MICHAŁ POST

WROCŁAW 1981

# COMPARATIVES OF IDENTITY IN ENGLISH

## A SEMANTIC STUDY

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MICHAŁ POST

# COMPARATIVES OF IDENTITY IN ENGLISH

## A SEMANTIC STUDY

WAŻNIEJSZE DOSTRZEŻONE BŁĘDY DRUKU

| Strona | Wiersz | Jest | Powinno być |
|---|---|---|---|
| 6 | diagram (7) b | LOVE XY | LOVE YX |
| 24 | diagram (63) | E | Σ |
| 78 | 19 | hod been carticol | hos been carricol |

Michał Post, Comparatives of identify in English

WROCŁAW 1981

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WYDAWNICTWO UNIWERSYTETU WROCŁAWSKIEGO

Wydanie 1. Nakład 335+65 egz., ark. wyd. 6,90, ark. druk. 5,5. Papier offsetowy kl. VII, g. 70, B-1. Oddano do produkcji w sierpniu 1980 r. Podpisano do druku w czerwcu 1981 r. Druk ukończono we wrześniu 1981 r. z. 1211, Cena zł 35,-

ZAKŁAD GRAFICZNY UNIWERSYTETU WROCŁAWSKIEGO
Pl. Solny 12, 50-061 Wrocław

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# INTRODUCTION

## GENERAL STATEMENT OF PURPOSE

The primary purpose of this study is to give a detailed semantic description of English expressions, illustrated by the following sentence types:

(1) John is as tall as Bill.
(2) Mary danced as gracefully as her sister.
(3) a. George works as {much / little} as I do.
b. Peter wrote as {many / few} papers as Paul.
(4) George and Mary are {the same / identical / equal} in height.
(5) a. She cooks a turkey as my mother did.
b. He groped with his hands as if he were blind.
(6) The more I think of her, the more I miss her.

Sentences (1-3) are generally recognized comparison expressions of equality. Considering the part of speech occuring between the formal markers *as... as*, 3 subgroups can be distinguished: (a) adjectival constructions, exemplified by (1); (b) adverbial constructions like (2); (c) overtly quantified expressions like (3a) and (3b).

Of (4-6), only (5a,b) are assumed by certain grammarians (Poutsma 1914, Curme 1931, Quirk et al. 1972) to be linguistic realizations of comparison. To this author's knowledge, no one explicitly proposed to treat expressions like (4) as comparative constructions. As regards expressions exemplified by (6), we have been able to find only one work in which they are assumed to be comparative constructions (cf. Ganshina and Vasilevskaya 1964).

In this study, it is claimed that constructions illustrated by (1) through (6) are all built round the same semantic core involving a two-place predicate of identity SAME: SAME (x, y). Accordingly, the term „comparative of identity" (henceforth CI) will be used in reference to such constructions.

## THEORETICAL ASSUMPTIONS

A semantic description of natural languages presupposes the existence of some other, simpler language in which this description is to be carried out. In this study, it is

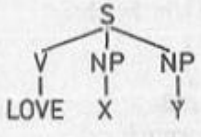
assumed after generative semanticists, that the language of logic can be best used for the purpose (cf. Lakoff 1972). Logical formulae present clearly and explicitly semantic relations present in the sentence, which may be unclearly and unsystematically expressed in the surface form.

As regards the form of semantic representations, it is assumed that the semantic content is organized into labelled trees with three kinds of nodes: predicates or V's, arguments or NP's, and propositions or S's. Arguments are semantic elements with built in index, referring to objects, things talked about. Predicates are semantic elements which ascribe relations, actions, qualities to the entities referred to by arguments[1].

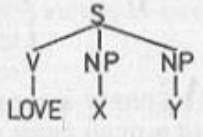
The nodes have left-to-right order. Thus, in English, the first constituent of the proposition is its predicate. It is normally followed by the subject and object arguments, respectively (cf. McCawley 1974b on the underlying VSO order in English).

According to McCawley's hypothesis, the surface expressions *X love Y* and *Y love X* will be assigned representations differing as to which of the arguments (X, Y) has the semantic role of the subject of the predicate LOVE:

(7) a.




b.




Structures illustrated by (7) at best represent the propositional content of their sentences. The entire semantic representation additionally contains the performative complex as its highest clause. Such a requirement on the semantic representation forces us to take a position on the role that comparative constructions play in communication, i.e. define the illocutionary force of comparative constructions.

Of the works relevant to the issue involved, only Van Buren (1976) and Post (1977) offer explicit proposals concerning the illocutionary force of comparative constructions. Van Buren suggests that sentences like (8):

(8) John is taller than Bill.

are acts of comparison, which is evidenced by the ungrammaticality of the following:

(9) *John is taller than Bill, but I'm not comparing them in any way.

However, he discards the verb *compare* as the candidate for the performative verb:

(10) *I compare John is taller than Bill.

Van Buren concludes that „to assert that there exists a difference over a constant

[1] Generative Semanticists assume that the same labels are involved in semantic structure and surface structure, and therefore it is immaterial whether node labels reflect syntactic or logical terminology. McCawley prefers to label the arguments as NP, predicates as V, and propositions as S (cf. for example McCawley 1974a). Lakoff also generally labels propositions as S, but labels arguments as Arg and predicates as Pred (cf. Lakoff 1972). In this study, we use McCawley's notation.



dimension between two entities is to perform an act of comparison", (ibid., p. 8). In other words, in his opinion, comparing is a special form of asserting.

It seems to us that Van Buren is wrong in identifying the act of comparing with the act of asserting. We claim that to assert a difference over a constant dimension between two entities is not to perform an act of comparison, and therefore comparing is not a special form of asserting.

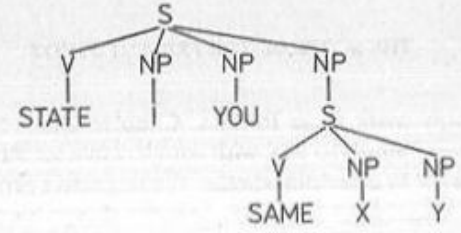
Comparison is an intellectual activity (cf. Campbell and Wales 1969, and Bierwisch 1970 for a similar view). Accordingly, the act of comparison is a mental act and not a speech act, as Van Buren assumes. Comparative constructions are only linguistic representations of mental acts of comparison. Therefore, to assert a difference over a constant dimension between two items is not to perform an act of comparison but an act of assertion. Our interpretation is supported by the fact that comparative constructions can be used to perform a variety of different speech acts:

(11) a. I'll be back sooner than you expect — promise
b. Is John as tall as Bill? — inquiry
c. Don't pay more than 2$ — advice, warning.

Following Van Buren's line of reasoning, one would have to claim that comparison is also a special form of promising, requesting, warning, etc., which is most certainly not what he intended.

In view of a variety of speech acts for which comparative constructions can be used, we assume that the performative clause in the semantic structure of CI's contains the verb of saying STATE, which takes as its complement a proposition with the two-place predicate of identity SAME:

(12)




We will assume throughout this work that the performative hypothesis is correct. However, for the sake of simplicity, the performative clause will be omitted from our diagrams.

Two other claims of Generative Semantics relevant to the present study concern (a) the role of presuppositions in grammar, and (b) decomposability of lexical items.

As far as the first of the two claims is concerned, we assume that presuppositions involve a number of beliefs: the beliefs of the speaker, the beliefs of the addressee, and the speaker's beliefs about the beliefs of the addressee. As an illustration, the following inference scheme taken from Hutchinson (1971: 134-5) is proposed. In uttering (13) sincerely,

(13) X says to Y 'The present king of France is bald',

X believes that there exists a present king of France and believes that Y believes

that there exists a present king of France. In other words, the speaker believes that he and his auditor share beliefs about the fact of the present king of France's existence.

It has been a long tradition in Generative Semantics that many grammatical processes are sensitive to presuppositional factors (cf. Fillmore 1972, Lakoff 1972). In this study, it will be demonstrated that the lexicalization of CI's is partly determined by the speaker's assumptions.

As regards the relation between lexical items and sentences that they appear in, it is assumed throughout this study that lexical items are decomposable wholes with respect to the semantic structures of these sentences (cf. McCawley 1968a, 1974a, Lakoff 1972). One particular aspect of the lexical decomposition hypothesis is relevant to this work, namely, that a modification is possible of a portion of semantic structure internal to some lexical item. In a well-known example, McCawley (1974a: 35) shows that an adverbial can modify some proposition that is not expressed by an independent surface structure constituent:

(14) The sheriff of Nottingham jailed Robin Hood for four years.

In one reading, the adverbial modifies the entire sentence. In the other, it modifies a portion of the semantic structure internal to the verb *jail*, namely 'be in jail'. The first reading is the same reading that obtains when the adverbial is preposed. It is the second reading which appears to be a more natural one, that argues for analyzing the verb into (CAUSE (BECOME (BE in jail))) which provides a constituent (BE in jail) that the adverb can modify in the underlying representation. It will be shown further in this work that exactly the same kind of modification is present in certain comparatives of identity.

## THE SCOPE OF THE PRESENT STUDY

The outline of this work is as follows. Chapter One contains a survey and discussion of previous attempts to deal with comparative constructions. The essential purpose of this survey is to ascertain whether the respective proposals qualify for the framework in which to carry out a uniform analysis of constructions illustrated at the outset of this chapter.

In Chapter Two, various aspects of semantic relational structure underlying (1-6) are discussed. A justification for the label „comparative of identity" and a semantic definition are also provided. The concepts 'identical', 'equal' and 'similar' are discussed, and it is argued that they should be explicated with a more basic concept of 'identity'.

In Chapter Three, various semantic properties are discussed of *as... as* constructions. It is argued that the mechanism involved in the selection of adjectives, related *-ly* adverbs and quantifiers is presupposition governed. It is suggested that adjectives and *-ly* adverbs are represented in semantic structure by the same semantic element, the choice between the two surface forms being determined by the type of structure in the scope of this constituent, and also by certain decisions of the speaker.



In Chapter Four, it is shown that comparatives of identity are by no means confined to the *as... as* constructions. The chapter contains a discussion of constructions exemplified by (4-6), which, in our opinion, are also comparatives of identity.

Finally, in Chapter Five, conclusions and proposals concerning further research in comparison of identity are provided.

# Chapter I

# TRANSFORMATIONAL-GENERATIVE ACCOUNTS OF COMPARATIVE CONSTRUCTIONS

## 1.1 TWIN-SENTENCE-BASE ANALYSES OF COMPARATIVE CONSTRUCTIONS

In the following section, we will survey the analyses of comparative constructions carried out within the paradigm of Chomsky 1957, Chomsky 1965, and Chomsky 1971, i.e. The Pre-Aspect Theory, the Standard Theory, and the Extended Standard Theory, respectively.

Despite certain differences of detail, the papers discussed below all assume that (a) comparison is a formal-syntactic problem, and therefore much attention should be paid to the syntax of comparative constructions, (b) all comparative constructions are derived from deep structures consisting of two symmetrical sentences. The survey will be opened with a presentation of Robert Lees's paper of 1961, i.e. the paper which set up the framework for all other formal syntactic analyses of comparative constructions.

### 1.1.1. Robert Lees's *Grammatical Analysis of the English Comparative Constructions*

In the spirit of *Syntactic Structures*, Lees proposed to derive comparative constructions from two constituent clauses. The first argument for such an analysis concerned the selection restriction. Lees observed that (1) and (2) were grammatical, while (3) was not:

(1) The boy is amazed.
(2) The man is amazed.
(3) *The table is amazed.

Correspondingly, (4) was unacceptable, although (5) was perfectly grammatical:

(4) *The boy is more amazed than the table.
(5) The boy is more amazed than the man.

The ungrammaticality of (3) was evidently due to the incompatibility of *amazed* with inanimate nouns. Lees concluded that exactly the same selection restriction was violated in (4), and this was sufficient for him to claim that sentences like (5) should be derived from those like (1) and (2).



Lees's second argument for deriving comparatives from two simpler sentences concerned the ambiguity of certain comparative expressions. The sentence like (6):

(6) I speak Spanish as well as French.

in its comparative sense is derived either from (7):

(7) I speak Spanish as fluently as I speak French.

or (8):

(8) I speak Spanish as well as (Mr) French does.

A grammatical description in which some sentence types are derived from others can easily make such an ambiguity explicit.

Still another argument for deriving comparative expressions from simpler sentences was provided by the choice of subjective or objective form of pronouns in the position after *than*, as in (9) and (10):

(9) I know him better than she.
(10) I know him better than her.

The selection of the appropriate form of personal pronoun can easily be explained if it is assumed that (9) and (10) are derived from a deep structure in which the *than's* are followed by full clauses, roughly of the form *She knows him well* and *I know her well.*

Lees's last argument in support of the two sentence origin of comparative constructions concerned the application of reduction transformation. In view of sentences such as (11) where two constituent clauses appear in the surface, he claims that sentences like (5) are repeated in the matrix:

(11) He is as tall as I am wide.

Having provided evidence in favour of the view that comparative constructions like (12):

(12) He is as tall as she.

should be derived from

(13) He is as tall as she is tall.

Lees set to investigate the problem which we consider principal for any syntactic analysis of comparative constructions, namely their constituent structure.

He observed that the second *as* can be followed by *that* as in (14):

(14) He is as tall as that.

To account for this observation, Lees proposed to regard the material following the second *as* in (12) and (14) as a kind of adverbial, parallel to the *that* of (15):

(15) He is that tall.

because the latter was related to the question *How tall is he?* and the appropriate answer *That's how tall he is.* While the *that* of (14) seems to be a pro-adverbial standing for any expression which can follow *as* in such a sentence, the *that* of (15) appears to be a kind of pre-adverbial or pre-adjectival modifier which Lees permitted to be generated along with *very, quite, rather,* etc. by the phrase structure rule.

Accordingly, (12) is to be derived from two source sentences, each containing an appropriate adverbial, as in (16):

(16) He is that tall.
She is that tall.

The first *that* (of the matrix) Lees permits to be replaced by one of the comparative markers: *as... as* or *more... than*, or the like:

(17) He is that tall } => He is as tall as...
He is more tall than...

By obligatory *that*-deletion, *He is as tall as she is tall* is derived. By optional reduction, *He is as tall as she* is generated.

Lees's analysis has many merits, but no fewer objections to it can be raised. In his paper, Lees proposed a framework within which to analyse comparative constructions. The proposal appeared very appealing since all other formal-syntactic discussions assumed that comparatives were to be derived from a deep structure consisting of two constituent sentences. He also pointed out a number of problems which such a framework implies: (a) structure of constituent clauses, (b) pairability of constituent clauses, (c) comparative transformation, to mention some of them.

Lees recognized the fact that in certain comparatives quantification is involved, and that this fact should be somehow reflected in the structures underlying comparative constructions, hence the *that*'s in the constituent clauses.

We wish now to mention some of the shortcomings of Lees's analysis. He discussed only simple adjectival comparatives of copulative type, with the intention of providing rules which would account for all comparative structures in English. Future work on the syntax of comparison disclosed the complexity of structure and typological variety of comparative expressions, so Lees's proposal is at best applicable to simple comparatives only.

But the real sin committed by Lees and also by his followers was to assume that in the underlying structures there are strings with an adjective in the positive degree, as inputs to transformations leading to a sentence with that adjective in the comparative degree. Such a deep structure has to be rejected for semantic reasons, for it is semantically uninterpretable. *He is as tall as she* does not mean that he is tall and that she is tall, hence one cannot have in the deep structure sentences with adjective in the positive degree as the conceptual units.

Despite the evident inadequacy of the two-sentence analysis of comparatives, attempts to derive them from sentences with positives in the deep structure keep appearing (cf. Post 1975, Wołoszyk-Pisarska 1976).

## 1.2 PROBLEMS OF THE TWO-SENTENCE ANALYSIS OF COMPARATIVE CONSTRUCTIONS

We now turn to a discussion of certain problems pertaining to the two-sentence analysis of comparative constructions.

### 1.2.1 The structure of constituent clauses

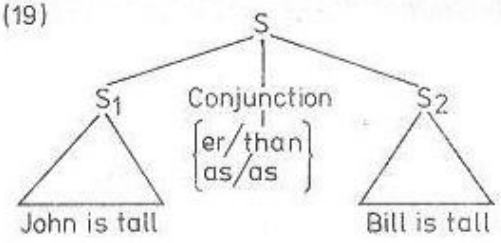
In Smith (1961) simple comparatives have in the deep structure two symmetric sentences of the scheme N *is* A, where A is an adjective in the positive degree. Smith proposes that simple comparatives be formed by conjunction of such sentences with *-er... than, as... as.* In her proposal, sentences like the following:

(18) a. John is taller than Bill.
b. John is as tall as Bill.

have the underlying representation like (19):

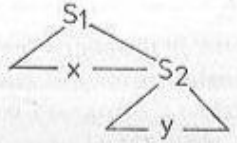


(19)




It is important to note that in formal-syntactic discussions of comparative constructions, only in Smith the constituent clauses are combined by means of coordination. In all other analyses, $S_2$ is assumed to be subordinate to $S_1$:

(20)




In Chomsky (1965), comparatives are derived from two underlying sentences of the form:

(21) $S_1$ N is Comp (S) Adj
$S_2$ N is $\emptyset$ Adj

where Comp is *-er/more... than, as... as.* Needless to say, the adjectives are in the positive degree.

