\ V_{(n,s)}}$ can be directly derived from $\underline{S,\ N\ t\ V_{(n,s)}}$. Dr. Harris remarks, "There is...the possibility that when a sentence-operator takes the adjunct form $\underline{N\ V_{(n,s)}}$ that $\underline{S}$ → $\underline{S,\ N\ V_{(n,s)}}$ (I know that he came;/I know) we have really to do with a comma-conjunction on a zeroed operand: ← He came, I know that he came. Similarly He came, I think ← He came, or so I think ← He came, or I think that he came."[12] The zeroing envisaged here is the same as that presupposed above with respect to $\underline{S_i\ C_{sub-1}\ N\ t\ V_{(n,s)}}$ and $\underline{S_i\ P\ the\ N}$ that $\underline{N\ t\ V_{(n,s)}}$, though perhaps the recurrence of $\underline{S_i}$ after the operator

[12] Zellig S. Harris, The Elementary Transformations, TDAP 54, mimeographed, University of Pennsylvania, 1964, p. 44 (henceforth abbreviated E. T.).

is deleted rather than zeroed. As Dr. Harris points out, there are still unsolved problems as to whether the nominalized form of S under the operator can be zeroed as a repetition of the S (not nominalized S) preceding the operator.[13] The same reservations apply to the permissibility of zeroing an adjunctive transform of S in the presence of a related occurrence of the same S.

To review the course of our work thus far: By comparing $S_i\ C_{sub}\ S_j$ with $S_i\ P$ the N that S_j we have been led to place certain structures containing N_α or N_β among the elements from which the conjunction can be derived and to establish certain patterns of repetition of one underlying sentence structure in the other with which it is combined in the conjunction. When $C_{sub}\ S_j$ expresses time, place, manner, or degree, a $P\ N$ of the same category is added to S_i and S_j in the source. Thus expanded, S_i and S_j can be combined by wh-, so that S_j occurs as a relative clause adjoined to N in the $P\ N$ inserted on S_i. With one exception other types of $S_i\ C_{sub}\ S_j$ have in their source $P\ N_\alpha$ and is N_α, the former being inserted in S_i and the latter operating on that S_j, which thereby becomes adjoinable appositively with N_α in the insert. The exception is made by those conjunctions in which the subordinate clause is entirely metatextual and refers to a property of the proposition expressed by the main clause, such as its modality or its relation to someone's cognition. For this case we have assumed that in the underlying sentences N_α occurs only in a $P\ N$ of degree attached to S_j. Here the repetition of one underlying sentence in another comes about by nominalization rather than by adjunction. S_i is repeated in S_j as the subject or object of its sentence-operator.

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[13] Ibid.

5. Other Transformations Involving C_{sub-1} and C_{sub-2}

Dr. Harris has shown that a subordinate conjunct can take the form of a sentence-operator. In (III) below a permutation of $S_1 \, C_{sub} \, S_2$ nominalizes S_1 and adds $be + t$, so that t be $C_{sub} \, S_2$ appears as a sentence-operator with the nominalized S_1 in subject-position.[14]

III. $S_1 \, C_{sub} \, S_2 \rightarrow S_1 n \ t \ be \ C_{sub} \, S_2$.

> He resigned from the cabinet because he lost the people's confidence $\rightarrow$ His resigning from the cabinet was because he lost the people's confidence. We arrived in Boston before you went there $\rightarrow$ Our arrival in Boston was before you went there. He walks in the park daily in order that he will see her $\rightarrow$ That he walks in the park daily is in order that he will see her.

The verbs occur, happen, take place, come about, and a few others can replace be in the transform of (III). If S_1 is a kernel sentence structure $N_1 \ t \ V \ \Omega$, S_1 n in the transform is that $N_1 \ t \ V \ \Omega$, N_1's Ving Ω, or N_1's Vvn (of) Ω. Depending on the subclass of V, Ω is zero, N, P N, N P N, or N N.[15] Of is inserted between Vvn and an Ω beginning with N; vn includes -ing, zero, -ation, -ment, etc. Ω in the kernel structure $N_1 \ t \ be \ \Omega$ is N, P N, A, or D_b (the class of adverbs which can occur as objects of be).

Another permutation of $S_1 \, C_{sub} \, S_2$ introduces It t be and that. No verb can replace be in this transform, which however, as well as the

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[14] Ibid., p. 22.

[15] A list of elementary, or kernel, sentence structures is given in E. T., p. 7. See also Zellig S. Harris, Co-occurrence and transformation in linguistic structure, Language, 33:283-340, 1957, pp. 334-6 (henceforth abbreviated C. and T.).

transform in (III), accepts the addition of certain members of the verb-operator U_t plus _to_; e.g., <u>appear to be</u>, <u>seem to be</u>.[16]

IV. $\underline{S_1 \ C_{sub} \ S_2} \rightarrow \underline{It \ t \ be \ C_{sub} \ S_2 \ that \ S_1}$

It was because he lost the people's confidence that he resigned from the cabinet.

It was before you went to Boston that we arrived there.

Probably $\underline{It \ t \ be \ C_{sub} \ S_2 \ that \ S_1}$ can be most easily explained as a permutation to expletive _it_ of $\underline{S_1 n \ t \ be \ C_{sub} \ S_2}$ where $\underline{S_1 n}$ is $\underline{that \ S_1}$.

In general, we have $\underline{That \ S \ t \ V \ \Omega} \rightarrow \underline{It \ t \ V \ \Omega \ that \ S}$; in the present instance our $\underline{V \ \Omega}$ is $\underline{be \ C_{sub} \ S_2}$.

Dr. Harris comments that the operator form of adverbs, adverbial $\underline{P \ N}$, and $\underline{C_{sub} \ S_2}$ is less comfortable than their adverb and conjunction form.[17] In view of (I) and (II), the transforms in (III) and (IV) are equivalent to $\underline{S_1 n \ t \ be \ P \ the \ N_{\alpha/\beta} \ that \ S_2}$ and $\underline{It \ t \ be \ P \ the \ N_{\alpha/\beta} \ that \ S_2 \ that \ S_1}$. Although the latter sentence structures contain the operator form of $\underline{P \ the \ N_{\alpha/\beta} \ that \ S_2}$, sentences satisfying the structures are often more natural than corresponding sentences in which a subordinate conjunct occurs as an operator. Given, for example, <u>We will stay here unless you leave</u>, compare <u>Our staying here will be unless you leave</u>, <u>It is unless you leave that we will stay here</u> with <u>Our staying here will be under the condition that you do not leave</u>, <u>It is under the condition that you do not leave that we will stay here</u>.

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[16] The verb-operators, marked $\underline{Y}$ or $\underline{U}$, are special subclasses of verbs which can be inserted before the verb in a kernel sentence structure, the latter verb (strictly, the subclass $V_{(n, \ \Omega)}$) undergoing some concomitant change such as the acquisition of _to_ or a suffix of _va_ or _vn_ type. See Harris, T. T., pp. 374-5.

[17] Harris, E. T., p. 22.

5.1 -Ing Deformation of S_2

A comparison of the possibilities for zeroing repeated material in $S_1 C_{sub} S_2$ and in $S_1 P$ the N that S_2 will be postponed until §7. Another point of comparison, pertaining to -ing transforms of S_2 in these structures, will conclude the present section. Where S_2 is $\underline{N \ t \ V \ \Omega}$, the transforms we wish to consider are the following four. (If S_2 has been transformed by the addition of a verb-operator from the small class $\underline{Y}$ (be ...ing, have ...en, have ...en be ...ing), the effect is noted below.)

i. $\underline{N's \ Ving \ \Omega}$, $\underline{Mary's \ arranging \ the \ flowers}$. $\underline{Y}$ is retained except for be ...ing: $\underline{N's \ having \ Ven \ \Omega}$, $\underline{N's \ having \ been \ Ving \ \Omega}$.

ii. $\underline{N's \ Vvn \ (of) \ \Omega}$. $(\underline{Mary's \ arrangement \ of \ the \ flowers})$; vn = zero, -ing, -ion, -ment, etc. $\underline{Y}$ is not retained. Also the Vvn (of) Ω by/of N; by precedes N if $\underline{V}$ is transitive.

iii. $\underline{N \ Ving \ \Omega}$ with $\underline{N}$ nominative and $\underline{Y}$ preserved as in (i).

iv. $\underline{Ving \ \Omega}$, reduced from (i) or (iii).

(i) and (ii) can be preceded by those members of C_{sub} which are also prepositions; namely, since, before, after, until (e.g., Since you have spoken with Tom, you seem more cheerful → Since your having spoken with Tom, ...). N's is zeroable in S_2 if the same $\underline{N}$ appears in S_1: After (his) registering at the desk, he went up to his room. Many other prepositions (e.g., in, on, during, by, through, from) are used as connectives before these deformations of S_2. (iii) occurs after any C_{sub}, always set off by comma intonation. She turning aside, he stared out the window. Certain other C_{sub} can be placed before $\underline{N}$ Ving Ω provided $\underline{N}$ has been zeroed. Therefore we find $\underline{S_1 \ C_{sub}}$ Ving Ω only if the subject $\underline{N}$ of S_2 also occurs as subject or object in S_1. Some sentences which satisfy $S_1 \ C_{sub}$ Ving Ω are ambiguous as to the noun to which the participle belongs; for example, Ann met Tom while coming home from school. The connectives which introduce Ving Ω, as reduced from (iii) but not (i), include if, unless, because, although, as, as if, as though, whereas, so long as, so far as, as soon as, lest, when, while, once, where.

A comma-separated N_{nom} Ving Ω normally has the status of an adverbial clause. I conjecture that a sentence satisfying S_1, N_{nom} Ving Ω is equivalent, for some choice of C_{sub}, to a corresponding sentence which satisfies S_1 C_{sub} N's Ving Ω or S_1 C_{sub} N t V Ω (He stared out the window after she turned aside). The existence of such a transformation would make it possible to bring within the scope of this paper conjunctions whose connective is zero C_{sub} plus comma.

N's Ving Ω and N's Vvn (of) Ω can be placed after of in apposition to certain nouns. If that S_2 (= that N_2 t V Ω) is an appositive adjunct in S_1 P the N that S_2, the sentence structure is transformable into S_1 P the N of N_2's Ving Ω. He will come on the condition of our sending for him. When that S_2 has the status of a relative clause, the question of its replaceability by of N_2's Ving Ω is more complex. Generally, the N wh- pro-N S_2(-N) is not equivalent to the N of N_2's Ving Ω, which may fail even to be grammatical; for example, the man who saw you but not the man of his seeing you. However, the cases of S_1 P the N that S_2 in which we construed that as wh- were confined to those in which the governing N was a noun of time, place, manner, or degree. The part of S_2 promorphemed in the clause was a P N insert of time or etc. This leaves the fundamental structure of S_2 intact to undergo the -ing transformation. For example, The children will come indoors at the time of the sun's setting, Mary described the episode to the extent of her recalling it.

The foregoing argument will be supported by deriving S_1 P the N of N_2's Ving Ω directly from S_1 and N_2 t V Ω. The same P N insert is added to both and is transformed into an operator on N_2 t V Ω. Thus from N_2 t V Ω P N we obtain N_2's Ving Ω t be P N (The sun's setting is at a time). Then N_2's Ving Ω t be P N can be shared into S_1 P N to derive S_1 P the N of N_2's Ving Ω.