In his brief discussion, Chomsky does not specify the nature of Comp, and the relation in which it stands to Adj of the matrix sentence. If it is some kind of adverbial modifier, as McCawley (1968) assumes, then Chomsky's analysis is similar to Lees's in that it has a quantifier in the underlying structure. However, Chomsky is not explicit on the nature of the Comp formative, so we assume that he did not consider it necessary to have a quantifier in the deep structure of comparatives, at least for his discussion of conditions under which deletion transformation applies.

Doherty and Schwartz (1967) admit that „the framework within which their analysis is developed is described in Chomsky 1965" (1967: 904). A two-sentence comparative in this account is composed of two source sentences:

(22) $S_1$ NP be $A_1$ $S_2$ Adj
$S_2$ NP be ? $A_2$ Adj

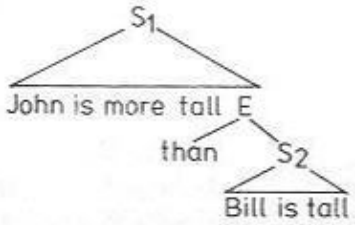
where $S_2$ is embedded in $S_1$ after $A_1$. In $S_2$, Adj dominates A and '?' which, as they say in footnote 3 is a makeshift for degree modifier of A. Doherty and Schwartz conclude that $S_2$ may turn out to be a constituent of some NP over the $N_{degree}$. Consequently, they treat the constituent sentence as a modifier of $A_1$, answering 'How A?'. In the derivation that they propose '?' is replaced by *than. Er* is not present in the deep structure, but is introduced transformationally by the Comparative Rule.

Stanley (1969) derives the simplest comparative constructions from the constituent clauses of the form:

(23) $S_1$ N be more A E
$S_2$ N be $\phi$ A $\phi$

For such constructions, he proposes the following deep structure:

(24)




The matrix sentence ($S_1$) contains an adverbial 'extent' node which, in addition to containing comparative morpheme like *than*, is also a source of measure phrases such as *six feet* and the like. With more complex comparatives, the node E may be contained in a relative clause.

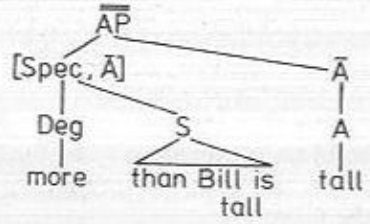
Hale (1970) has a quantifier in the matrix sentence, which quantifier he identifies with actual lexical items of English: *many, few, much, little,* etc. The constituent clause, which Hale calls the comparative construction, consists of a comparative element and a comparative complement, The set of comparative elements includes *er, as, too, so, the... est* and others. The comparative complement is either a clause or a reduced clause. The comparative construction itself is a modifier of the quantifier element.

An essentially identical interpretation of comparative constructions is offered in Bowers (1975). Since Hale's proposal can easily be expressed with Bowers's formalism, we will pass on to the latter analysis. Bowers adopts Chomsky's $\overline{X}$ convention (Chomsky 1968) to introduce a set of higher categories. According to this proposal, the internal structure of nominal phrases, adjectival and adverbial, is very similar, if not identical:

(25) $\overline{\overline{X}} \longrightarrow [\text{Spec}, \overline{X}]\overline{X}$

Thus the specifier of an adjectival phrase consists of a small class of degree elements which can optionally have an associated sentence. S is associated with Deg in the specifier of AP. Since *than* is in the optional S, we may assume that Deg corresponds to Hale's comparative element, while S is equivalent to his comparative complement. Hale and Bowers assume that the head adjective, i.e. the matrix adjective, has its counterpart in the S of the specifier. Thus, Bowers recognizes the deletion rule postulated for comparative constructions. The deep structure for a simple comparative in Bowers is something like the following:

(26)






Evidently, the comparative clause functions as a modifier of predicate adjective.

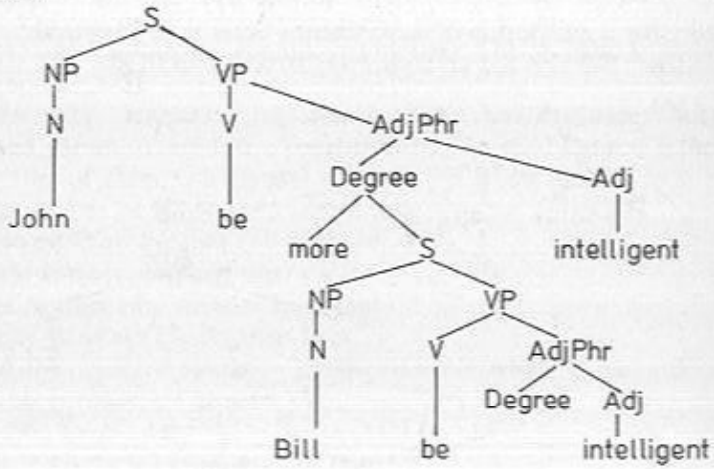
Now we want to turn to the two proposals which differ from the ones presented above in that they explicitly stipulate the quantifier expression in both constituent clauses underlying comparative constructions. The first of them was advanced by Huddlestone (1971), the second by Bresnan (1973).

Huddlestone's analysis, as he himself admits, draws heavily on Lees (1961). He assumes the coupling of symmetrical sentences, at least for simple adjectival comparatives. Huddlestone derives such constructions from two constituent clauses, each of which has the abstract degree element generated by phrase structure rules. Thus a construction like the following:

(27) John is more intelligent than Bill.

is assigned the following marker phrase:

(28)




The second part of the discontinuous comparative morpheme (*as, than*) is transformationally attached to the abstract Degree element in the constituent clause.

In contrast to other authors, excepting Lees perhaps, Huddlestone finds it appropriate to justify the presence of an underlying $S_2$, and the presence of the abstract Degree element. As regards the problem of constituent clause, Huddlestone repeats Lees's arguments concerning comparatives with overt clausal complements, ambiguity of certain comparative constructions, and selection restrictions. Accordingly, the justification for the presence of the abstract Degree element in the constituent clause becomes of interest.

Huddlestone assumes that the Degree element accounts naturally for the fact that *John is taller than Bill* does not entail that Bill is tall, it entails that Bill has some degree of tallness. For the underlying constituent sentence is claimed to be not *Bill is tall* but *Bill is Degree tall*. Huddlestone realized that positive adjectives cannot be present in the deep structure of comparative constructions, hence his Degree element has to cope with this condition on deep structure. Naturally, in a grammar which inserts actual lexical items in deep structure, this was the only way to cope with semantics.

Additionally, the analysis postulating abstract Degree element enabled Huddleston to express the generalization concerning the likeness of function of the abstract element to which *than/as* is attached and of the *more/as* + S in the matrix.

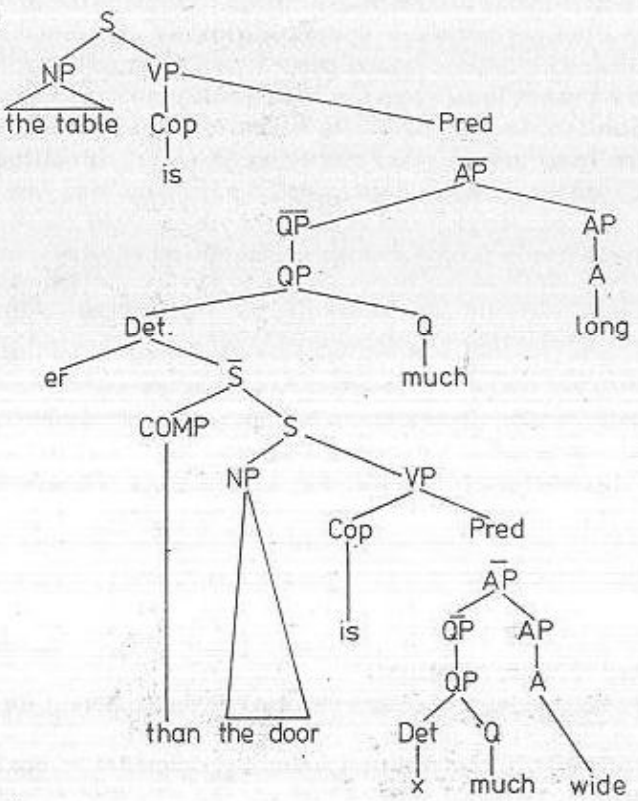
Bresnan (1973) in her analysis adopts the background assumptions of the previous works. She recognizes subordinate origin of comparative constructions, and the coupling of symmetrical sentences as the route of deriving them. Bresnan's analysis is superior to any previous syntactic discussion of comparatives. For the first time we are presented with a detailed description of the internal structure of the Quantifier Phrase (QP)[1].

A large portion of her paper is devoted to a detailed description of what she calls the head of the comparative clause, that is that part of the construction not contained in the *than* clause, with exactly identical internal structure, except for Det of Q, i.e. reference point of comparison, which is left unspecified.

The Quantifier Phrase, which is a constituent of the head, can modify adjectives, adverbs, and verbs as well as nouns. In this way, Bresnan provided a uniform framework for a description of comparatives other than adjectival.

A sentence like (29) has an underlying structure like (30):

(30)




[1] Probably in Bowers (1975), we find a similarly detailed analysis of the quantifier phrase. Unfortunatelly, Bowers's work only marginally treats comparatives, his primary objective being the syntax of adverbs and adjectives in English.



*Er* and *as* originate in this analysis as determiners of the head. The comparative clause is a complementizer to the matrix head, which is indicated by COMP dominated by S in the above representation. Bresnan extended COMP to *than* and *as*, so that they play the same role as *that* in relative constructions (cf. Bresnan 1971). The adjective of the comparative clause has the unspecified Det(x) in the QP, which may be thought of as a Det such as *so* or *that*.

### 1.2.2 Phrasal complements in comparative constructions

In the papers mentioned above, it was assumed without exception that in their deep structures, comparative constructions have two full clauses, even if the constituent clause surfaces as *than* + NP. The chief reason for which most of transformationalists assume a uniform two sentence source for comparative constructions seems to be the generality of application of such a framework. Naturally, one is justified to think that the surface *than* + NP is present in the deep structure in exactly this form, but such an assumption would imply that there are two distinct types of comparative complements, i.e. clausal and phrasal. This is indeed the position taken in Hankamer (1973).

To justify his claims, Hankamer uses evidence from those languages which have overt clausal and phrasal comparative constructions. Classical Latin had these two constructions. One of them, the phrasal construction is exemplified in (31). The complement appears as an NP in the ablative case:

(31) a. Cato est Cicerone (abl.) eloquentior
'Cato is more eloquent than Cicero'
b. Tua consilia sunt clariora Luce (abl.)
'Your plans are clearer than Light'.

Latin also had the other comparative construction, in which the complement is introduced by the conjunction *quam:*

(32) a. Hi libri (nom.) sunt clariores quam illi (nom.)
'These books are more famous than those'
b. Contionibus (dat.) accommodatior est quam iudiciis (dat.)
'Fitter for popular assemblies than for courts'
c. Misericordiā (abl.) dignior quam contumeliā (abl.)
'More worthy of pity than of disgrace'.

The complement appears preceded by the conjunction *quam* and in the same case as the main clause subject.

Hankamer claims that the complements introduced by *quam* are reduced clauses, and in sentences like (32) they are derived from underlying full clauses, and that they remain clause-like even though they are reduced to a single constituent.

Latin has, in addition to the maximally reduced expressions where all that remains of the former clause is the NP, comparative constructions with *quam* followed by non--reduced or reduced clauses:

(33) a. Magis timeo quam spero
'I fear more than hope'
b. Haec verba sunt Varronis, hominis doctioris, quam fuit Claudius
'These words are from Varro, a more learned man than Claudius was'

c. Non nascitur ex malo bonum, non magis quam ficus ex olea.
'Good is not born out of bad, no more than a fig tree from an olive'

Latin has also adjectives in such constructions:

(34) Exercitus erat ditior quam fortior
'The army was more rich than brave'

In short, *quam* may be followed by all kinds of constituents. This clause junk can be accounted for only as the remains of underlying full clauses which have undergone ellipsis. Any other account fails to capture the generalization that the junk in comparative expressions is always possible leftovers from full clause.

Hankamer observes that there are a number of languages which like Latin have both clausal and phrasal constructions. The following are examples of such constructions from Hungarian:

(35) a. János magasabb mint Péter (clausal)
'Janos taller than Peter'
b. János magasabb Péternél (phrasal)

Similarly in Serbo-Croatian we find phrasal constructions employing the preposition *od* and a clausal construction with the conjunction *nego:*

(36) a. On je viši ode mnie (phrasal)
'He is taller than me'
b. On je viši nego ja (clausal)
'He is taller than I'

Hankamer discovers that in the languages involved, it is not possible to move the complement of clausal comparative constructions, while in the phrasal constructions the complement is mobile. The following are unacceptable in Hungarian:

(37) *Mint ki magasabb Janos?
'Than whom taller Janos?'

The same constraint holds in Serbo-Croatian, as is attested by the following examples:

(38) a. *Od kogo je on viši?
'Than whom is he taller?'
b. *Nego kto je on viši?

Hankamer observes that also in English certain complements are mobile, while others are not, so he concludes that in English the same constraint on movement of complements obtains.

(39) a. You finally met somebody you're taller than.
b. A lot of them I like mine better than.
c. Who does she eat faster than?
d. ?Alice is the one person Max likes Susan more than.
e. ?It's Alice Max likes Susan more than.
f. ?There is nothing than which I like avocados less.
g. *There is nobody than whom I like avocados less.

Thus, English has two distinct comparative constructions just like Latin does, one clausal and one phrasal, only in English they look alike, because the conjunction *than* of the clausal construction happens to be homophonous with the preposition *than* of the phrasal construction. In English, it is the prepositional constructions,



corresponding to Latin ablative constructions, that are movable, for objects of prepositions generally can move.

In conclusion Hankamer gives one more support for his analysis. Latin allows adjectives as complements in the clausal constructions, while not allowing them as phrasal complements. Under the assumption that English allows the same phrasal constructions as Latin, it must be predicted that the adjective complements in English will be immobile, and they are:

(40) a. The administrators are more stupid than malicious.
b. *Malicious though the administrators are more stupid than.
c. *Malicious is what I claimed they were more stupid than.
d. *Malicious, I would say they were more stupid than.

This prediction also follows from the fact that in English adjectives cannot be objects of prepositions. It still only follows, however, from the assumption that the mobile complements of English are in phrasal constructions.

Hankamer concludes, then, that there are two *than*'s in English because like many other languages which overtly have two distinct comparative constructions, and consequently one should distinguish between clausal and phrasal complements in comparative constructions.

We know of only one work, in which it is attempted to explain the strange fact that the surface *than* NP complement is felt to be derived from underlying NP, at the same time retaining the twin-sentence base. The work involved is Ross's dissertation of 1968.

Ross defends the twin-sentence analysis by showing that whatever follows *than* in the surface structure must be of sentential origin. More precisely, Ross is concerned with the question whether *Bill* of (41) should be immediately dominated by S.

(41) a. John is taller than Bill.
b. John is taller than Bill is.

It seems reasonable that the phrase *Bill is* should be called a sentence, provided that the underlying structure contained the sentence *Bill is tall*. However, the phrase *Bill is*, which it seems correct to call a sentence, ceases to be felt to be one, when the word *is* is further deleted. Ross proposes to explain this peculiarity of comparative constructions in terms of the tree-pruning condition upon the well-formedness of trees, which applies to the effect of deleting any non-branching S nodes occurring in any derivations of sentences of any language. After *is* is erased in (41a), the S node dominating both it and *Bill* is left with only one node, hence it is pruned. The final effect is that subject of the pruned S is felt as if derived from an underlying NP.

### 1.2.3 Constraints on comparative clause pairing

The significance of the problem of constraints has been recognized by everyone involved in writing grammars of comparison. Two papers written within the framework of standard theory, i.e. Huddlestone (1967) and Hale (1970) are *in toto* devoted to a discussion of various conditions on pairability. In other works, their authors at least state some of the constraints on pairing needed for their argumentation. In what follows, we wish to concentrate on three basic constraints on comparative clause pairing mentioned in the literature involved.