5.11   Concerning S_1 P the $V_\alpha$vn that S_2

Before leaving the topic of -ing transformations, let us look again at those S_1 P the N_α that S_2 in which N_α is $V_\alpha$vn; e.g., John will come on the assumption that you are here. A possible source for S_1 P the $V_\alpha$vn that S_2 is S_1 $V_\alpha$ing that S_2, John will come assuming that you are here. The latter structure, if V_α and the verb of S_1 have the same subject N_1, could be derived by subject-subject overlap[18] between S_1 and N_1 t V_α that S_2. In this secondary N_1 is zeroed and t replaced by -ing. Or, to directly derive S_1 P the $V_\alpha$vn that S_2 from the stipulated primary and secondary, the latter under an ...'s ...vn deformation could be conjoined to the former by P as a prepositional connective. The hypothesis that the subjects of S_1 and V_α are identical seems justified for the particular sentence cited in illustration. Reverting to John will come if you are here, we might accept John will come on his assumption that you are here as a satisfactory paraphrase. Often, however, $V_\alpha$ing that S_2 occurs in sentences in which none of the co-occurring nouns is a plausible subject of the participle, which is therefore said to be detached or absolute.

Two ways of analyzing S_1 $V_\alpha$ing that S_2 when $V_\alpha$ing does not have an expressed subject can be suggested.[19] (1). It might be claimed that the subject is a term which makes general or indefinite reference to human beings (e.g., a person, people, or the indefinite pronouns one, someone, everyone, anyone) and which has been deleted because understandable from the context. The zeroing or dropping of indefinite pronouns has been discussed by Dr. Harris relative to certain sentence structures,[20] among which it may be possible to include S_1 $V_\alpha$ing that S_2. (2). The other analysis would deny

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[18]Cf. Harris, C. and T., p. 320.

[19]Cf. George O. Curme, Syntax (Boston: D. C. Heath, 1931), pp. 158-60, 330.

[20]Harris, T. T., pp. 394-6.

that there is an unexpressed but implied subject of the participle. Without a subject $V_\alpha$ing that S_2 does not have the $\underline{N\ V\ \Omega}$ structure of a clause, whether of adverbial or other function. Instead, $V_\alpha$ing that would be classified as a type of C_{sub} connecting $\underline{S_2}$ to $\underline{S_1}$.

The interpretation of $V_\alpha$ing that as a connective is supported by the not unrelated role of certain $\underline{V}$ing words as prepositions; e.g., $\underline{concerning}$, $\underline{regarding}$, $\underline{excepting}$, $\underline{including}$, $\underline{owing\ to}$, $\underline{depending\ on}$, $\underline{touching}$, $\underline{excluding}$. Further support is given by the observation that $S_1\ V_\alpha$ing that S_2 is more nearly equivalent to $S_1\ C_{sub}\ S_2$, for some value of $\underline{C_{sub}}$, than to $\underline{S_1}$ C_{sub} indefinite pro-N t V_α that S_2. For example, $\underline{John\ will\ go\ to\ college}$ $\underline{assuming\ he\ gets\ a\ scholarship}$ is transformable into $\underline{John\ will\ go\ to\ college}$ $\underline{if\ he\ gets\ a\ scholarship}$ but perhaps not into $\underline{John\ will\ go\ to\ college\ if}$ $\underline{one\ can\ assume\ that\ he\ will\ get\ a\ scholarship}$. Possibly carrying $\underline{N\ t\ V_\alpha}$ into the subordinate conjunct requires the introduction of an associated sentence-operator in the main conjunct: $\underline{If\ one\ assumes\ that\ John\ will\ get}$ $\underline{a\ scholarship,\ one\ can\ infer\ that\ he\ will\ go\ to\ college}$.

Adverbial clauses of condition, concession, and cause can be headed by $V_\alpha$ing that. Frequently $\underline{that}$ takes zero form, in which case -ing or vn deformations of $\underline{S_2}$ can follow $\underline{V_\alpha ing}$ or $\underline{V_\alpha ing\ P}$ (e.g., $\underline{allowing\ for}$, $\underline{depending}$ $\underline{on}$). $\underline{V_\alpha}$ is $\underline{assume}$, $\underline{suppose}$, $\underline{provide}$, $\underline{allow}$, $\underline{grant}$, $\underline{admit}$, $\underline{concede}$, $\underline{consider}$, $\underline{see}$, and a few others.

We also find $\underline{given\ that}$, $\underline{provided\ that}$, $\underline{admitted\ that}$, $\underline{granted\ that}$, in clauses of condition and concession. If $\underline{V_\alpha en\ that}$ is not classified under C_{sub}, I believe that $V_\alpha en$ that S_2, S_1 ($\underline{Granted\ that\ he\ is\ young,\ still}$ $\underline{he\ should\ have\ responsibilities}$) can be obtained from $\underline{That\ S_2\ being\ V_\alpha en}$, $\underline{S_1}$. The -ing clause would be derived from the passive of $\underline{Indefinite\ pro\text{-}N}$ $\underline{t\ V_\alpha\ that\ S_2}$. ($\underline{Everyone\ grants\ that\ he\ is\ young}$ → $\underline{That\ he\ is\ young\ is}$ $\underline{granted\ by\ everyone}$).

5.2   To Deformation of S_2

S_2 after certain C_{sub-1}, especially some expressing purpose or result, can undergo a deformation which drops t and adds _for ... to_: _in order for N to V_ Ω, _so as for N to V_ Ω. That, if part of the connective, is dropped or changed to _as_. An operator Y on V is preserved between _to_ and V (_to be Ving_, _to have Ven_, _to have been Ving_). _For N_ can be dropped if the same N occurs in S_1; e.g., _I have been looking everywhere in order to find you_. Sometimes the connective accompanying _for N to V_ Ω is a zero C_{sub}, not necessarily with comma. For example, _She suggested a different route so that they could avoid traffic_ → _She suggested a different route so as for them to avoid traffic_ → _She suggested a different route for them to avoid traffic_. _For N to V_ Ω can also stand as a nominalized S in apposition to certain N_α. Thus matching S_1 C_{sub-1} _for N to V_ Ω is S_1 P _the_ N_α _for N to V_ Ω; _I have been looking everywhere with the purpose (aim, intention) to find you_. _She waved in order for them to notice her_ → _She waved with the intention for them to notice her_.

6.   Whether ... or; Other C_{sub-3}

Whether occurs, in both adverbial and substantive clauses, before disjunctions of two or more sentences, almost as if _whether ... or_ were equivalent to _wh- either ... or_. If the disjuncts are N_i t V_i Ω_i and its negative, then the clause _whether_ N_i t V_i Ω_i _or_ N_i t _not_ V_i Ω_i is reducible by zeroing to _whether_ N_i t V_i Ω_i _or not_. More generally, Dr. Harris has suggested that _whether_ S_1 _or_ S_2 ... _or_ S_n can be reduced to _whether_ S_1 _or not_, with _or not_ being a promorpheme of _or_ S_2 ... _or_ S_n.[21] As he notes, _or not_ can be dropped in substantive uses of the clause but not adverbial ones.[22] (For example, _Whether the fabric is pale or not, it will match_;

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[21] _Ibid._, p. 391.

[22] E. T., p. 27, fn. 20.

Whether the fabric is pale is inconsequential.) Another point of contrast
is that adverbial clauses introduced by whether are always set off by
commas. Thirdly, no matter can be added at the beginning of all adverbial
whether clauses: No matter whether the fabric is pale or not, it will match.
This is not possible when whether S_1 or S_2 ... or S_n is a nominalization.

Analogously to the transformation of S_1 C_{sub-1} S_2 into S_1 P the N_α
that S_2, a conjunction having the structure S_o, whether S_1 or S_2 or S_n can
be transformed into S_o regardless of the question whether S_1 or S_2 ... or S_n.
(The fabric will match, regardless of the question whether it is pale or not.)
Here the whether clause is substantive, standing in apposition to question.
The pattern of decomposition shown in Figure 2 of §4.1 can be adapted to
the present circumstances by taking regardless of a (or any) question as
the P N insert on S_o and is a question as the sentence-operator on whether
S_1 or S_2 ... or S_n.

C_{sub-3} was specified in #1 to contain whether ... or and the indef-
inite pronouns whoever, whosever, whomever, whatever, whichever, whenever,
wherever, however, whyever, and these words with so interposed before ever.
In Harris's theory of transformational grammar, indefinite pronouns are
analyzed in terms of a "type of redundancy operation [which] permits the
pronouning (or, in certain cases, dropping) of disjunctions (more rarely,
conjunctions) of all the words in a category or subcategory. These dis-
junctions of words come from disjunctions of elementary sentences."[23] At
least three kinds of conjunctions of the form S_o, wh- pre-X-ever S(-X) can
be distinguished relative to the way in which disjunctions or conjunctions
of X arise in the underlying sentence structures. The methods of deriva-
tion are described in the next paragraphs.

Type One: the source contains whether. Let S_o, whether $S(X_1)$ or
$S(X_2)$ ... or $S(X_n)$ be such that $S(X_i)$ differs from $S(X_{i+1})$ only in that

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[23]T. T., p. 394.

$X_i \neq X_{i+1}$. For example, <u>She will be pleased, whether he selects a mirror</u> <u>for the room or he selects a lamp for the room ... or he selects a vase</u> <u>for the room</u>. Since each X_i and X_{i+1} have the same co-occurrents and grammatical status in their respective disjuncts, every disjunct after $S(X_1)$ can be zeroed except for its X_i, leaving <u>S_0, whether $S(X_1)$ or X_2 ... or X_n</u>. All the X_i are collected into a disjunctive <u>X</u>-phrase in <u>S_0, whether $S(X_1$ or X_2</u> <u>... or X_n</u>), which is transformable into <u>S_0, wh-pro-X-ever $S(-X_1$ or X_2 ...</u> <u>or X_n</u>). <u>She will be pleased, whether he selects for the room a mirror or a</u> <u>lamp ... or a vase</u> → <u>She will be pleased, whatever he selects for the room</u>.

Although <u>X</u> may be <u>N</u>, <u>N's</u>, or adverbial <u>P N</u>, it can also be a subcategetory of nominalized <u>S</u> or nominalized <u>V</u>. Thus the subordinate clause in <u>He</u> <u>will not change his plans to go abroad, whatever you tell him</u> is retraceable to a <u>whether</u> clause whose disjuncts are of the form <u>you tell him that S_i</u>, $1 \leq i \leq n$. (<u>He will not change his plans to go abroad, whether you tell</u> <u>him that the fare is too expensive or that the political situation is too</u> <u>uncertain ... or that he is needed at home</u>.) In general, where <u>W</u> is a sentence-operator and $S_i n$ is an appropriate nominalization of S_i under <u>W</u>, we have <u>S_0, whatever W</u> ← <u>S_0, whether W $S_1 n$ or $S_2 n$ ... or $S_n n$</u> ← <u>S_0, whether</u> <u>W $S_1 n$ or W $S_2 n$ ... or W $S_n n$</u>. The nominalized S_i may be subjects rather than objects of <u>W</u>, as shown by <u>Whatever happens, we must not worry</u>.