The primary condition imposed on the pairing of clauses concerns their structural parallelism. Stanley (1969: 288) formulates the following constraint:

(42) $S_{matrix}$ parallel in structure to $S_{constituent}$

This is needed to rule out such sentences as:

(43) *John is more energetic than Mary went home.

where there is an adjective in $S_{matrix}$ but none in $S_{constituent}$. The same constraint rules out such sentences as (44):

(44) *John is more energetic than Bill saw a girl who was (energetic).

where the adjective is in a relative clause in $S_{constituent}$ but not in $S_{matrix}$. The same constraint is stated in Hale (1970: 35).

Hale additionally requires that the quantifier element modified by *-er* be paralleled by an identical quantifier element in the *than* clause, as in (45):

(45) Peter ate less than they gave him.

derived from the underlying source:

(46) Peter ate *-er* little N
They ate *than* little N.

On the same grounds, he rejects (47):

(47) *Peter ate more than they gave him little.

because the paired quantifier elements are not identical:

(48) Peter ate *-er* much N
They gave Peter *than* little N.

Hale assumes that *-er* and *than* are related to their respective quantifier elements in the same way.

Stanley and Hale point out to the structural parallelism of constituent clauses. A different constraint is proposed in Huddlestone (1967), where functional parallelism of certain constituents is required. He gives the following generalization:

(49) „the comparative expansion must dominate an occurrence of *than* with the same function as the *more* which it presupposes" (1967:94).

Considering the functions of *more*, Huddlestone distinguishes the following:

(50) a. Mary bought more records than Peter — Det in NP
b. Mary achieved more than Peter — head in NP
c. Mary talks more than Peter — head in AdvPh
d. Mary is more talkative than Peter — head in AdjPh
e. Mary bought a more expensive car than Peter — modifier of Adj head
f. Mary talks more quickly than Peter — modifier of Adv head

Underlying the comparative expansion, Huddlestone has:

(51) a. Peter bought than records
b. Peter achieved than
c. Peter talks than
d. Peter is than talkative
e. Peter bought a than expensive car
f. Peter talks than quickly

If the *than* clause has a different function from that of the associated *more*, one gets such ungrammaticalities as:



(52) a. *Peter bought more records than Mary is talkative.
b. *Peter talks more quickly than Mary bought an expensive car.

There is, however, no such functional constraint on the group dominating *than*. Huddlestone (1967) remarks that there is no general rule specifying the function of the group dominating *than*, for the latter does not necessarily have the same function as the group dominating *more*. As the evidence supporting his claim, Huddlestone gives the following examples:

(53) a. He bought more books than he needed.
b. He bought more books than he would fit on his shelves.

In (53a) the NP containing *more* is a complement in the matrix clause, just as is the NP *than books* in the constituent clause. In (53b) the group containing *more* is a complement, while that containing *than* is subject.

In Chomsky (1965: 183-4) we find a suggestion that the feature composition of compared formatives may be relevant for comparative clause pairing. Chomsky's suggestion has been discussed at length in Hale (1970), who stipulates that the heads of compared constituents must have compatible sets of syntactic features. In the case of adjectival constructions like (54):

(54) *The committee meeting was longer than the table.

The ungrammaticality results from the fact that the matrix *long* is an adjective of time and the constituent clause *long* is an adjective of dimension. This can be understood as a result of selection between the adjective and the subject which is [— physical object] [+ activity] on the one hand, and between the adjective and the subject which is [+ physical object] [— activity] on the other. Since *long* is what we have termed the head of comparison, the features of long are what concerns us here. It may be concluded that adjectival compared constituent heads marked [+ time] are not pairable with those marked [+ dimension].

Hale discusses a number of other examples involving the feature composition as the factor determining the pairability of compared items. An important aspect of Hale's proposal is that semantic matching plays large part in the comparison pairing.

### 1.2.4 The comparative transformation

Now we want to discuss in some detail the rules which operate on the constituent clauses in order to generate grammatical comparatives. Since the earliest generative account of comparative constructions (Lees 1961), the comparative transformation has been considered to involve a number of processes. In Lees, the transformation embeds elements of the constituent sentences as adverbial modifiers of an adjective or adverb in the matrix, together with the set of reduction rules and morphophonemic rules providing comparative adjectives with their proper phonemic shape.

Smith (1961) requires that the comparative conjunction provide for two operations only, i.e. conjunction and deletion under appropriate circumstances. In her proposal, a single rule for comparative conjunction conjoins two constituent clauses with comparative morphemes. The conjoined sentences are later subject to deletion of identical constituents.

Starting with *Aspects*, grammarians begin to share the view that the comparative transformation involves two types of operation; (a) an erasure operation in which an

adjective of the matrix deletes (or replaces with a proform) an associated adjective in the embedded clause, (2) the shift of some constituents of the constituent clause (cf. Chomsky 1965, Stanley 1969, Hale 1970, Huddlestone 1971, Bresnan 1973).

According to Chomsky (1965: 178-9), the comparative transformation applies to the strings of the following form:

(55) John is more than # Bill is clever # clever

1 2 3 4 5 6

deleting 5 and #, and permuting 4 and 6. A final option is to delete the repeated copula.

There is a fair agreement as to what is to be reduced or replaced in the constituent clause; it is not clear what is to be shifted out of the constituent clause however. Evidently what is permuted in the individual proposals is a natural consequence of prior assumptions concerning the structure of the constituent clauses, and the nature of their linkage.

Probably, a more interesting problem relates to the reduction of repeated items. The need to have such a rule or rules, which is a consequence of the requirement that the constituent clauses be of parallel structure, was immediately recognized by Lees and his followers.

Crucial to any reduction rule operating on identical items is the question what kind of identity one has in mind. In Lees, Smith, Doherty and Schwartz, and Stanley the identity is uderstood as a formal one. Lees (1961) requires that constituents of $S_2$ exactly repeat those of the matrix in order to become subject to deletion. Smith (1961) expects that the elements of the conjunction that are shared are deleted. The choice of examples in Doherty and Schwartz (1967) indicates that when they say that the identity of nouns and adjectives (verbs) allows deletion, they have in mind formal identity rather than referential identity. For example, they derive the following:

(56) John knows a richer doctor than Tom knows

from the constituent clauses:

(57) John knows a doctor$_1$
The doctor$_1$ is rich
The doctor$_2$ is rich
Tom knows a doctor$_2$.

In their analysis, doctor$_1$ is used to delete doctor$_2$, and the kind of identity involved here is evidently formal identity. It is obvious that doctor$_1$ and doctor$_2$ cannot be coreferential.

In Chomsky (1965: 179-184) we find a suggestion that the formal identity on erasure fails to account for certain examples:

(58) a. These men are more clever than Mary.
b. Ces hommes sont plus intelligents que Marie.

The deletion of the copula should be prevented here, since it has the feature [+ plural] in the matrix, and [— plural] in the embedded clause. Furthermore, in the case of (58 b) the deletion of the adjective of the constituent clause should be blocked, since it differs from the adjective of the matrix in gender and number.

The explanation why the deletion is not blocked in the above examples is available if, as Chomsky suggested, formatives are treated as complexes of features rather than



unanalysable entities. Thus, Chomsky says that features added by agreement transformation are not part of the formative in the same sense as those which it assumes as it enters a phrase marker, i.e. the inherent features. He concludes that features introduced by transformations into lexical formatives are not to be considered in determining when deletion is permitted. Only the inherent features are considered in determining legitimacy of deletion, and what is in fact involved in determining the legitimacy of deletion is not identity but rather nondistinctness in the sense of distinctive feature theory. Although Chomsky himself admits that in certain cases nondistinctness condition is not sufficient to block deletion, many linguists assume it as a valid criterion (cf. Huddlestone 1971 a, Bresnan 1973).

The problem of identity condition on deletion in comparative constructions was later taken up and the inadequacy of Chomsky's proposal indicated in McCawley (1968 b). McCawley discusses Chomsky's example, where despite the evident distinctness of two adjectives, the erasure rule is not blocked.

(59) John is as sad as the book he read yesterday.

He suggests that if different readings, associated with the same phonological shape, are considered to be different lexical items, then the problem of Chomsky's example like (59) is solved. According to McCawley, there are two different lexical items, *sad*$_1$ meaning 'experiencing sadness, said of a living being', and *sad*$_2$ meaning 'evoking sadness, said of an aesthetic object'. This means that (59) should be derived from four deep structures depending on whether the two items labelled *sad* are occurences of *sad*$_1$ or *sad*$_2$. Of these four deep structures, the ones with *sad*$_1$ and *sad*$_2$ in both places would be anomalous because of a selectional violation in the embedded and matrix sentences respectively. The structure having *sad*$_1$ in the matrix and *sad*$_2$ in the embedded clause could not undergo the comparative transformation because the two adjectives are not identical. For exactly the same reason the structure having *sad*$_2$ in the matrix and *sad*$_1$ in the constituent sentence could not undergo deletion and thus could not yield (59). McCawley concludes that the condition on the erasure should be reformulated to mean something like the following: the identity condition on deletion involves the identity of readings. But this reformulation is not acceptable for linguists who like Chomsky have in the deep structure polysemous items.

### 1.3 REVISIONS OF THE TWIN-SENTENCE BASE ANALYSIS

In this section, we survey a number of proposals put forth as alternatives to the twin-sentence base analysis. Their authors share the view that comparison is a semantic problem rather than a formal syntactic one. Accordingly, they assume that the semantically uninterpretable twin base for comparative constructions should be replaced by one which is adequate semantically. They do this either proposing a simplex base underlying comparatives, as Campbell and Wales (1969) suggest, or retaining the two underlying clauses at the same time rejecting the requirement of the parallelism of their structure, as Ross (1969), Seuren (1969, 1973) and Rivara (1975) do. Still others overtly assume that the underlying representation of comparative constructions is identical with their semantic structure. This branch is represented by Bartsch and Vennemann (1972), Ross (1974), Van Buren (1976), Rusiecki (1976), McCawley (?), and Post (1977).

### 1.3.1 Campbell and Wales's simplex base for comparative constructions

Campbell and Wales assume that there is no *a priori* reason to prefer twin-sentence base analysis of comparative constructions to the analysis postulating a simplex underlying structure. The only motivation for the former that they can think of, is a historical one, i.e. a comparative morpheme was traditionally referred to as the comparative conjunction (cf. Jespersen 1929, Poutsma 1914). They admit, however, that to generate a comparative like the following:

(60) The river is as deep as it is wide.

the twin-sentence base analysis has to be retained. But this fact does not bother them, because the generalization missed here is gained somewhere else in the deep grammar, namely, the simplex base proposal has the advantage of relating comparatives to other syntactic structures of English.

Campbell and Wales noticed the formal and semantic parallelism between transitive, both active and passive, and comparative constructions, the two types of structures in involving a two-place predication:

(61) a. Mary cooked the fish.
b. Mary is more beautiful than Jane.
c. Mary was embarrased (by Jane).
d. Mary was (more) embarrased (than Jane).

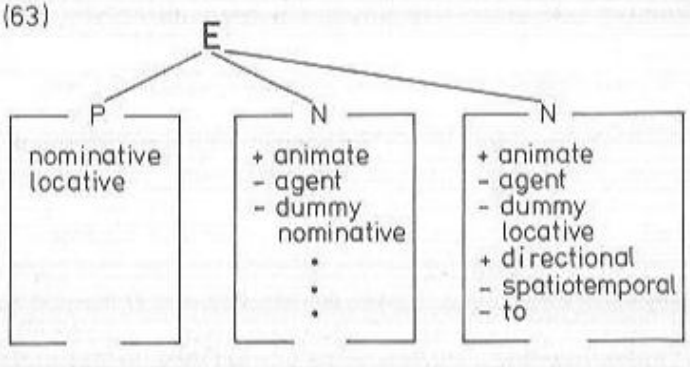
These observations led them to the conclusion that comparative constructions can be analyzed as two-place predications. In their formalism, Campbell and Wales follow Fillmore (1968) in that NP's introduced as co-constituent of verbs, follow the verb in the underlying structure. The NP's have notional labels characterizing their functions in the sentence. They are interpreted as features of NP's introduced by subcategorization rules. The case features relevant for comparatives are Nominative (Fillmore's Objective) and Locative.

For a comparative construction like (62):

(62) John is more clever than Bill is.

Campbell and Wales propose the underlying structure as in (63):

(63)




The proposed analysis is not without merits, but the number of deficiencies it shows makes one consider it as inappropriate as a uniform framework for the intended analysis. The analysis is adequate semantically in that the comparative construction is not derived from constituent clauses with positive adjectives in



predicative position. However, it fails to be satisfactory with respect to many other things. For instance, there is no place for markers of quantification in their base. That quantification is involved in many kinds of comparison was realized by many transformationalists (cf. Hale 1970, Huddlestone 1971a, Bresnan 1973), and it was assumed that an analysis which is to be adequate should respect this aspect of comparison. Another drawback of the proposed analysis consists in the limited scope of its application. Campbell and Wales discuss only 'one-variable' comparatives like *John is taller than Bill* and *John is as tall as Bill*. For 'two-variable' comparatives like *The river is as deep as the lake is wide*, they admit that the previous twin-sentence analysis has to be retained. In other words, Campbell and Wales fail to provide a uniform framework in which to describe the various expressions labelled as comparative constructions.

There also seems to be a circularity in their argumentation. They say that the criterion of generality of application claimed by the proponents of two-sentence analysis is irrelevant, and comparatives should be derived from different sources. On the other hand, they use the same argument of generality of application in support of their own proposal, i.e. when they say that under their analysis comparative expressions get related to other transitive and adjectival constructions. But for a person working on comparative constructions, the analysis which relates all comparatives is more preferable than the analysis which relates comparatives to other structures of the language. The former analysis is to be preferred for it relates linguistic realizations of the same mental operation, while the other analysis relates only identical structures. It is strange that Campbell and Wales who accuse transformationalists of „having assigned superficial status to the linguistic expression of what they believe to be a fundamental linguistic, logical and intellectual operation" (Campbell and Wales 1969: 249) commit exactly the same sin, at least at the time of advocating their own proposal.

### 1.3.2 Underlying negative element in comparative clause

As early as 1917, Jespersen said that „negation is implied in all secondary members of comparative clause" (Jespersen 1917: 80). Thus the sentence:

(64) She is richer than you think.

implies something like (65):

(65) You do not think she is so rich as she really is.

The idea that negation is implicit in comparatives has been picked up and developed by a number of scholars. Small (1924) argues in favour of a paratactic origin of comparatives, and postulates the following proto-structure in which negation is present:

(66) NP + adj + NP + neg + adj

Such structure underlies actual surface expressions:

(67) John is tall, Bill is not tall.

Recently, certain scholars suggest that in some languages the comparative particle incorporates the negative element, evidently to justify the absence of negation in the surface structure of comparatives. Joly (1967) discusses the etymology of *than*, and convincingly argues that it derives from OE *þo-ne* i.e. neuter pronominal relative in the instrumental followed by the negative morpheme, the whole thing meaning 'by which

not'. In a recent work, Jurkowski (1976) examining East Slavic languages arrives at similar conclusions. He says that, diachronically, negation is included in the comparative conjunction of these languages. Thus, Polish *niż, niżeli,* Russian *neżeli* consist of negative particle *ne(ni)* and the particle *że(li)*. French *que-ne* seems to be directly corresponding to Slavic *neżeli.*

The evidence supporting the above observations seems to be provided by languages where the negative element is not incorporated by the comparative conjunction, and therefore negation is overtly expressed in the surface structure of comparatives. According to Seuren (1973), French *que* is derived from Vulgar Latin *quid* which is derived from Latin *quo*, meaning 'by which'. The negation element has not been incorporated into the comparative particle. The same phenomenon is observed in Italian where *non* + subjunctive is used in formal style.

In transformational grammar there have been three attempts at formulating deep structures in which the negation is present in the subordinate clause (cf. Ross 1969, Seuren 1969, 1973, Rivara 1975). The postulation of an underlying negative has been based on the following pieces of syntactic evidence:

(a) The use of negative *ne*, in certain types of comparative clauses in French, Italian, and Spanish:
(68) a. Il est plus riche que je *n'ai* pense.
b. Giovanni è più alto che *non* pensassi.

(b) The dialectal use of negatives to introduce comparative clauses in English:
(69) John is bigger *nor* I.

(c) The use of forms like *ever* and *any*, which occur in negative contexts and are excluded in affirmative contexts and are excluded in affirmative sentences:
(70) He solves problems faster than *any* of my friends *ever* could.
but not
(71) **Any* of my friends could ever solve those problems.
while
(72) a. Could *any* of my friends solve the problem?
b. At no time could *any* of my friends *ever* solve those problems.
c. If *any* of my friends *ever* solve those problems I'll buy you a drink.