The decomposition of such sentences as <u>Whatever he did, he should not</u> <u>be blamed for her misfortunes</u> can proceed in accordance with the following formulas:[24]

<u>S_0, whatever N_1 t do</u> ← <u>S_0, whether N_1 t do (the) V_1ing (of) Ω_1 or (the)</u> <u>V_2ing (of) Ω_2 ... or (the) $V_n$ing (of) Ω_n</u> ← <u>S_0, whether N_1 t do (the)</u> <u>V_1ing (of) Ω_1 or N_1 t do (the) V_2ing (of) Ω_2 ... or N_1 t do (the) $V_n$ing</u> <u>(of) Ω_n</u> ← <u>S_0, whether N_1 t V_1 Ω_1 or N_1 t V_2 Ω_2 ... or N_1 t V_n Ω_n</u>.

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[24]Cf. Harris, E. T., pp. 66-7.

The transformation which these formulas appeal to, namely,

$$N\ t\ V\ \Omega \rightarrow N\ t\ do\ (the)\ Ving\ (of)\ \Omega,$$

introduces do as a verb-operator U_d on $V\ \Omega$, which is changed into (the) Ving (of) Ω; [25] of is inserted before an Ω beginning with N and the is optional. This sequence which follows do, and which can be considered its Ω, is a standard V_n-phrase. It is replaceable by pronouns that substitute for neuter N.

Some sentences obtained by adding do ... ing (of) are at best marginally acceptable. Often a sentence containing a pronouned Ving (of) Ω as object of do is more natural in the language than the instance of $N\ t\ do$ (the) Ving (of) Ω from which it is derived. Compare They did the finding of a house with They found a house, and they did it promptly or with Finding of a house was what they did. In What did they do? They found a house, do occurs once as a bearer of t and once as U_d.

Before going on to the second type, a transformation, comparable to (I) in §2, will be stated for conjunctions whose connective is whether or is derivative from whether.

V.　1.　S_0, whether S_1 or S_2 ... or S_n $\rightarrow$ S_0 regardless of the question

　　　 whether S_1 or S_2 ... or S_n.

　　2.　S_0, wh-pro-X-ever $S(-X_1$ or X_2 ... or $X_n)$ $\rightarrow$ S_0 regardless of the

　　　 question wh-pro-X $S(-X_1$ or X_2 ... or $X_n)$.

　　　 He should not be blamed for her misfortunes, whatever he did $\rightarrow$ He should not be blamed for her misfortunes, regardless of the question what he did.

Comma punctuation of adverbial clauses beginning with whether or its derivatives is obligatory. In a (V)-transform commas can optionally be used to separate off the full phrase beginning with regardless of. Although substantive clauses can begin with wh-pro-X-ever, I am doubtful that ever appears when the clause is placed in apposition to a noun, except possibly if of precedes the clause (regardless of the question of whatever he did).

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[25] Ibid.; also T. T., pp. 374-5, 387.

For certain P different from regardless of — e.g., in relation to, in view of, in answer to, apropos of — a sentence satisfying S_1 P the question whether/wh-pro-X S_2 is well-formed but does not, I feel, paraphrase the corresponding sentence satisfying S_1 C_{sub-3} S_2 as effectively as when P = regardless of. That regardless of, with its implication of the indifference of the alternatives encompassed in the appositive whether or wh-pro-X clause, is appropriate in a (V)-transform seems reinforced by the fact that no matter can be inserted before the same clause used adverbially in the conjunction. It appears that ever is dropped from wh-pro-X-ever when no matter precedes. We find no matter also before certain subordinate clauses beginning with if or though. As this coincidence suggests, an adverbial clause whose connective is whether ... or or one of its derivatives is often conditional or concessive in meaning.[26]

It must be acknowledged that occasionally a (V)-transform is paradoxical to a degree that the corresponding conjunction is not. Consider, for example, We must find the key, wherever it is; We must find the key, no matter where it is; We must find the key regardless of the question where it is. The last sentence, and possibly the second, might be erroneously taken to imply that finding of the key could be independent of where it was. On the other hand, the first sentence does not say redundantly that the key must be found where it is. Rather, its meaning should be about the same as that of the sentence from which it is derived: We must find the key, whether it is in the desk or in the lock ... or on the table. This sentence can be understood to mean that our obligation to find the key is conditioned by its being in one of the places mentioned although it is indifferent which one.

Type Two: the source does not contain whether. Here we shall be concerned with wherever, whenever, however. Although these occur as connectives in conjunctions of Type One, they are also used in adverbial clauses of place, time, or manner. The following examples illustrate this type.

i. We looked for the key wherever it might have been.

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[26] Cf. Jespersen, op. cit., pp. 384-5.

ii.   I will go wherever/whenever/however you go.

iii.   They financed the purchase however they could.

iv.   John will come whenever we send for him.

A comma would not be appropriate before the subordinate clauses in (i) - (iv). The sentences cannot be rewritten, without change of meaning, by dropping _ever_ and adding _no matter_ or _regardless of the question_. On the other hand, _wherever_ in (i) and (ii) is replaceably by _everywhere_ or _everywhere that_: We looked for the key everywhere that it might have been.

Wherever and the rest appear in (i) - (iv) as members of C_{sub-2}. The sentences undergo a variant of the transformation stated in (II) of §3.

II'. S_1 wh-pro-[PN]-ever S_2 → S_1 P Q N_β that S_2.

N_β is _time_, _place_, or _way_; its adjunct is a relative clause introduced by _that_ instead of _wh-_. Q is _any_, _every_, or plural _-s_ suffixed to N_β, possibly with N_βs being preceded by _any_ or _the_. We looked for the key in every place that it might have been. I will go at any time that you go. They financed the purchase in any way that they could.

Whenever the choice of any N_β is feasible in a (II')-transform, it has the advantage that the phrase matches the indefiniteness of _wh-pro-[P N]-ever_. In a containing conjunction the latter may express an indefiniteness of temporal, locative, or modal reference without necessarily implying that more than one thing (i.e., more than one time, place, or means) is being referred to. For example, _Mary will see the movie whenever you can accompany her_ would normally be used of just one occasion whose time of occurrence is left indefinite.

For sentences like (i)-(iv) Dr. Harris has proposed an analysis whereby the _wh-word_ is not primitively a C_{sub} in the sentence but rather is part of a relative clause whose governing noun has been zeroed.[27] Thus S_1 wh-pro-[P N]-ever S_2(-P N) is transformed from S_1 P Q N_β wh-pro-[P N]

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[27]E. T., pp. 47-9; T. T., fn. 45 on pp. 393-4, pp. 395-6.

$S_2(-P\ N)$, where $Q\ N_\beta$ has the status of a pronoun for a disjunction or conjunction of N_i, $1 \leqq i \leqq n$. Each N_i belongs to the same subcategory, for whose members N_β is a classifier, and to each is adjoined $\underline{\text{wh-pro-}[P\ N]\ S_2}$ $\underline{(-P\ N)}$. All this can be explained a bit more simply with reference to an example in which N_β is not an object of $\underline{P}$.

To derive, say, She liked whatever he selected for the room we would start from the disjunction She liked a chair which he selected for the room or she liked a rug which he selected for the room ... or she liked a clock which he selected for the room. This can be reduced by zeroing to She liked a chair which he selected for the room or a rug which he selected for the room ... or a clock which he selected for the room. The disjunction of nouns governing the wh-adjunct can be pronouned by anything: She liked anything which he selected for the room. When anything occurs in zero form in the last sentence, -ich changes to -at or -atever.[28]

With regard to sentences obtained by the rewriting rule in (II') the contained any time, any place, any way, or their variants, can be considered pronouns for disjunctions or conjunctions of nouns of time, place, or means. Therefore (II'), its direction being reversed, could be the last step in a derivation of conjunctions of Type Two. The formulas are as follows.

$$\text{wh-pro-}[PN]\ S_2\ (-P\ N) \leftarrow S_1\ P\ N_1$$

$$S_1\ \text{wh-pro-}[P\ N]\text{-ever}\ S_2(-P\ N) \leftarrow S_1\ P\ \text{any}\ N_\beta/\text{wh-pro-}[P\ N_1]\ S_2(-P\ N_1)\ \text{or}$$

$$P\ N_2\ \text{wh-pro-}[P\ N_2]\ S_2(-P\ N_2)\ \ldots\ \text{or}\ P\ N_n\ \text{wh-pro-}[P\ N_n]\ S_2(-P\ N_n) \leftarrow$$

$$S_1\ P\ N_1\ \text{wh-pro-}[P\ N_1]\ S_2(-P_1\ N_1)\ \text{or}\ S_1\ P\ N_2\ \text{wh-pro-}[P\ N_2]\ S_2(-P\ N_2)\ \ldots$$

$$\text{or}\ S_1\ P\ N_n\ \text{wh-pro-}[P\ N_n]\ S_2(-P\ N_n).$$

For example, Mary went last summer wherever Ann went ← Mary went last summer to any place where Ann went ← Mary went last summer to a park where Ann went or to New York, where Ann went, ... or to the mountains where Ann went.

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[28]What also occurs with the sense of the single N-classifier that: She liked the chair which he selected → She liked the thing which he selected → She liked what he selected. Cf. Harris. T. T., fn. 49, p. 395.

As shown in this example, the wh-adjunct of certain N_i, mainly proper names, will occur with comma punctuation in the underlying disjunction.

Type Three: the post-wh-pronoun is related anaphorically to a pronoun in S_1. This situation is illustrated by such sentences as Whoever phones, John will speak with him and Whatever you told Mary, it did not deter her. Although these are conjunctions of Type One, they might be derived by permutation of John will speak with whoever phones and Whatever you told Mary did not deter her. The substantive wh- clause of the latter sentences is permuted into a comma-separated adverbial clause and a third person personal pronoun fills the noun-position which has been vacated. The possibility of this permutation depends on there being a transformational equivalence between the sentence structures Whether $S_2(N_1)$ or $S_2(N_2)$ ... or $S_2(N_n)$, $S_1(\text{pro-N})$ (Whether N_1 phones or N_2 phones ... or N_n phones, John will speak with him) and $S_1(\text{wh-pro-N-ever } S_2(\text{-N}))$. The latter, we recall, is equivalent to $S_1(\text{anyone/anything wh-pro-N } S_2(\text{-N}))$; John will speak with anyone who phones. This in turn is equivalent to $S_1(N_1 \text{ wh-pro-N}_1 S_2(\text{-N}_1)$ or $N_2 \text{ wh-pro-N}_2 S_2(\text{-N}_2)$ ... or $N_n \text{ wh-pro-N}_n S_2(\text{-N}_n))$; John will speak with N_1 who phones or N_2 who phones ... or N_n who phones.

Conjunctions of Type Three can be paraphrased by conjunctions whose connective is if. If anyone phones, John will speak with him. If you told Mary anything, still it did not deter her. The last sentence seems ambiguous because of the possibility that it could substitute for your telling Mary or for what you told Mary.

7. Zeroing in $S_1 \, C_{sub} \, S_2$ and $S_1 \, P$ the N that S_2

Two kinds of conditions for zeroing are encountered in $S_1 \, C_{sub} \, S_2$. The repetition of a verb plus its object is zeroable, and is with its subject can be zeroed in S_2 if the same noun occurs in S_1. Zeroing is admissible in $S_1 \, P$ the N that S_2 under the first of these conditions but not the second.