(d) The use of modal *need* as in (73):
(73) John arrived earlier than he *need* have done.

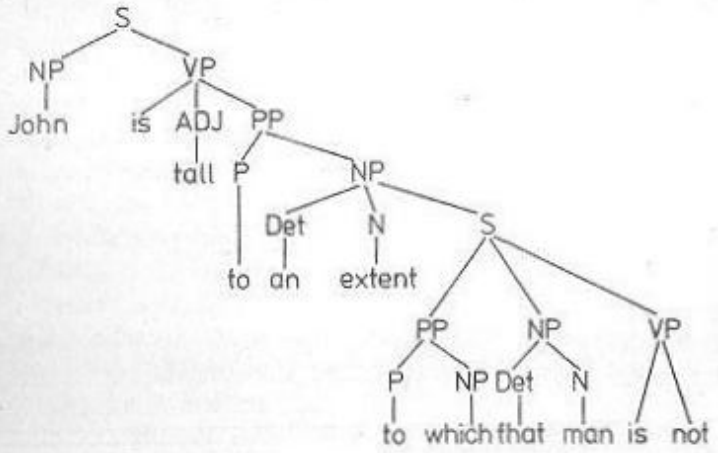
(e) Negative polarity elements like *yet, can help, can stand, can possibly* occur in negative contexts:
(74) a. That was more than I *could stand.*
b. He did more than I *could possibly* have done.
c. He has done more than I have *yet* been able to do.

(f) On the other hand positive polarity items like *already, pretty, just, as well,* require a positive context, and cannot occur in the comparative clauses:
(75) a. *John has saved more money than Bill has *already* saved.
b. *Bill runs faster than I would *pretty* much like to.
c. *You eat more than I could *just* as well do.

Considering the above evidence, Ross concludes that it is justified to propose for comparatives deep structures in which the negative element is present, as in (76):



(76)




In English, the deep negative element is obligatorily deleted because it cannot stand in the surface[2]. For instance, the following are ungrammatical in English:
(77) a. *John ran faster than Peter didn't.
b. *More people came than had not been invited.

Another proposal dwelling on the assumption of implied negation in comparatives was put forth by Seuren (1969) and later developed into a detailed analysis (Seuren 1973). Ross and Seuren recognize the need to have the negative element in the structures underlying comparative constructions; they disagree as to what is this underlying structure and as to what is its place in grammar. In Ross (1969), deep structure is Chomskyan syntactic structure, interpretable semantically and phonologically. In Seuren (1969, 1973), it is identified with the semantic structure underlying sentences. Its function is to be the input to the grammar. In other words, Seuren assumes that grammar is a converting device, mapping semantic structures into surface structures.

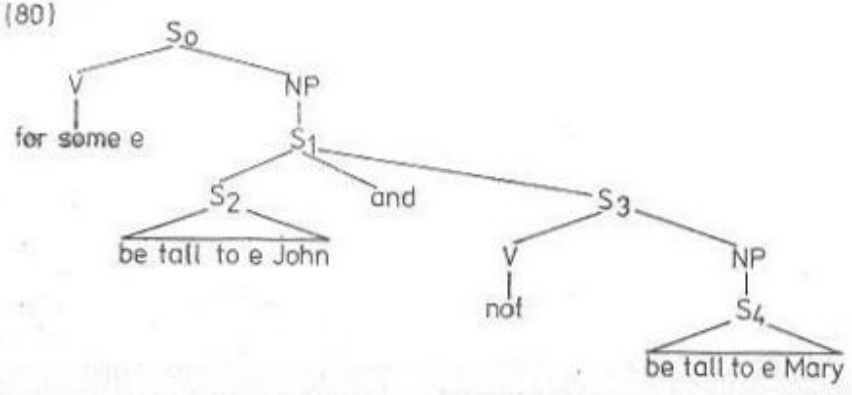
As remarked above, the idea of the analysis is presented in Seuren (1969) where he suggests that a sentence like (78):
(78) John is taller than Mary.
results from an underlying structure
(79) $E_{(degree)}$: John Pres be tall to that degree
and Neg: Mary Pres be tall to that degree

In his later work, Seuren proposes the following tree diagram for the sentence like (78):

---

[2] Green (1970) observes that comparatives in English allow negation in the *than* clause, but then the negative element has to be stressed:
(a) Punch is more responsible than Judy is nót responsible.
(b) *Punch is more responsible than Judy is not respónsible.
Similarly, (c) is acceptable, but (d) is not:
(c) Punch is more responsible than Judy is irresponsible.
(d) *Punch is more responsible than Judy is irrespónsible.

(80)




appended with the set of cyclic rules to transform a structure like the above into its corresponding surface form.

It has been said at the outset of this section that there is still another paper, whose author discusses comparative constructions within the framework of Ross (1969). The paper involved is by Rivara (1975). This work is of particular relevance for the present study because Rivara's interest is the deep structure of *as... as* constructions. He observed that *as...as* constructions behave similarily to *more...than* constructions in that they do not admit the presence of negation in their subordinate clause:

(81) a. *John is as generous as Peter is not.
b. *He met as many people as I didn't.

The reasons, however, are different. The negative polarity elements which easily occur in *more... than* constructions do not occur in *as* clauses:

(82) a. *John was as helpful as he *need* have been.
b. *I have saved as much money as Bill has *yet* saved.

On the other hand, *as* clauses take positive polarity items:

(83) a. John has saved as much money as Bill has *already* saved.
b. You eat as much as I could *just as well* do.

Interestingly enough, the French expletive negation never occurs in an equative:

(84) a. *J'ai autant d'argent quil *n'en* a.
b. *Je n'ai pas autant d'argent qu'il *n'en* a.

On the basis of the above observations, Rivara concludes that the complement clause in *as... as* constructions is inherently positive. Thus, a deep structure which should be assigned to such constructions, should be paraphrased as follows:

(85) John is as tall as that man = John is tall to an extent to which that man is (*tall).

The proposals of Ross, Seuren and Rivara have the following merits: (a) they account for the occurence of negation in the surface structure of comparatives in French, Spanish and Italian, (b) they account for dialectal use of negative for indicating comparative clause, (c) they account for the distribution of polarity items in comparative constructions.



The most serious drawbacks of these proposals seem to be the following: (a) at least Ross and Rivara have adjectives in the positive degree in their proposed structures. Hence their analyses fall victim to the same criticism as twin-sentence base analyses, i.e. the deep representations are uninterpretable semantically, (b) the presence of negation in the surface structure does not necessarily imply the presence of negation in the corresponding underlying representation. Consider the following:

(86) a. Don't come, or I'll kill you.
b. If you come here, I'll kill you.

which correspond to something like (87):

(87) If X then Y.

Thus the presence of negation in the surface structure of comparative constructions in certain languages should not be used as evidence for having negation in their deep representations, (c) the analysis must be semantically wrong for the reason that it is vague directionally, i.e. it predicts both:

(88) a. John is taller than Bill.
b. John is shorter than Bill.

### 1.3.3 EXCEED and EQUAL predicates in the semantic structures of comparative constructions

It has been suggested in a number of papers that the structure underlying comparatives involves predicate EXCEED combined with two NP's of the form *the extent to which S*. The S of *the extent to which S* has a predicate NP or a predicate Adj. This is the position taken by Ross and Perlmutter (1970), Lakoff (1970), Huddlestone (1971b), McCawley (?)[1]. In this framework, a sentence like (89):

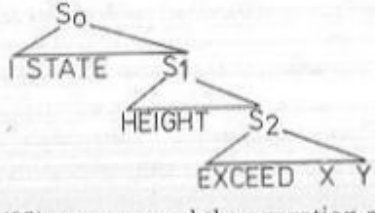
(89) John is taller than Bill.

is derived from the underlying structure like (90):

(90) The extent to which John is tall exceeds the extent to which Bill is tall.

In our paper of 1977, we attempted to develop this proposal. We suggested that all comparative constructions involve assertions of similarity/difference between two entities in some conceptual space. The relevant semantic structure underlying sentences like (89) is the following, under our interpretation:

(91)




To derive constructions like (89), we assumed the operation of the Predicate Raising Rule to the effect of combining HEIGHT and EXCEED, to be later replaced by *taller*.

EXCEED in our discussion corresponds to the relations of superiority and inferiority both types being specific instances of the basic comparison relation of difference.

[1] McCawley's paper is undated, hence (?) to indicate this fact.

Provided that there is only one predicate of difference,we are not able to account for cases like the following:

(92) Bill is shorter than John.

First of all, it is not known what kind of continuum predicate one is to postulate for this example. The existence of EXCEED points out to something like SHORTNESS, which we are reluctant to accept for the following reason: both in (89) and (92) we are dealing with a single continuum of height, its two different intervals being asserted by (89) and (92) respectively.

We think that the problem can be solved in two ways. Either we assume that difference is represented at the semantic level with two predicates MORE and LESS, instead of one EXCEED, and then in (89) we deal with the MORE, in (92) with the LESS relations in the uniform continuum of height.

Another solution might be to assume that (92) is derived from (89), the motivation for this being provided by the selection of topic and comment. Thus *John* is the topic in (89), *Bill* is the topic in (92). This solution is, however, psychologically unacceptable. We do perceive entities possessing greater as well as smaller quantities of properties.

It is evident that an analysis based on the semantic predicate EXCEED fails to be general enough to account for all comparative constructions of difference. What we need to account for all comparatives is semantic structures with several different comparison predicates, superiority and inferiority predicates being included in this number. Such a system of comparison relationships underlies discussions in Bartsch and Vennemann (1972), and Rusiecki (1976).

### 1.3.4 Comparative constructions in Natural Generative Grammar

The proposal of Bartsch and Vennemann is based on the assumption that one is justified to equate the semantic comparison relations greater, smaller and equal with mathematical functions '>', '<', and '=', respectively. The linguistic forms *-er, more, less/than, as... as,* etc. are simply mapped onto these underlying mathematical functions. Secondly, they assume that any kind of comparison presupposes measuring, which evidently is a consequence of the above. Accordingly, Bartsch and Vennemann have in their representations the measure function $f^m$ which assigns numerical values to objects compared along the scale for a given dimension (D). Thus, the generalized semantic structure of an elementary comparative sentence is

(93) $$f^m(x,D) > f^m(y,D).$$

The notation $f^m(x,D)$ indicates that there is only one measure function $f^m$ which is a two-place operator assigning to an object x and a dimension D the value of x in D. The existence of a single measure function reflects the psychological fact that 'measuring' is a unitary process; what changes is the dimension and not objects to which we apply it.

The meaning of a simple comparative construction like the following:

(94) John is taller than Peter.

can be represented as in (95):

(95) $$f^m_{\text{Height}}(\text{John}) > f^m_{\text{Height}}(\text{Peter}),$$

where the dimension here is height. (95) can be paraphrased as something like 'the numerical value of the measure function of height for John is more than the value of this function for Peter'. Thus, comparative constructions are statements about the relation between the values on the dimensional scale of the measure function for the two arguments. No numerical value, however, has to be stated, only the relation between the values, whatever they are.



The same may be said about sentences with the positive form of the adjective and the phrase *as... as*, like (96):

(96) Peter is as tall as Paul.

The semantic representation is like (97):

(97) $$f^m_{\text{Height}}(\text{Peter}) = f^m_{\text{Height}}(\text{Paul})$$

Again the numerical values of measure function for each of the two arguments are irrelevant. What is stated is the type of relation between them. Thus, the essential difference between *as... as* sentences and *more/less... than* constructions at the level of semantic representation is in that the former are based on '=' (or '$\geq$' or '$\leq$'), while the latter on the relations '>', '<' respectively.

The chief merit of this proposal consists in the convincing arguing that comparison always involves measuring, represented in their formalism by the measure function $f^m$. With this assumption, Bartsch and Vennemann are able to show that sentences with relative adjectives in the predicative function (98) are derived from the semantic structures underlying conventional *more/less... than* constructions:

(98) a. John is tall.
  a'. John is taller than Peter.
  b. The road is wide.
  b'. The road is wider than the lane.

The difference between the two sets consists in different second terms of comparison. In (a, b) we deal with some average norm, while in (a', b') with another individual.

Additionally, Bartsch and Vennemann related constructions like (99) to those like (98). They convincingly proved that superlative constructions differ from (98) a', b' in the presupposition attached. In the latter, the terms of comparison are distinct entities, while in the former (99) the second term is a reference set of which the first term of comparison is a member.

(99) a. John is the tallest of his brothers.
  b. This is the widest road in our country.

Our chief objection refers to the scope of applicability of Bartsch and Vennemann's proposal. The claim that comparison always involves measuring excludes from the class of comparative expressions so-called qualitative comparatives (see our section 2.1 below). In the rest of this study we will demonstrate that comparison does not necessarily presuppose measuring or quantification. For the same reason, we also object to treating 'equal' as one of the three basic comparison relations. In Chapter Two, we will attempt to show that 'equal' is a semantically complex notion, derived from some more elementary semantic elements.

### 1.3.5 Rusiecki (1976)

Rusiecki assumes, like Bartsch and Vennemann (1972), that comparison of two objects are based on the concepts 'equal to', 'more than', and 'less than', which are, in semantic analysis, the values of the measure function for a given pair of arguments.

All three are psychologically simple, because in order to compare two objects in respect of a dimension one does not necessarily have to know the numerical values of the measure function for each item; it suffices to place one object next to the other.

Rusiecki proposes to represent the meaning of sentences with the comparative degree of adjectives as a difference in the values of the measure function for the two arguments. Accordingly, pairs of such sentences as (100):

(100) a. John is older than Bill.
b. Bill is younger than John.

have the semantic representation:

(101) $f^{m}_{Age}(John) - f^{m}_{Age}(Bill) > 0$

The relation 'more than' implies that the difference between these values is non-null.

In his paper, Rusiecki claims that the relation 'less than' is simply the converse of 'more than', and thus is redundant. The choice between the two surface representations depends on the decision as to which of the two arguments is to function as theme and which as rheme.

(102) theme: John ⟶ John is older than Bill
rheme: Bill ⟶ Bill is younger than John

The relation 'equal to' implies that the difference between the values of measure function for two arguments is null. Thus, from the semantic representation like (103):

(103) $f^{m}_{Age}(John) - f^{m}_{Age}(Peter) = 0$

the following comparatives can be derived:

(104) a. John is as old as Peter.
b. John and Peter are of the same age.

The evident advantage of this proposal is that it enables to formalize the sentences in which the adjective in the comparative degree is accompanied by a numerical expression:

(105) $f^{m}_{Age}(John) - f^{m}_{Age}(Peter) = 2$
theme: John ⟶ John is two years older than Peter
rheme: Peter ⟶ Peter is two years younger than John

Instead of stating the difference in the values of the measure function exactly, the numerals *many* and *few* can be used.

(106) a. $f^{m}_{Age}(John) - f^{m}_{Age}(Peter) = MANY$
a'. John is much older than Peter.
b. $f^{m}_{Age}(John) - f^{m}_{Age}(Peter) = FEW$
b'. John is a little older than Peter.

Apart from the objections raised in connection with Bartsch and Vennemann's proposal, which are also applicable to Rusiecki's analysis, we wish to point out two other limitations of his framework.

In contrast to Bartsch and Vennemann, Rusiecki does not provide a single hint how his semantic structures might be related to their corresponding surface forms. This is evidently determined by the goals of the author set to achieve and the limited scope of the paper. The really serious drawback, however, consists in his reduction of 'less than' to the converse of 'more than', thus making the former redundant. This is in evident contradiction to his previous recognition of three basic relations of



comparison. Besides, it seems that this logically justified claim has no psychological reality. We do perceive objects being 'less than' other objects directly, without having first to sort out which of the two terms is 'more than', in order to assert later the converse.

### 1.3.6 Localist interpretation of comparative constructions

Van Buren's proposal (1976) is remarkable for his attempt to explicate the very concepts of 'more than', 'less than' and 'equal', which had either been reduced to mathematical functions (Bartsch and Vennemann 1972) or considered to be elementary (Rusiecki 1976).

Van Buren assumes that a generalized semantic representation of comparative constructions, in order to be valid, must reflect the existence of a difference over a constant dimension between two entities. To achieve this aim, he postulates a complex existence predicate which (a) expresses the existence of a difference over a constant dimension, and (b) defines the relative positions of the compared entities over the dimension. Van Buren reduces the concept of difference over a constant dimension to a perceptual or spatial one, i.e. distance. To relate distance and comparing, he postulates a category of journey which mediates between the two through its associations with space and time. The existence predicate for comparatives of difference has the following content:

(107) I assert there exists a distance on a scale x such that the [?] position on scale x is $\begin{bmatrix}\text{above}\\\text{below}\end{bmatrix}$ [!] position on scale x.