Given $N_1 \, t_1 \, V_1 \, \Omega_1 \, C_{sub} \, N_2 \, t_2 \, V_2 \, \Omega_2$ or $N_1 \, t_1 \, V_1 \, \Omega_1 \, P$ the N that $N_2 \, t_2 \, V_2 \, \Omega_2$, if $V_1 \, \Omega_1$ is identical with $V_2 \, \Omega_2$, the latter can be zeroed. But t_2,

whether the same as t_1 or not, is not zeroable; it must be present in an auxiliary or suffixed to do. They will sign the petition if he does, ... on the condition that he does. I will not visit the house because John already has, ... for the reason that John already has. The catalog arrived when the letter did, ... at the time that the letter did. If C_{sub} S_2 or P the N that S_2 is permuted toward front-position, zeroing of a recurring $V \Omega$ may be carried out in S_1. Because (or for the reason that) John already has visited the house, I will not.

When S_2 is of the form N t be Ω_b, it may be a kernel sentence structure, in which Ω_b is A, D_b, N, or $P N$, or it may be a derived sentence structure such as N t be Ving Ω or N_i t be Ven by N_j. In §5 a number of C_{sub-1} and C_{sub-2} were mentioned which can occur before Ving Ω after the subject N and be + t have been zeroed. To the list should be added whether ... or and wh-pro-$\widehat{P N}$-ever; She read on, whether comprehending or not. Many, but not all, of these connectives can precede the other objects of be after zeroing of N t be. The connectives in this case are mainly when, while, if, because, although, as if, as though, unless, whether, wh-pro-$\widehat{P N}$-ever. For example, Although sick, he went to work; He rearranged some furniture while here; He wrote several letters to them because encouraged by their response. The same zeroing operations are not possible in $S_1(N_1)$ P the N that N_1 t be Ω_b; *He went to work despite the fact that sick. Perhaps such reduced forms of $S_1(N_1)$ regardless of the question whether N_1 t be Ω_b or not may occur: The fruit looks beautiful regardless of the question whether ripe or not.

The sentence He will resign if necessary can be assumed to be reduced from He will resign if it is necessary. Although this it does not have an explicit antecedent, I believe what it pronominalizes can be reconstructed from the primary clause: He will resign if his resigning (or, his resignation) is necessary. The subordinate clause of He will take the job if necessary could come from if he is necessary or if the job is necessary but most probably from if his taking the job is necessary or if for him to take the job is necessary. Other C_{sub} which enter into $S_1 C_{sub} A_s \leftarrow S_1 C_{sub}$ it t be $A_s \leftarrow S_1 C_{sub} S_1$ n t be A_s include when, while, where, until, as,

as soon as, unless, whether ... or, wh-pro- P N-ever. Other A_s are
possible, convenient, appropriate, desirable.

8. Permutations in Concessive and Conditional Clauses

Although the subjunctive mood is frequently found in clauses of
condition or concession, it is not distinguishing of them, occurring as it
does in other types of adverbial clauses. However, there are two permuta-
tions which are characteristic of concessive and conditional clauses re-
spectively. In Though N t V Ω D, S_1 certain post-t constituents of the
subordinate clause can be permuted before the connective.[29] For example,
the clause of Though he would bring flowers to her eagerly, she does not
care for them accepts five or more permutations: eagerly though he would
bring flowers to her, flowers though he would bring to her eagerly, to her
though he would bring flowers eagerly, flowers to her though he would bring
eagerly, bring flowers to her though he would eagerly. If no auxiliary is
present and V Ω, assuming V $\neq$ be, is moved before though, the t will be car-
ried by do. He prefers essays though he writes stories → He prefers
essays, write stories though he does.

As is replaceable by though in the following examples: He could not
sell the chairs, inexpensive as they were; Softly as she spoke, her words
were overheard. These subordinate clauses cannot be permutations of as they
were inexpensive and as she spoke softly, which are not concessive. Curme
expresses the opinion that clauses having the structures A as N t be and
D as N t VΩ developed from clauses of degree in which a second as precedes
the A or the D.[30]   As fast as she ran, she could not overtake him.
As A/D as is equivalent to however A/D; however fast she ran. It seems
likely that however clauses of this sort are not derived from whether clauses.

A permutation within the subordinate clause of S_1 if N t V Ω drops if

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[29]Harris, E. T., pp. 84-5.

[30]Curme, op. cit., p. 334.

and moves $\underline{t}$ before $\underline{N}$.[31] When $\underline{t}$ is a tense auxiliary (can, could, will, would, might, etc.), $\underline{V}$ including be does not change its position. If John could be here, he would help us → Could John be here, he .... If $\underline{t}$ is -ed, -s, or zero, it is suffixed to do placed before $\underline{N}$, again with $\underline{V}$ immediately following $\underline{N}$. If I saw him, I would ask him → Did I see him, I would ask him. There are two exceptions. Be as a member of $\underline{V}$ or $\underline{Y}$ is moved with its tense suffix. John would help us if he were here → John would help us were he here. If John were coming to the house, he would help us → Were John coming to the house he .... Similarly for have as a member of $\underline{Y}$ and optionally as a member of $\underline{V}$. You would understand if you had read the letter → You would understand, had you read the letter. If they had the book, they could find the answers → Had they the book, they ...; Did they have the book, they ....

The permutation of $\underline{N\ t\ V\ \Omega}$ into $\underline{t\ N\ V\ \Omega}$ is used for several other structures:[32] in whether clauses after wonder, ask, question and the like if whether is dropped (I wonder whether he saw me → I wonder did he see me); in interrogative sentences matching such clauses; after certain adverbs brought into initial position (Never will he discover this secret, Hardly had the music ended when/than he entered); in some sentences following and so or and neither (Mary saw the exhibit and so did I see it). An environment in which the order of subject $\underline{N}$ and $\underline{t}$ is optionally reversible will be mentioned in §8.1.

The permutations which are possible in an $\underline{S_2}$ conjoined to $\underline{S_1}$ by though or if do not apply to $\underline{S_2}$ occurring after despite the fact that or on the condition that. He could not sell the chairs, inexpensive despite the fact that they were is not quite well-formed. On the condition that had they the book they could find the answers is not a sentence but a $\underline{P\ N}$ phrase containing an appositive adjunct to $\underline{N}$ that begins with a permuted if clause.

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[31]Harris, E. T., pp. 85-6. Certain instances of If $\underline{S_2}\ \underline{S_1}$ can also be paraphrased by forming the imperative of S_2 and conjoining this by and to $\underline{S_1}$. If he is happy, they are satisfied → Let him be happy, and they are satisfied. Cf. Curme, op. cit., pp. 327-8.

[32]E. T., pp. 85-6.

This P N + Adjunct could be taken equivalent to the subordinate clause of, say, If if they had the book they could find the answers, then they would write good exams.

8.1   Correlative C_{sub}

Most correlative subordinating connectives, such as if ... then and although ... yet, have in effect been covered by what has been said about their first members. But one type requires special notice: the use in both clauses of the followed by an adjective or adverb in the comparative degree.[33]   For example, The longer she hesitated, the more difficult the decision became. If the plus a comparative stands at the beginning of both clauses, the first one has subordinate rank. In the subordinate clause that may occur after the comparative, the longer that she hesitated. The main clause can precede or follow the subordinate one. When pre-posed, it does not begin with the and a comparative: The decision became the more difficult the longer that she hesitated. When post-posed, its t may be permuted before its subject: The longer that she hesitated, the more difficult did the decision become.

Our sentences with the ... the are transformable, in the manner of (I) or (II), into The decision became more difficult in the proportion that she waited longer. Thus The A_2er/D_2er that $S_2(-A_2er/D_2er)$, the A_1er/D_1er $S_1(-A_1er/D_1er)$ → $S_1(A_1er/D_1er)$ in the proportion that $S_2(A_2er/D_2er)$. The transform of S_1(the A_1er/D_1er) the A_2er/D_2er that $S_2(-A_2er/D_2er)$ is the same. Phrases which could replace in the proportion that include to the degree that, to the extent that, in the measure that, in the circumstance that, under the condition that.

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[33]Jespersen, op. cit., pp. 380-3.

9. Conclusion

The transformations in (I), (II), (II'), and (V) can be represented by the following schema.

VI. $S_1 \ C_{sub} \ S_2 \rightarrow S_1 \ P$ the $N_c \ T(S_2)$,

where $T(S_2)$ is a substantive or a relative clause transformed from S_2 and adjoined to N_c.

The transformational constants of (VI) are C_{sub}, N_c, P, the, and the wh- words or that heading $T(S_2)$. The choice of word-values for N_c and for P, and the kind of adjunctive form given to S_2, depend on the value chosen for C_{sub}. Throughout this paper (VI) has been used to study connections between adverbial clauses, post-nominal adjuncts, and adverbial prepositional phrases — specifically the proposed comparability between the operation of conjoining S_2 to S_1 by C_{sub} and the operation of adjoining S_2 to N_c in $P \ N_c$ inserted on S_1.

Several generalizations seem warranted by the examples gathered for this paper. (i) Tense and aspect of the verbs occurring in $S_1 \ C_{sub} \ S_2$ are preserved under (VI) but not always mood. A verb in the subjunctive mood after lest, though, if, in order that, may and sometimes must become indicative in the clause adjoined to N_c. Thus He would not attend the meeting if he were really busy is transformed into He would not attend the meeting on the hypothesis that he was really busy, and Though she deceive you, you will still love her into Despite the possibility that she may deceive you, you will still love her. (ii) An Aly adverb can occur in $S_1 \ C_{sub} \ S_2$ in any one of these ways: adjoined to S_1, or to S_2, or to one of their constituents, or adjoined to the conjunction, or to C_{sub}. In the first four cases Aly is moved into the (VI)-transform without any change in its form or position. When Aly is an adjunct of C_{sub}, apparently Aly C_{sub} can become either Aly P the N_c or P the A N_c. For example, The economy was unsound precisely because prices were too high is transformable into The economy was unsound precisely for the reason that prices were too high or

The economy was unsound for the precise reason that prices were too high. The transform of We opened an account exactly as you instructed us could contain exactly in the way that or in the exact way that. (iii) In S_1 C_{sub} S_2 the primary or the secondary, or both, may contain a subordinating connective. John will not be able to see you if you come to New York tomorrow, because he will be in Philadelphia so that he can attend the auction. The transformation in (VI) can be applied first to the conjunction and then to its conjuncts, or in the reverse order. Details pertaining to (i)-(iii) will be presented in a later paper.

It is not yet clear whether (VI) provides an exclusive characterization of conjunctions with a subordinating connective. There is a possibility that transformations similar to (VI) can be devised for conjunctions in which the connective is co-ordinating or comparative. I have not found entirely plausible transcriptions of comparative and co-ordinating connectives into expressions satisfying P the N that. The following pairs are suggested provisionally.

1. rather than — with the preference that ... not, in preference to the possibility (case, circumstance, condition) that; with (under) the qualification (limitation) that ... not.

2. as ... as — to the same extent (degree) that.

3. ...er than, more ... than — in excess of the degree (extent) that.

4. and — in conjunction (combination, connection) with the fact (circumstance, case) that.

5. exclusive or — on the alternative that ... not.

6. but — in contradistinction to the fact (circumstance) that.

7. co-ordinating where — with the understanding (stipulation) that.

8. for — for the reason that, in view of the fact that.

9. inclusive or — with the alternative that.

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