In utterance tokens of the type 'X is above Y' the implicit instruction to the traveller/hearer is:

(108) start at point Y, travel away from gravity, and you will reach X.

If 'X is below Y' the implicit instruction is

(109) start at point Y and travel towards gravity and you will reach X.

The direction of journey plus the point of departure together determine the surface characteristics of comparative constructions.

Van Buren's preoccupation was with the comparatives of difference, and that is why he did not provide a similar formula for comparatives of identity. Only in footnote 10 [p. 11] we find a suggestion as to what form such a formula should have. It should assert the non-existence of a difference over a dimension, which shows that Van Buren is eager to explicate the concept of '=' in terms of the 'more/less than' relations, or more precisely, he assumes, like Sapir (1944) that '=' is a transit point in the travel from 'more' to 'less' or from 'less' to 'more'.

Van Buren's analysis is unusual for its attempt to explicate the concepts 'more than' and 'less than' which to many grammarians are elementary, psychologically simple semantic notions. The difficulty with this proposal is that its author has no idea, as he himself admits, how his semantic structures could be formalized and related to their surface structures. Because of this inexplicitness, Van Buren's proposal can hardly serve as a framework for a description of comparative constructions in general, and the comparatives of identity in particular.

### 1.4 ON THE INADEQUACY OF TRANSFORMATIONAL THEORIES OF COMPARATIVE CONSTRUCTIONS

Curiously enough, all transformational analyses of comparative constructions take as their main objective the *more... than* constructions, and their authors content themselves with discussing some of the puzzling problems that such constructions pose. This statement is true both about formal syntactic and semantic descriptions of comparative constructions. Occasionally, a marginal treatment is to *as... as* equatives. To retain the criterion of generality and uniformity of treatment, syntacticians derive the *as... as* constructions from the two-sentence base, through the same derivational processes as the *more... than* constructions. Most of the quoted grammarians explicitly express this assumption (cf. Lees 1961, Chomsky 1965, Huddlestone 1971a, Bresnan 1973).

Transformational theories have been designed as frameworks for the description of the *more... than* constructions. Thus, they can at best be adopted as frameworks for the *as... as* constructions. It is doubtful, however, that the two-sentence base analyses, or any of the semantic proposals can serve as a uniform framework both for the *as... as* expressions and the ones illustrated by (4) through (6) in INTRODUCTION.

The main reason why none of the semantic analyses proposed so far can be used as the theoretical background for the present study is that they do not distinguish between quantitative and qualitative comparatives, i.e. constructions with quantified relation of comparison, and constructions with 'bare' relation of comparison. This distinction has to be made, at least for comparatives of identity, if the intended description is to be satisfactory. The analyses surveyed above either involve quantification or not, but none of the proposals employs both possibilities.

In Chapter Two, we present a proposal of a uniform framework for comparatives of identity, which we believe is devoid of the shortcomings and limitations of previous analyses.

## Chapter II

## ASPECTS OF THE IDENTITY SITUATION

### 2.1 SEMANTIC RELATIONAL STRUCTURE IN COMPARATIVES OF IDENTITY

The concept of semantic relational structure has been proposed by Berndt (1974: 42) with reference to semantic structures containing only the „most general content features, characteristic of the whole group of expressions belonging to the same type and representing, so to speak, its basic content". In what follows below, we discuss certain aspects of such a semantic structure for comparatives of identity.

From a semantic point of view, the constitutive property of any complex surface structure is its relational meaning, which we define, after Klemensiewicz (1958), as „assigned to a complex expression, manner in which the interdependence of its two propositions should be understood"[1]. The importance of the exact specification of relational meaning can hardly be exaggerated in view of the fact that a proper understanding of a given utterance is contingent on it.

Relational meaning has to be represented at the semantic level. Naturally, it also has to be reflected in the surface structure, if a given expression is to be interpreted unambiguosly by the hearer. At the semantic level, it is the predicates that can be the exponents of relational meaning, since they are the semantic elements which define relations, actions, states, qualities, etc. As regards the surface exponents of relational meaning in comparatives of identity, there are two types of such markers: (a) syntactic (conjunctions and correlatives), and (b) lexical (cf. section 4.2).

Having explained what relational meaning is and how it is to be represented in semantic and surface structures, we want to make some remarks on the relation of identity and the related concepts of similarity and equality. In current semantic literature, it is assumed that 'similar' and 'equal' are elementary semantic notions (cf. Joly 1967, Post 1977, Bartsch and Vennemann 1972, Rusiecki 1976). We will argue below, that of the three concepts, it is the relation of identity that is an elementary semantic notion in terms of which it is possible to explicate 'similarity' and 'equality'.

In Wierzbicka (1972b: 222), we find the following examples evidently involving the concepts of identity and similarity:

(1) a. John's opinions are the same as his father's.
b. John's opinions are similar to his father's.

[1] Translation ours, M.P. The original reads as follows: „znaczeniem stosunkowym nazwiemy ... przyporządkowany wypowiedzeniu złożonemu sposób rozumienia wzajemnej zależności ... dwu wypowiedzeń składowych w tym wypowiedzeniu złożonym" (Klemensiewicz 1958: 127).

She correctly observes that though their meanings are similar, they are not the same. If one wanted to regard 'similarity' as an elementary notion, as grammarians do, and represent these two sentences as related but not identical, one would have to analyze the idea of identity in terms of similarity. Wierzbicka is reluctant to do so, and so are we.

It seems to us that the concept of similarity can be explicated with a more basic concept of identity. The difference between the two is quantitative, i.e. to assert that X is the same as Y is to presuppose their 'total identity', identity of all the properties shared by X and Y. To say that X is similar to Y, on the other hand, is to presuppose identity of only some of the features shared by X and Y. In other words, to assert that X and Y are similar is to presuppose their 'partial identity'.

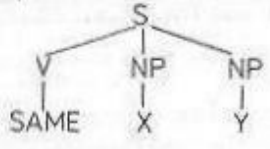
The concept of identity also appears helpful in explicating the related concept of equality, which to some linguists denotes one of the two basic comparison relations. Equality implies measuring, intensity, degree, in short quantification. Notice, that in uttering equative constructions like the following:

(2) a. X equals Y in strength.
b. X is as strong as Y.

one is in fact asserting the sameness of quantities of qualities possessed by two individuals. Consequently, we suggest that 'equality', like 'similarity', is explicable with the more basic concept of identity. In our interpretation, it has in its semantic structure two elements; one denoting quantity, the other denoting identity. Thus it appears appropriate to consider 'identity' as a more basic concept than 'similarity' and 'equality'.

In view of the above, it will be assumed in this study that comparatives of identity are syntactic structures based on the semantic relation of identity. Thus, comparatives of identity can be defined semantically as statements about the relation of identity holding between two terms. To render this fact, we suggest that in the semantic relational structure underlying comparatives of identity, there is a two-place predicate SAME representing this semantically elementary relation, as in (3):

(3)




Our next concern in this section will be the different status of the compared terms. It might be believed that the NP's in the following sentences have the same function, because it must always be the case that if the first equals the second the second must equal the first:

(4) a. John is as tall as Peter.
b. John equals my sister in height.
c. Fred's views are the same as his father's.

But this truth-preservingness of syntactic reversability holds only as far as the relation of identity is concerned. Hardly anyone would claim that the following are total synonyms of the above:



(5) a. Peter is as tall as John.
b. My sister equals John in height.
c. His father's views are the same as Fred's.

It is clear that the compared terms are taken in different ways. (4-5) involve the judgements that certain properties 'observable' in their subject NP's are relatable to properties attributable to object NP's. The second NP's serve here to identify a standard (S) according to which the entities named by the first NP's are assigned some sort of 'position'.

Grammarians assume that S should be identified with a referentially well-defined entity. Van Buren (1976) argues that if a speaker wishes to make sense, he is bound to presuppose that his hearer knows S. Thus if he, for instance, asserts that A is as long as B, he presupposes that B is well-known to the hearer, and therefore may serve as a fixed reference point. In Chapter Three, we will attempt to state explicitly what is meant by a speaker's knowing of the S.

In the above diagram, the predicate SAME has two referential indices for its arguments, which is a gross oversimplification. It is obvious that they have predicate--argument structure. We wish to show now that in the internal structure of these two arguments the distinction between two types of comparatives of identity is reflected.

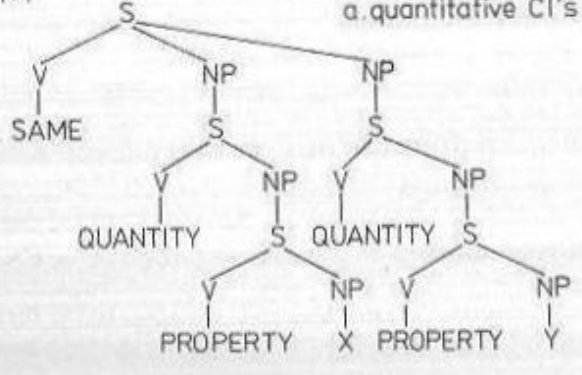
We alluded above that the properties attributed to compared terms can be modified as to their quantity. Consider the following sentences:

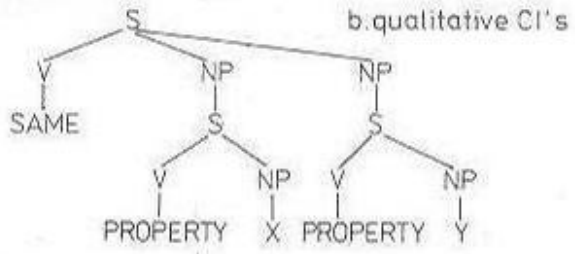
(6) a. John is as tall as Peter.
b. John's views are the same as Peter's.

(6a) presupposes that John and Peter are possessors of a property referred to as 'height'. Both individuals's heights are specified as to their quantity, though not numerically, and it is asserted that the quantities of 'height' that the two individuals have are the same, i.e. equal. In (6b) the individuals are presupposed to share a characteristic of 'view-having', nothing being said about their number or the like. What is asserted here is that the views of one individual are the same as the views of the other individual.

The above indicates that, at least, in comparatives of identity, the comparison relation can optionally be quantified. Accordingly, quantitative and qualitative comparatives should be distinguished. We propose this essential difference between the two types of constructions be reflected in the internal structure of the arguments of SAME:

(7)






The main difference between the two types of structures consists in that in the former the NP's dominate prepositions with QUANTITY predicates, while in the latter they dominate propositions in which PROPERTY predicates have for their arguments variables or other propositions (the triangles with indices represent these two options).

## 2.2 CASES OF IDENTITY

So far we have used the concept of identity without specifying the conditions under which it can be asserted. Logically, there seem to be six occasions on which the identity relation should be asserted:

(a) when all (possible and imaginable) properties possessed by two individuals/entities are shared;
(b) when two individuals/entities share a single property;
(c) when two individuals/entities share more than one but less than all properties;
(d) when the quantities of all properties shared by two individuals/entities are even;
(e) when the quantities of a single property shared by two individuals/entities are even;
(f) when the quantities of two different properties possessed by two individuals/entities respectively are even.

Cases (a-c) represent so-called qualitative comparatives of identity; cases (d-f) — quantitative comparatives of identity. Case (a) represents 'total' identity, as in the following:

(8) a. X and Y are identical.
b. X and Y are the same in gestures.

In (8b) the complement implies a number of properties, all of which are believed by the speaker to be shared.

Cases (b) and (c) represent two varieties of 'partial' identity or similarity, exemplified by the following:

(9) a. X and Y are similar in that they like to dance.
b. X and Y are similar in manners.

Case (d) has no linguistic realization. Case (e) constitutes a quantitative application of 'partial' identity (case (b)):

(10) a. X is as tall as Y.

The main difference between (e) and (b) consists in that in the former the relation is quantified.



Finally, case (f) can be viewed as still another instance of quantified similarity comparison:

(11) X is as wide as Y is narrow.

## 2.3 EXACT EQUALITY IN QUANTITATIVE COMPARATIVES OF IDENTITY

Some linguists have questioned the 'exact equality' interpretation of quantitative CI's, arguing that it need not always be so (cf. Campbell and Wales 1969, Mittwoch 1974, Horn 1976, Fries 1976, Cantrall 1977). They observed that in fact the *as... as* constructions need not denote 'exact equality'. Mittwoch claims that the following:

(12) John is as tall as Bill.

need not imply that Bill is as tall as John. It can mean that John is at least as tall as Bill with the implication 'possibly bigger'.

Fries (1976) maintains that in uttering *as... as* constructions we are rather saying that one object is approaching the other and is almost equal. Thus, in his interpretation, a sentence like (12) means that John is almost as tall as Bill. In saying this, Fries seems to be following Sapir (1944) in that 'equal' is a transit point in an imaginary movement from 'more than' to 'less than'. In other words, in the comparatives of equality, a kind of directional equality is involved. The use of such terms as *long* and *short* determines from which direction one approaches equality:

(13) a. Some of these boards are as long as 6 feet.
b. Some of these boards are as short as 6 feet.

In (13a) it is asserted that some of the boards in question approach 6 feet from below that length. By the same token, (13b) asserts that some of the boards in question approach 6 feet from above that length.

Thus sentences like (13) seem to have two senses, viz. 'exactly equal' and 'nearly equal'. The correctness of this proposal seems to be supported by the fact that only the latter interpretation explains the occurence of negative polarity items in constructions like (14):

(14) John is as tall as { (a) *any* of his friends / (b) *anyone* / (c) he *ever* was }.

When the 'exactly equal' sense is made explicit in *as... as* constructions with *just, exactly* and the like, they cannot command polarity items:

(15) John is { *exactly / *just } as tall as { (a) any of his friends / (b) anyone / (c) he ever was }

The reason why the 'exactly equal' interpretation has to be ruled out in (14) is that (a), (b), (c) carry presuppositions which are not compatible with the real world. Notice that (a) presupposes that all his friends are of equal height; (b) presupposes that all members of the open set denoted by *anyone* are of equal height; (c) presupposes that John's height is unchangeable. Considering the reality in which we live, the situations described in (a), (b), (c) are highly improbable, if not out of the question at all. So it seems that the 'exact equality' interpretation should be relaxed so as to admit the 'near equality' interpretation as suggested by Campbell and Wales, Mittwoch and Cantrall. Once this has been done, comparatives of identity like (12) are to be taken in either

sense, those with negative polarity items admitting only the latter interpretation.

But this is not the only way out. The 'exactly equal' interpretation of (12) can be retained if one assumes that the speaker's beliefs disagree with the actual facts, i.e. if the speaker believes that the facts described in (14a, b, c) actually take place in the real world. Once this assumption is made, the incompatibility of *exact, just* with negative polarity items disappears. In the rest of this study, we assume that, as far as the speaker is concerned, quantitative comparatives of identity have the 'exact identity' interpretation, though this interpretation may sometimes be contrary to the facts of the real world.

# Chapter III

# QUANTITATIVE COMPARATIVES OF IDENTITY

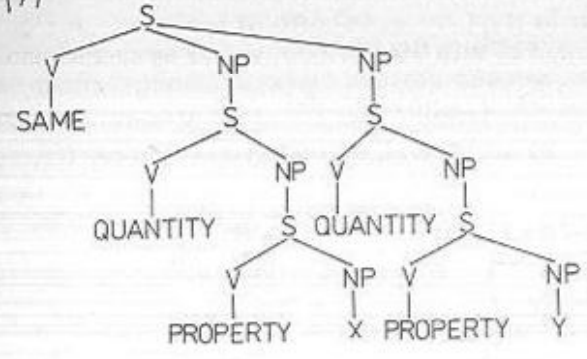
## 3.1 GENERAL CHARACTERISTICS

By quantitative comparatives of identity are meant in this study surface expressions like (1) through (6):

(1) John is as tall as Bill.
(2) John smiled as innocently as Bill.
(3) John has as many books as Bill.
(4) John has written as few papers as Bill.
(5) John ate as much cheese as Bill.
(6) John has as little experience as Bill.

The distinguishing property of such constructions is the presence of quantity predicates in their semantic structures, as pointed out in the previous chapter (repeated here for convenience).

(7)




Quantitative CI's assert the identity relation obtaining between the quantities of properties attributed by the speaker to certain individuals, entities, etc. It is irrelevant whether the entities share a property, i.e. $P_1 = P_2$, or possess different ones, i.e. $P_1 \neq P_2$. What counts is the identity of quantities of properties, i.e. equality of properties. What is compared is the values of properties and not properties themselves, or individuals themselves.

Considering the part of speech occuring between the markers *as... as*, three subgroups can be distinguished: (a) adjectival constructions, exemplified by (1);

(b) adverbial constructions like (2); and (c) overtly quantified expressions like (3-6). In such sentences, the relation of the topicalized term to the standard is expressed by the phrase *as... as*. In our interpretation of quantitative CI's, the *as... as* phrase directly lexicalizes the identity predicate SAME. The complexes *as* Adj *as*, *as* Adv *as*, and *as* Quant *as*, however, stand for a lot more of semantic material, as will be shown below.

We said above that the distinguishing property of CI's is the presence of QUANTITY predicates in their semantic structures. However, at a closer examination, it appears that in CI's we are dealing with three different quantity predicates. Thus in (1) and (2) we are talking about the DEGREEs of height and innocence respectively, while in (3) and (4) it is more appropriate to talk about the NUMBER of objects attributed to both individuals. Finally, in (5) and (6) we are dealing with still another predicate of quantity, namely AMOUNT. It is more appropriate to discuss work, experience and substances like cheese and bread in terms of AMOUNT rather than in terms of DEGREE or NUMBER. Accordingly, we assume that there are at least three predicates of quantity in *as... as* constructions. DEGREE predicates primarily occur in the semantic structures underlying adjectival, adverbial and certain overtly quantified *as... as* constructions. NUMBER and AMOUNT are confined to overtly quantified expressions only.

Before passing to a detailed discussion of the three types of quantitative CI's, we wish to make a distinction between static and dynamic CI's. Expressions like (1) through (6) can be said to be STATIC in that the quantity of properties remains constant. It will be shown in Chapter Four of this work that in English there are also quantitative expressions of identity in which we deal with increase and/or decrease of quantities. We suggest that such expressions are DYNAMIC CI's, having in mind here syntactic structures marked by the occurence of two *the's*, as in (8):

(8) The longer he stays, the more bored he becomes.

A detailed discussion of such constructions will be postponed until Chapter Four.

### 3.2 ADJECTIVAL COMPARATIVES OF IDENTITY

By an adjectival CI's are meant those structures which have one of the appropriate adjectives between the formal markers, as in (9):

(9) X is as { tall / ugly / sharp / red / witty / shapeless / etc. } as Y.

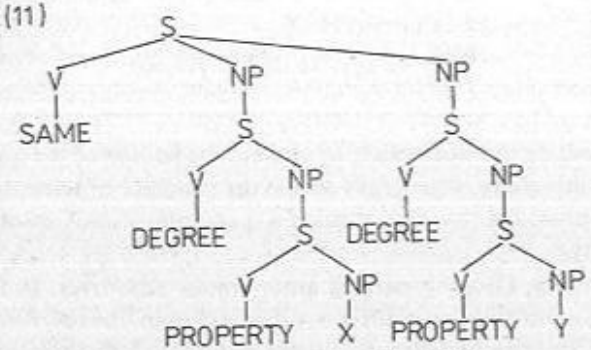
By appropriate adjectives we mean those adjectives that range over scalar (intensifiable) dimensions, or in other words, have scalar qualities underlying them. Accordingly, all adjectives which range over dimensions that are non-scalar can not occur in the same context as the former ones. Typically, these adjectives can neither be compared nor modified by means of adverbs of degree like *very, much,* etc.:



(10) *X is as { naval / nuclear / electrical / Danish / dead / one-eyed / etc. } as Y

As regards the semantic structures underlying adjectival CI's, it is assumed that they are derived from representations in which the property predicate has a variable for its argument, as in (11). The quantity predicate in such structures is always the DEGREE predicate.

(11)




The above structure underlies comparatives like (12):

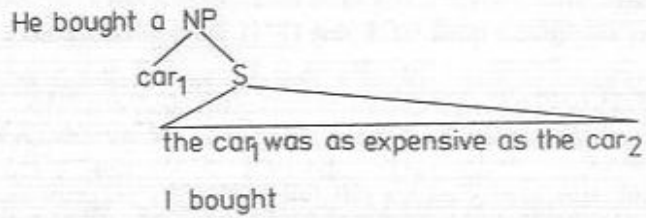
(12) John is as tall as Bill.

It appears that adjectival CI's like (13):

(13) He bought as expensive a car as I did.

are derived from semantic representations resulting from the embedding of a structure like (11) in some matrix proposition. In such semantic compounds, illustrated in (14) the comparative structure functions as a degree modifier of some element in the matrix proposition.

(14)




#### 3.2.1 Presuppositions associated with the standard of comparison

In this section, we will attempt to specify the semantic content of gradable adjectives in CI's. Our suggestion is that certain presuppositions of the speaker are encoded in such adjectives.

We pointed out in Chapter Two that the speaker, in uttering comparative expressions, presupposes the hearer's familiarity with the standard of comparison, or

more precisely, his familiarity with the quantity of property possessed by the referent of the NP to which this property is attributed.

But it seems that in asserting the identity relation, the speaker may indirectly express his beliefs about the quantity of the reference property. Thus, he may consider this property to be possessed in excess, in an insufficient degree, or he may refrain from making any of such estimations at all. It is exactly these three beliefs that govern the selection of scalar adjectives, which in turn enable the speaker to express his personal quantification of the reference property.

The above speculations imply that adjectives occuring in *as... as* constructions incorporate the property predicate and the information provided by the presupposition, associated with the quantity of the reference property. This suggestion is essentially in agreement with the semantic structure underlying noun-based adjectives, proposed in Givon (1970):

(15) $[\text{having } [\{\pm\}]_{Q} [\text{Quality}]_{N}]_{Adj}$

In the above formula, Q stands for quantifier slot, the plus and minus signs loosely stand for something like MANY/MUCH and FEW/LITTLE. Since Givon's study was word-oriented, he did not bother to explain the source of his quantifiers, which can be many. In this study, which falls within the province of sentence semantics, the quantifiers are provided by the speaker's presuppositions associated with the reference property.

From his formula, Givon generates antonymous adjectives. If, for example, the quality noun is „length", and the plus quantifier is chosen, the resulting adjective is the marked *long*, i.e. [having [+ length]] equals 'being long'. Picking up of the negative quantifier, on the other hand, leads to the formation of the adjective *short*, i.e. [having [– length]] equals 'being short'.

Givon's 'having quality' corresponds to the property predicates of our semantic structures, '+' to the 'excess' '–' to the 'insufficiency'. But how the 'some, unspecified' presupposition is to be represented in the above formula? That this presupposition should be given representation is evident for at least two reasons. Firstly, it is logically possible and quite natural that the speaker may wish to generate an adjective based on a quality noun without committing himself to either MUCH or LITTLE quantifiers. Secondly, from a semantic point of view antonymous adjectives, for example, may be said to constitute triplets (cf. Ljung 1974), the positive member can be said either to be marked, i.e. denoting a high degree of a quality, or unmarked, i.e. denoting a certain degree of a quality, while the negative member is normally marked, i.e. indicating a small degree of a quality. Accordingly, it would be semantically inadequate to treat unmarked and marked positive adjectives as involving the MUCH quantifier in their semantic structures. To cope with this inadequacy, we propose the 'some, unspecified' quantity presupposition be represented by both quantifiers jointly, i.e. '±'. If, now, the quality noun is 'length' and '±' quantifiers are chosen, the resulting adjective is the unmarked *long*, i.e. [having [± length]].

The correctness of our hypothesis about the three types of presuppositions associated with the quantity of reference property is evidenced by the fact that scalar adjectives retain their respective presuppositions when occuring in CI's. Consider for example adjectives which have an inalienable property underlying them: body parts,



mental qualities, parts of a whole, kinship terms, etc. (cf. Ljung 1974). Naturally, only those inalienable adjectives are relevant here which range over scalar qualities:

(16) fleshy
colourful — colourless
witty
toothy — toothless
buttocky
soulful — soulless
willful
shapeful — shapeless

Inalienable means something like 'having N to an unusual extent or in an unusual number'. Thus *fleshy* means something like 'having flesh in high quantity'. Notice that the affix *-less* in *colourless, toothless, shapeless* does not mean 'lacking N' when suffixed to inalienable nouns but carries meaning 'having N in small quantity'. It appears that inalienable adjectives retain their markedness in *as... as* constructions:

(17) a. She is as $\left\{\begin{matrix}\text{fleshy}\\ \text{witty}\\ \text{toothy}\end{matrix}\right\}$ as her sister.

b. X is as $\left\{\begin{matrix}\text{colourless}\\ \text{toothless}\\ \text{shapeless}\end{matrix}\right\}$ as Y.

The presuppositions associated with the reference properties in (17a) is that her sisters relative flesh, wittiness, toothiness is MANY in quantity, while the presupposition associated with (17b) is that Y's relative colour, shape, toothiness is FEW in quantity. We suggest that inalienable scalar adjectives like those in (16) lexicalize scalar inalienable properties combined with MANY or FEW quantifiers, supplied by the presupposition connected with the reference property.

Another group of adjectives, semantically similar to inalienable adjectives, is constituted by antonymous adjectives like *short-tall, shallow-deep, dull-sharp,* etc. It is generally maintained that the marked members of such adjectives univocally involve presupposition about the quantity of property present in the second term, when occuring in comparative expressions. Thus, in the following sentences:

(18) a. This man is as short as his wife.
b. This lake is as shallow as our pond.
c. Your knife is as blunt as my scissors.

The use of *short* presupposes that the knife is short, as far as the speaker is concerned; the use of *shallow* presupposes that our pond is shallow; the use of *blunt* presupposes that the scissors are blunt. It should be noted that each sentence of (18) invites inference that the man is short, the lake is shallow, the knife is blunt, respectively.

Another generally held assumption is that adjectives like *short, shallow, blunt,* are semantically complex, i.e. they are covert comparatives based on the relation LESS than the NORM defined by the class of entities to which the possessor of the quality belongs. In this interpretation, all sentences of (18) imply that there are certain norms in the speaker's mind, defined by the classes of such entities as grown up females, ponds and scissors. And it is these norms that the speaker relates to respective quantities of reference properties. In the case of adjectives involved in (18), the

presupposed relation between the quantities and the respective norms is LESS THAN.

The difficulty with this approach consists in the vague concept of NORM. Recently, it has been proved that this concept is too vague to be of any relevance in the interpretation of relative adjectives (cf. Bogusławski 1975). An alternative description, dispensing with the concept of NORM has been put forth in Rusiecki (1976).

Rusiecki proposed to describe the meaning of sentences with relative adjectives using the two concepts symbolized by MANY and FEW. The two stand for fuzzy subsets of the set of positive real numbers linearly ordered in relation to the other elements of the set. They can be viewed as quasi-numerals. Given a scale for a certain quality, MANY can be represented as an interval whose value at a lower end is vague and which stretches upwards as far as the end of the scale. FEW represents an interval stretching from the beginning of the scale upwards; the upper end being ill defined. In this interpretation, the propositions presupposed by the speaker in uttering the sentences of (18) can be paraphrased as follows:

(19) the quantity of { wife's height / pond's depth / scissor's sharpness } is a number which is an element of the fuzzy set FEW which is an interval at the lower end of the scale.

In short

(20) { wife's height / pond's depth / scissor's sharpness } is { FEW } { feet / feet / microns }

The concepts proposed by Rusiecki are intuitively simpler than the significantly MORE/LESS than the NORM, and they also are in keeping with equally fuzzy quantities of reference properties presupposed by the utterer of comparative expressions. For these reasons, we shall employ Rusiecki's proposal in the interpretation of *as... as* constructions, supplemented, however, by the addition of a fuzzy set SOME, which represents an interval whose lower and upper ends are vague, stretching anywhere along the scale for a given dimension.

Thus equipped with new concepts, we wish to pass to the adjectival *as... as* constructions which include associated presuppositions involving MANY and SOME. The immediate candidates for such constructions are those with the unmarked members of antonymous adjectives:

(21) a. This man is as tall as your brother.
b. The lake is as deep as our sea.
c. This knife is as sharp as my scissors.

The problem with constructions like (21) is that the adjective is said to 'neutralize' so that it does not imply anything about the qualities involved (cf. Bartsch and Vennemann 1972, Fries 1976). Accordingly, the sentence *This man is tall* can be paraphrased as 'the man's height is MANY feet', but (21 a) can only be paraphrased as 'the man's height is SOME feet, his brother's height is SOME feet and both heights are equal'

It seems to us that this view is a consequence of two facts. The first is the neutralization of the unmarked adjective in *How*-questions:

(22) How óld is your brother?



where *old* is unmarked and simply means 'having relative, unspecified age'. Ljung (1974) observed that the primary stress in such questions may fall either on the adjective, as in (22) or on *how*. In uttering a question like (22), with the primary stress on[1] the adjective, the speaker wants to know to what extent the quality is possessed. Uttering *How*-questions with stressed *How*, the speaker knows from the immediate context that the quality is possessed in excess. Thus, *Hów old is your brother?* implies that the brother in question is old.

The second reason for the 'neutralization' claim is that many people failed to notice that semantically, antonymous adjectives form triplets rather than doublets, in a manner described a few pages earlier (cf. also Ljung 1974).

In view of the above, we suggest that *as... as* constructions with positive members of antonymous pairs always lexicalize structures involving a property predicate and MANY or SOME quantifiers, supplied by the speaker's presupposition. This amounts to saying that, out of context, the expressions involved may always be interpreted as involving the unmarked and marked readings. The problem with our suggestion is that only indirect evidence in favour of it can be presented.

The most compelling evidence is the immediate speech context. It is obvious that no utterance can be understood without a knowledge of its context in the sense of information about the speaker, the subject matter, and what has been said previously in the same speech situation.

When expressions exemplified by (21) are used in the marked sense, the speaker already knows from the preceding context that the reference property is possessed in excess, i.e. the property is used in the marked sense. Thus, the sentences of (21) may imply that the speaker already knows that the brother in question is tall, the sea is deep and the scissors are sharp. It is possible to imagine a situation in which (21 a) could be uttered in the marked sense. Imagine someone boasting of his brother's enormous height, ended up with a challenge that none of his acquaintances equals him in height. Provided that such persons exist, (21 a) might be uttered. Here, as in many other cases, the interpretation depends on what we are willing to accept as a possible situation.

Another way to convey the marked sense in *as... as* constructions containing antonymous adjectives is to combine an element like even with the positive member of antonymous pairs, as illustrated in (23):

(23) a. The man is even as tall as your brother.
b. This lake is even as deep as our sea.
c. Your knife is even as sharp as my scissors.

In contrast to the sentences of (21), the above sentences can have only marked interpretation. They additionally differ in that two sets of presuppositions are associated with the quantities of properties attributed to their NP's respectively. Thus, (23) presuppose (a) that the man is tall, the lake is deep, and the knife is sharp, and (b) that the brother in question, the sea and the scissors possess their properties not only in high degree, but in a very high degree. The matching context in which to utter sentences (23) appropriately is the speaker's realization that the quantities of properties that he considers to be possessed in a high degree, equal the quantities of properties that he believes to be possessed in a very high degree.

[1] We will not consider all the varietes of 'contrastive' stress that can occur in such a question.

Finally, we wish to mention a class of adjectives which incorporate only the unspecified quantifier SOME. We mean here adjectives denoting colour terms like *red, blue, black,* etc. All colour terms are intensifiable with adverbs like *very, highly,* etc.. When occurring in *as... as* expressions

(24) X is as { red / white / blue / etc. } as Y.

the only presupposition possible to associate with the reference property is something like 'X's relative colour is of unspecified intensity'. Naturally, this interpretation applies to true comparatives involving colour terms, like (24), not to stereotyped expressions like (25):

(25) a. as black as pitch = pitch black
b. as red as blood = blood red
c. as white as snow = snow white etc.

With these remarks on colour adjectives, we want to finish our discussion concerning the three kinds of presuppositions that the speaker associates with the reference properties. We hope to have convincingly demonstrated that the adjectives occuring between the *as... as* markers can incorporate one of the three kinds of information about the quantity of reference property, i.e. big quantity, small quantity and unspecified quantity.

### 3.2.2 Property predicates, their arguments, and the surface structure of adjectival comparatives of identity

The purpose of this section is to demonstrate that the surface structures of *as... as* expressions are determined by certain conditions on the constituents of their semantic representations. To accomplish this we will examine the relationship holding between the property predicates on the one hand, and their arguments on the other. For the rest of this section we will use the letters P and X to refer to property predicates and their arguments respectively.

The whole procedure is similar to the one employed by Doherty and Schwartz (1967), who used the identity vs. non-identity of subject NP's and predicating Adj's as the criterion for the classification of simple adjectival comparative constructions. Our discussion, however, is similar to theirs in the method. The constituents we will be referring to are semantic entities, while Doherty and Schwartz dealt with formal--syntactic ones. Besides, our aims are different. Doherty and Schwartz sought to achieve a structure based criterion for the classification of syntactic structures. What we attempt to indicate is factors determining the surface form of the *as... as* constructions.

We will first consider so-called 'one-variable' expressions. The term itself has been invented by Huddlestone (1971 a) for comparatives of difference like (26):

(26) John is taller than Bill.

where two different individuals are asserted to share one property. We extended this name to cover also the constructions of identity. The following are 'one-variable' comparatives of identity:

(27) a. John is as tall as Bill.



b. The river is as deep as the lake.

I. $P_1 = P_2$; $X_1 \neq X_2$

In the case of semantic involving identical properties and non-referential arguments, the shared property is lexicalized as a single constituent (adjective) in the surface structure, and is understood as attributable to both individuals.

Logically, there is another case of 'one-variable' CI's, namely, those indicating the referentiality of arguments and non-identity of properties. This case is illustrated by the following examples:

(28) a. This music is as loud as it is beautiful.
b. Mary is as beautiful as she is intelligent.

II. $P_1 \neq P_2$; $X_1 = X_2$

In English, the possessor of the reference property is obligatorily lexicalized with a personal pronoun coreferential with the topicalized argument.

'Two-variable' CI's involve total mismatching of the constituents in question, as in the following sentences:

(29) a. Mary is as beautiful as John is intelligent.
b. The car is as long as the boat is wide.

III. $P_1 \neq P_2$; $X_1 \neq X_2$

It is evidenced by the above sentences that the case of non-identical properties and non-coreferential arguments requires the presence of all these constituents in the surface structure.

Finally, we come to the so-called 'zero-variability' which posed many problems both for Doherty and Schwartz and Huddlestone. To handle comparative constructions displaying total matching, Doherty and Schwartz had to embed them in matrix structures. What seemed satisfactory from the formal point of view cannot be maintained on semantic grounds. It seems that Doherty and Schwartz would propose something like the following to illustrate a comparative expression displaying total matching:

(30) Tom knows a doctor who is as tall as the one that Peter knows.

In their analysis, (30) would be derived from four constituent clauses like the following:

(31) $S_1$: Tom knows a doctor ($S_2$)
$S_2$: doctor is tall ($S_3$)
$S_3$: doctor ($S_4$) is tall
$S_4$: Peter knows the doctor

where the *doctor* of $S_1$ and the *doctor* of $S_3$ are identical, and *tall* of $S_2$ is identical with *tall* of $S_3$. The proposal has to be rejected because *doctor*$_1$ and *doctor*$_2$ are identical formally but not referentially, thus sentence (30) can not be said to be a 'zero--variable' case.

Huddlestone did not even try to account for 'zero-variable' comparatives. He assumed that they cannot be grammatical, hence any description of comparative expressions has to take into account the number of variables as a factor relevant for the grammaticality of comparative constructions, for at least the reason to rule out the 'zero-variable' instances.

We can think of two ways to make 'zero-variable' expressions grammatical. Complete matching is available when the identity is holding at two different points

in time, or in two different possible worlds. Thus the ungrammatical comparative expressions given in Huddlestone (1967) can be saved if, for example, it is introduced by some world-creating verb:

(32) a. *Brahms wrote more symphonies than Brahms wrote symphonies.
b. Mary believes that Brahms$_i$ wrote more symphonies than he$_i$ wrote.

The following examples illustrate 'zero-variable' CI's. In (33a) we have variability of time, in (33b) we deal with different worlds:

(33) a. John is as brilliant as he used to be.
b. John is as intelligent as he himself believes to be.

'Zero-variable' CI's requiring referential identity of both arguments, and identity of properties, require as an obligatory condition on the grammaticality of surface structures, mismatching of time specification in the two arguments of the predicate SAME, and mismatching of 'worlds'.

As far as the presence of constituents in the surface structure is concerned, the shared property is rendered by a single constituent (adj) understood as attributable to both subjects. Time and world specifications are obligatorily lexicalized, evidently in numerous ways. The possessor of the reference property is lexicalized as a pronoun, coreferential with the topicalized argument. The reference argument cannot be deleted here.

It is natural that the same variability is possible in cases I, II, and III. In the examined examples, we had the identity of the time specification of the speech act, and the time specification of the two propositions it asserts, i.e. $t_p = t_1 = t_2$. Additionally, all examples were intended to be assertions of attributive propositions holding in real world. One can easily provide examples showing that time variability and possible world variability are by no means confined to 'zero-variable' CI's:

(34) I. a. John is as tall as Bill was four years ago — time
b. Mary believes that John is as tall as Bill was four years ago — world
II. a. George is as tall as he used to be wide — time
b. George is as tall as he believes himself to be wide — world
III. a. The sea is as deep as the river used to be wide some years ago — time
b. I imagine the sea to be as deep as this river is wide — world

It appears that the variability has no bearing on the lexicalization of properties and arguments, which is performed in the manner described above. In this sense, the variability of time and world is irrelevant for the lexicalization of 'one' and 'two-variable' CI's. It simply provides new constituents in the surface structure.

In this section we pointed out certain conditions on the well-formedness of semantic representations underlying adjectival CI's, which have bearing on their surface form. We have also described in some detail the way in which the proposed semantic structures are converted into surface structures. In sections 4.3 and 4.4, we will discuss two other classes of *as... as* constructions which are subject to exactly the same well-formedness conditions and similar processes of lexicalization.

### 3.2.3 Complex adjectival comparatives of identity

In what follows below, we will argue that certain adjectival CI's are derived from the semantic structure different from the one discussed in section 3.2.2. Our



suggestion is based on the fact that gradable adjectives define semantically different properties. Consider, for instance, the following examples:

(35) a. John is as {slow / quick} as Peter.
b. John is as {tall / slim} as Peter.

Of the two sets of adjectives, it is only the properties defined in (35a) that can be predicated of actions:

(36) a. John runs as {slowly / quickly} as Peter.
b. *John runs as {*tally / *slimly} as Peter.

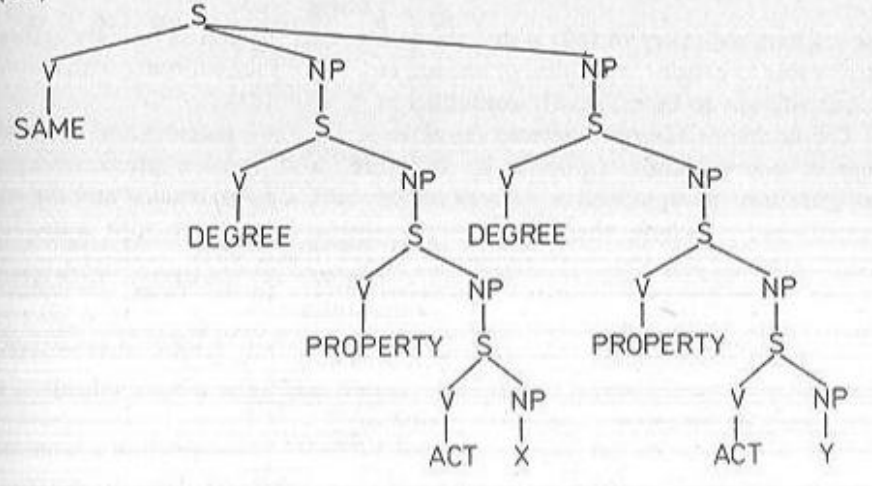
In keeping with the above, (35a) can be paraphrased as in (37):

(37) John ACTs as {slowly / quickly} as Peter.

where ACT represents a predicate of unspecified action. On the other hand, no paraphrase including a predicate of action can be provided for (35b).

In view of the above, we suggest that in the semantic structure of adjectival CI's like (35a), the property predicate has in its scope a proposition, which includes some predicate of activity, and a variable denoting an agent. The property predicate here is one of the mode of action defining predicates like *slow, quick, fast* and the like.

(38)




It is characteristic of a structure like the above that the property can be predicated, in the surface structure, of both constituents of the proposition in its scope. If the activity verb is left unspecified, the adjectival pattern is employed, as in (35a). If, however, the verb appears on the surface, the property predicate surfaces as an adverbial modifier on this verb, as in (36a).

The correctness of our interpretation of adjectival CI's like (35a) is evidenced by

the fact that under appropriate conditions (35a) can be a contextual equivalent of any of the following sentences:

(39) a. John runs as slowly as Peter.
b. John thinks as slowly as Peter.
c. John acts as quickly as Peter.
etc.

But a really compelling evidence for the claim that in the semantic structures of CI's like (35a), the property predicate has a proposition in its scope is provided by the selection restriction on the type of subject that adjectives of abruptness like *sudden, unexpected, abrupt, immediate* take. Notice that (40) are ungrammatical, while (41) are perfectly acceptable:

(40) a. *John is as { abrupt / immediate / unexpected } as Peter.
b. *The volcano was as { abrupt / immediate / unexpected } as Y.

(41) a. John's nervous breakdown was as { unexpected / sudden } as Peter's.
b. John's reaction was as { immediate / unexpected } as Peter's.
c. The volcano's eruption was as { abrupt / unexpected } as Y.

The ungrammaticality of (40) is due to the fact that properties like abruptness are attributable to actions, activities, processes, etc. When they collocate with a nominal, the activity has to be inherently contained in it, as in (41).

The nominals *George's nervous breakdown, George's reaction* and *the volcano's eruption* are evidently complex in structure, and involve predicate-argument configurations paraphrased as *George broke down, George reacted* and *the volcano erupted.* We conclude then that comparative constructions with adjectives of abruptness have semantic representations like (38), they differ, however, as to what portion of the representation is subjectivized. In the former cases, the agent of an activity verb was made the surface subject, to which the property denoted by the respective adjective was attributed in the surface structure. It appears that in the case of the abruptness adjectives, the surface subject has to be a nominalization of the proposition in the scope of property predicate.

It follows from the above that adjectival CI's do not constitute a homogenous class, as far as the structures underlying them are concerned. They are derived from distinct sources, involving propositions with: (a) property predicate and a variable, (b) property predicate with an *n*-argument proposition in its scope.

## 3.3 ADVERBIAL COMPARATIVES OF IDENTITY

In the adjectival *as... as* expressions, the property predicates are represented in the surface structure by one gradable qualitative adjective. We showed that these adjectives incorporate additionally the information about the speaker's beliefs about



the degree of reference property. Generally, all adjectives denoting gradable properties can be inserted between *as... as* markers. It appears that also adverbs occur in the same position. Semantically, however, their behaviour and collocational properties are far from being homogenous.

### 3.3.1 True adverbial comparatives of identity

True adverbial comparatives of identity have in their semantic structures property predicates with *n*-argument propositions in their scope, as illustrated by (38) above. Theoretically, the property can be predicated of any constituent of this proposition. Below, we will consider only cases when (a) the property characterizes both the activity and the agent of this activity; (b) when the property is attributable to action only; (c) when the speaker subjectively assigns properties to actions.

Generally speaking, case (a) is represented by expressions with verbs denoting momentary manifestation of a property. The most general verb of this type is *behave.* In this case, the property predicate defines a psychological quality, which is attributed to the agent of the action at the time of its happening, and also to the action at this time. Thus, the following sentence:

(42) X behaved as rudely as Y.

informs that at the time of the action denoted by the verb *behave*, X was as rude as Y, and also that at the same time X's behaviour was rude and Y's behaviour was rude too. Other adverbs collocable with the general verb *behave* are given below:

(43) X behaved as { cleverly / smartly / ingeniously / hypocritically / ungracefully / decently / etc. } as Y.

Similar characteristics are displayed by the following:

(44) a. X moved as { energetically / phlegmatically } as Y.
b. X jumped as gaily as Y.
c. X replied as { arrogantly / maliciously / unkindly / rudely / coldly / timidly } as Y.
d. X raised his head as { proudly / impudently } as Y.
e. X listened as { patiently / carefully / kindly } as Y.

Case (b) is represented by CI's in which adverbs define various physical properties

of actions. It is only natural that such adverbs can co-occur with verbs denoting actions and processes, but not states:

(45) *X { knows / belongs / is able } as quickly as Y.

Actions and processes can be described for their rate. Typical adverbs denoting the rate of actions are *quickly, slowly, fast, rhythmically:*

(46) X { moves / learns / begins to V } as { quickly / slowly / fast } as Y.

Another characteristic of actions can be their abruptness:

(47) X stood up as { suddenly / unexpectedly / abruptly / immediately } as Y.

The characteristic feature of verbs collocating with adverbs of abruptness is that they denote completed actions, momentary, non-durative. This, we think, explains the ungrammaticality of comparative expressions with durative verbs:

(48) *X { remembers / lives } as suddenly as Y.

Frequently, the execution of an action requires or simply involves a degree of strength. A physical property which can be attributed to actions and processes is power, exemplified by the following:

(49) X tied Z as { strongly / powerfully / weakly / slightly } as Y.

Such modifiers as those in brackets can only collocate with verbs denoting activities, the performance of which requires some amount of strength. Accordingly, the following are deviant:

(50) *X { runs / walks / writes } as strongly as Y.

There are a number of verbs denoting actions requiring a degree of strength for their performance: *throw, push, pull, beat, hit, tie,* etc.

Finally, physical activities are often accompanied by certain acoustic effects of different intensity. Thus, one may *walk noiselessly, shout loudly, enter quietly,* etc.

(51) X { walks / shouts / enters } as { loudly / quietly / noiselessly } as Y.

It is only natural to find in this class verbs like *speak, laugh, cry,* etc., which denote the use of voice.

Constructions of group (c) contain purely evaluative adverbs, denoting the speaker's subjective judgements. Such evaluations may concern aesthetic properties of actions:



(52) X { dances / declaims / sings / mimes / swims / sits } as { beautifully / gracefully / nicely } as Y.

The evaluations denoted by the adverbs are the expression of the speaker's attitude to the event described by the verb. They generally do not inform about objective properties, but about values established subjectively. It is obvious that such adverbs require verbs which are compatible with such evaluations:

(53) *X { cooks / washes / opens Z / knows } as { nicely / gracefully } as Y.

Subject to personal evaluation can often be one's moral conduct, as in the following sentences:

(54) X { acts / behaves / treats Z } as { well / morally / perfectly / badly / disgracefully / dishonorably / ignobly / infamously } as Y.

### 3.3.2 Complex adverbial comparatives of identity

In this section, we wish to demonstrate that probably not all adverbial CI's are derived from semantic structures in which property predicates have propositions in their scope. Consider the following sentences:

(55) a. X dresses as elegantly as Y.
b. X wears as elegant garments as Y.

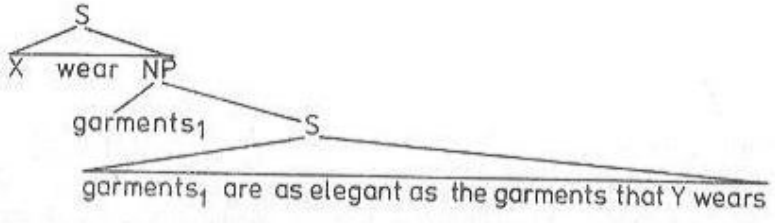
They are evidently synonymous of each other. The former, however, is an adverbial CI, while the latter is an adjectival CI. To account for the synonymy of both examples, we suggest that both types of constructions be derived from the same semantic representation.

The semantic representation underlying (55 a and b) involves a matrix proposition which should be spelled as 'X wear garments'. The property 'elegance' is predicated of the garments in the semantic representation. It is altogether not surprising because such properties always presuppose the garment, the wearer, and the act of wearing. It is always the first of the three that has to be attributed 'elegance', in order that one might secondarily predicate this property of the wearer and the act of wearing. The degree of elegance, predicated of the garments in question, is specified through comparison.

Thus it seems that the two surface expressions illustrated by (55) are derived from

a semantic structure in which the variable of the matrix proposition is modified by a comparative structure, as in (56):

(56)




The information contained in (56) can be rendered in prose as 'X wears garments which are as elegant as the garments which Y wears'.

In our interpretation, (55a and b) represent two options for the lexicalization of (56). (55b) is arrived at through the familiar relative clause reduction and adjective preposing. The selection of the adverbial option is determined by the existence of a lexical verb which incorporates two semantic elements: WEAR, GARMENTS. In English, the surface verb *dress* can replace this complex.

The verbs *smile* and *look*, when occuring in CI's display the same characteristics:

(57) X smiles as { bitterly / innocently / sweetly / shyly / gravely } as Y.

(58) X looks as { askingly / pleadingly / helplessly / gloomily / kindly } as Y.

*X smiles* can be assumed to roughly mean 'X gives some expression on X's face by parting the lips and loosening of the face muscles', while *X looks* seems to mean 'X turns X's eyes to Z'. In keeping with the above interpretation of *dress*, it is the facial expression implied by the verb *smile*, and the eyes implied by the verb *look* that are attributable the properties denoted by the surface adverbs.

Our suggestion seems to be supported by actual linguistic material. Frequently, when the argument implied by these verbs surfaces as an independent noun, it can easily collocate with the above properties:

(59) a. { bitter / innocent / sweet / shy } smile

b. pleading eyes

c. { gloomy / helpless } look, eyes, gaze



### 3.3.3 Surface exponents of property predicates in adjectival and adverbial comparatives of identity

Adjectives and adverbs in comparatives of identity define properties. This fact is reflected at the semantic level by proposing the same source, i.e. property predicate from which they derive. Such a view is in keeping with the suggestion that adjectives and corresponding *-ly* adverbs are contextual variants of the same grammatical category (cf. Lyons 1968, Bowers 1975).

In the section devoted to adjectival CI's, we proposed the following formula to represent the semantic structure underlying qualitative adjectives:

(60) $[\text{having } [\{\pm\}]_Q [\text{quality}]_N] \text{Adj}$

We claim that *-ly* adverbs, which define properties, have the same semantic structure, the choice of either surface category being determined by a number of factors.

Notice that in formula (60) there is a predicate of possession denoted by 'having'. We suggest that in the case of true adjectival and adverbial CI's the distribution of surface adjectives and the corresponding *-ly* adverbs is sensitive to who/what is the possessor of a given property. Thus, in true adjectival CI's the property is possessed by entities represented at the semantic level by NP's:

(61) a. John is as tall as Bill.

b. The river is as deep as the lake.

In true adverbial CI's, it is the action in the first place, represented by V's at the semantic structure, that is assigned a property, or the action and the entity involved in this action. But there remains the case of complex adjectival CI's and adverbial CI's derived from the semantic structure underlying true adjectival CI's which shows that the distribution of adjectives and *-ly* adverbs is governed by still other factors.

In the case of complex adjectival CI's, the property modifies a proposition at the semantic level, but it surfaces as an adjective modifying a NP. We indicated two occasions on which the semantic modifier of an action is lexicalized as an adjectival modifier of a surface NP. First, when the V in the scope of property predicate does not surface because the context makes it clear, or the surface adjective itself makes it clear that the verb is involved.

(62) John is as slow as Bill.

Second, when the proposition in the scope of property predicate gets nominalized, and surfaces as a complex NP:

(63) George's breakdown was as unexpected as Y.

In the case of adverbial and adjectival CI's derived from common semantic structure, the lexicalization of the property predicate as *-ly* adverb instead of adjective is determined by the fact that the NP which is assigned this property is a constituent of a larger semantic configuration to be replaced by a single lexical verb, as in the following:

(64) X dresses as elegantly as Y.

In adjectival CI's derived from this same semantic structure, this configuration ((WEAR, GARMENTS) in *dress*) surfaces as a clause in which the constituent modified by the property predicate surfaces as the object preceded by an adjectival attribute denoting the property involved:

(65) X wears as ellegant dresses as Y.

In this case, the selection of adjectives or *-ly* adverbs seems to depend on the existence of the lexical verb equivalent in meaning to the complex semantic configuration. The non-existence of such verbs makes the lexicalization of the property with surface adjective obligatory. So much for the selection of adjectives and corresponding *-ly* adverbs.

It follows from the above that practically any property attributable to actions can surface as a modifier of the entity involved in this action. But it appears that not all properties attributed to individuals can be predicated of actions, processes, etc. We mean here properties like weight, height, colour, fleshness, etc., i.e. those inherently possessed.

Another conclusion following from the above is that the inherently possessed properties occur only in true adjectival CI's. If so, then it is obvious that adjectival CI's with properties attributable to actions can always be interpreted as derived from adverbial semantic structure under the conditions described above.

There still remains the problem of the degree of reference property as presupposed by the speaker, and the associated problem of appropriate quantifier in the semantic structure of the *-ly* adverbs. It seems that the selection of a quantifier is rarely signalled lexically, as was the case with true antonyms and adjectives of inalienable possession. In general, only few *-ly* adverbs form pairs denoting intervals at the opposite poles of the same dimension underlying them. We include in this group certain adverbs of rate: *quick/fast-slow*, adverbs of elegance: *richly-poorly*. All other *-ly* adverbs can be interpreted as involving any of the three quantifiers, i.e. MANY, FEW, SOME, naturally when the particular CI containing such an adverb is considered out of its linguistic or social context.

### 3.4 OVERTLY QUANTIFIED COMPARATIVES OF IDENTITY

By overtly quantified CI's are meant those *as... as* constructions which have the quantifiers *much, many, little* and *few* in the position between the formal markers:

(66) a. X walks as much as Y does.
b. X reads as many books as Y.
c. X grew up as little as Y.
d. X has as few friends as Y.

The first thing we wish to do is to distinguish between the different senses of *much*. In a paper concerned with the quantification in the VP, Grzegorczykowa (1973) mentions the Polish adverbs *bardzo* and *dużo*, whose function is to quantify the action named by the verb, as in the following:

(67) a. X dużo { chodzi / pracuje }.
b. X bardzo { kocha Z / zasmucił się }.

In English, the equivalent constructions have frequently the structure of the form X-V-MUCH, as in (68):

(68) a. X { walks / works } much.
b. X { loves Z / saddened } much.

The immediate conclusions are two: (a) *much* is a functional equivalent of both *bardzo* and *dużo*; *much* is used to convey the two meanings rendered by *bardzo* and *dużo* respectively.

As remarked above, one of the many positions that *much* may occupy in English is between the *as... as* markers of comparison, which position is mainly reserved for adjectives and *-ly* adverbs:

(69) a. X stays at Z as much as Y.
b. X walks as much as Y.
c. X dried as much as Y.
d. X dried Z as much as Y.
e. X cooled Z as much as Y.
f. X cooled as much as Y.

In all six examples we have *much* quantifying various surface verbs. It appears that comparative expressions like the above also confirm our earlier observation that *much* has the meanings rendered by *bardzo* and *dużo* in Polish. The first two sentences can only be rendered in Polish with *dużo*, the remaining four only with *bardzo*:

(70) a. X przebywa w Z tak samo { dużo / *bardzo } jak Y.
b. X spaceruje tak samo { dużo / *bardzo } jak Y.
c. X wyschło tak { bardzo / *dużo } jak Y.
d. X wysuszył Z tak { bardzo / *dużo } jak Y.
e. X wystudził Z tak { bardzo / *dużo } jak Y.
f. X wystygło tak { bardzo / *dużo } jak Y.

Naturally, sentences (70a-f) can have the unmarked interpretation rendered in Polish by *tyle samo co*, but such an interpretation will not concern us at the moment. Of interest here is the *bardzo-dużo* distinction rendered in English by one morphological form *much*. Evidently, the explanation why verbs like *dry, cool* allow for the intensity interpretation while verbs like *walk* and *stay* do not is to be sought in the semantic structures of the two classes of verbs.

We suggest that in the semantic structure of verbs like *dry* and *cool* there is a semantic element denoting intensifiable quality. Such verbs, when occuring with *much*, should be interpreted as indicating a high degree of this implicit quality present in their semantic structure. Thus *dry* means something like 'come to be dry in a certain degree'. It is due to the semantic element 'dry' that the surface verb containing it can be intensified by *much/bardzo*. Thus, in our proposal (69c) is synonymous with the following:

(71) X came to be as much dry as Z.

If the verbs *stay* and *walk* are assumed to mean 'be at some place for a period of time' and 'move on foot for pleasure or exercise' then it becomes evident why the

sentences containing them cannot have the 'high degree' interpretation. Predicates like MOVE and BE can only be quantified for their duration and frequency. Accordingly, *much* occuring with them should be interpreted as meaning something like 'for a long time, many times'.

### 3.4.1 Overtly quantified degree comparatives of identity

Now we wish to survey verbs which seem to be of the same type as *dry*. The survey is by no means exhaustive. It is only meant to show that this same semantic property is shared by very many lexical verbs.

The first group of verbs allowing intensification includes various verbs expressing emotional states. In this group, there are verbs denoting a quality possessed by the referent of the surface subject (set A), and those which inform that the referent of the surface subject is made to acquire this particular property (set B). Capital letters will be used to mark those semantic elements which we think make the verb possessing them intensifiable.

Set A

| | | |
|---|---|---|
| regret | — | be SORRY for the loss |
| deplore | — | show that one is filled with SADNESS |
| resent | — | feel BITTER, INDIGNANT |
| prefer | — | find more AGREEABLE |
| suffer | — | feel not WELL |
| long | — | want EARNESTLY |
| believe | — | feel SURE of the truth |

Set B

| | | |
|---|---|---|
| worry | — | cause be ANXIOUS |
| bother | — | cause be WORRIED |
| alarm | — | cause be ANXIOUS |
| fascinate | — | cause be ATTRACTED GREATLY |
| surprise | — | cause experience X UNEXPECTEDLY |
| bore | — | cause feel TIRED by being dull |
| rejoice | — | cause be GLAD, HAPPY |

As remarked above, verbs of set B all inform that the possessor gets into the possession of the property represented in their semantic structures:

(72) X worried Y as much as Z.

(72) implies that at the time of action denoted by the surface verb *worry*, Y and Z were worried.

Still another group of verbs admitting *much/bardzo* quantifier is presented in set C. All of them denote a process through which the referent of the subject becomes the possessor of a physical property implied by the verb, in a high degree. Here again the capital letters are intended to indicate these semantic elements due to which the verb can take the intensifier *much/bardzo*.

Set C

| | | |
|---|---|---|
| dry | — | come be DRY |
| | | cause come be DRY |
| dirty | — | come to be DIRTY |
| | | cause come be DIRTY |
| cool | — | come be COLD |
| | | cause come be COLD |
| slim | — | lose WEIGHT |
| widen | — | come be WIDER |
| | | cause come be WIDER |
| lengthen | — | come gain in LENGTH |
| | | cause come gain in LENGTH |
| tire | — | come be WEARY |
| | | cause come be WEARY |



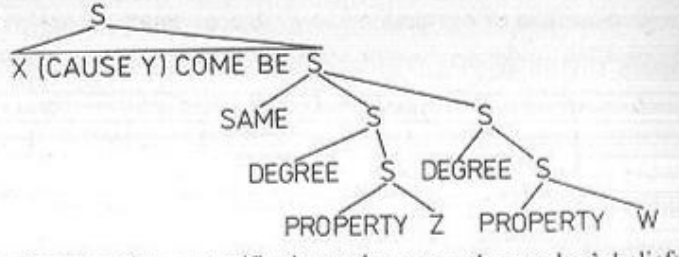
Naturally, many other verbs can be included in sets A, B, C. They all fall into two major groups: (a) verbs denoting possession of an implicit property, (b) verbs denoting acquisition or loss of an implicit property.

Now we turn to the problem of semantic structure underlying overtly quantified degree CI's. It is evident that verbs of sets A, B, C are similar to verbs like *dress, smile,* etc. in that they allow modification of a constituent present in the semantic structures underlying them.

In *as... as* expressions with verbs of the three sets, the property predicate does not surface as an adjective or a corresponding *-ly* adverb. Instead, the quantifier *much/bardzo* occurs in the surface, evidently lexicalizing the DEGREE predicate.

To account for the above observations, we propose that the gradable constituent is present in the embedded comparison clause, but is lifted out of it and incorporated by the configuration replaced by the surface verb. The DEGREE predicate devoid of its PROPERTY can only surface as one of the two quantifiers, i.e. *much/bardzo* or *little*. Accordingly, we would like to assign for CI's with A, B, C verbs a semantic structure approximate to (72):

(72)




The selection of appropriate quantifier is contingent on the speaker's beliefs about the degree of reference property. Thus, high and unspecified degree is rendered in the surface by *much/bardzo* and *little* respectively.

(73) a. X dried as much as Y.
b. X dried as little as Y.

### 3.4.2 Amount and number comparatives of identity

We now turn to those *as much as* constructions which have in Polish *tak dużo* for the equivalent phrase. It may be provisionally said that *much/dużo* indicates the measure of action. Consider the following sentences:

(74) a. X sleeps as much as Y does.
b. X stays at home as much as Y does.

Notice that the same sentences are deviant when describing an event in progress:

(75) a. *X is sleeping as much as Y.
b. *X is staying at home as much as Y.

We think the deviance amounts to the fact that *much/dużo* here mean 'frequently, often, many times'. And such an interpretation is not compatible with the aspect which indicates that the action is performed at a certain point in time, and not through a longer stretch of time.

In general, the indefinite frequency and measure of action can be denoted by intransitive verbs of common aspect:

| | |
|---|---|
| lie | sit |
| sleep | run |
| walk | swim |
| | etc. |

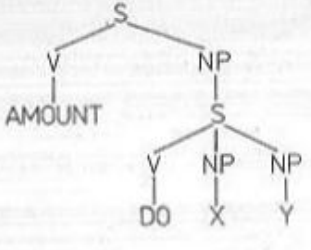
When referring to the actions themselves, *much/dużo* carries with it the covert information about the frequency of these actions. Naturally, the frequency of action can be overtly rendered by adverbs of unspecified frequency, i.e. *often, frequently, rarely*:

(76) X comes as { often / frequently / rarely } as Y.

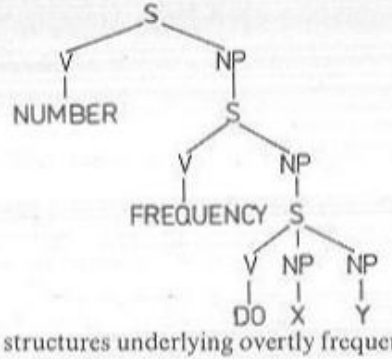
It is evident that the distinction between measure of action and frequency of action interpretations should be reflected in the semantic structures underlying *as much as* expressions. We propose that the semantic structures for the respective interpretations contain arguments whose relevant portions are like (77a and b):

(77)

a. measure of action




b. frequency of action




Configuration (b) is also found in semantic structures underlying overtly frequentive *as... as* constructions like (76).

Very often *much/dużo* may inyite inference about the number of 'products' of an action. This happens with agentive' 'achievement' verbs like the following:

| | |
|---|---|
| drink | eat |
| read | sew |
| write | draw |
| | etc. |



(78) a. X drinks as much as Y.
b. X eats as much as Y.

Although the objects of the verbs in the above sentences do not surface, they are implied by the verbs, and *much* can be interpreted as quantifying both the action and the implied object. The reference to the implied object becomes particularly evident in sentences denoting completed actions:

(79) a. X drank as much as Y.
b. X ate as much as Y.
c. X wrote as much as Y did.

The reference to the objects is also clear with stative verbs which exclude frequency interpretation:

(80) a. X knows as much as Y.
b. X remembers as much as Y.
c. X understands as much as Y.

The „product" of verbs used in the above constructions is understood *en masse*, which explains the grammaticality of collocations: *write, know, understand, remember* with *much*. When products are understood as sets of distinct entities such verbs require the quantifier *many*.

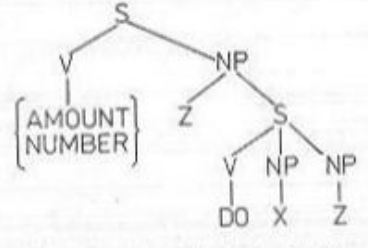
But very often the objects occur in the surface structure. Then *much* is used to quantify the uncountable nouns, *many* is used for nouns denoting countable entities:

(81) a. X read as many books as Y.
b. X wrote as many papers as Y.
c. X ate as much bread as Y.
d. X drank as much bear as Y.

Practically, any verb taking an object in the surface can be included in this group.

To reflect the observations about the „achievement" verbs and their objects, we propose that the semantic structure of constructions in which they occur has arguments of the following form:

(82)




DO symbolizes the „achievement" verb, Z stands for its „product".

The selection of appropriate quantifiers is done along the lines described for *much/bardzo-little*. If the product does not surface, or is understood *en masse*, the predicate AMOUNT is realized as *much/dużo* or *little* depending on the speaker's assumption about the amount of reference quality. In the situation when Z is realized lexically, the selection of appropriate quantifier is contingent on its countability. For uncountable entities *much/dużo-little* lexicalize the AMOUNT predicate. For countable entities *many-few* realize the NUMBER predicate.

### 3.5 COMPARATIVES OF IDENTITY WITH EXPLICIT STANDARD

The term „explicit standard" has been proposed by Huddlestone (1967) for comparative expressions with numerical quantifiers in the surface constituent clause, as in the following:

(83) a. She has as many as 200 records.
b. He comes as often as twice a week.

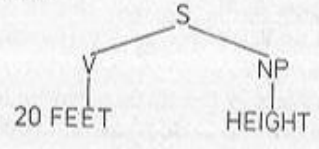
Naturally, not all comparative constructions take numerical standards. Consider the following sentences:

(84) a. John is as tall as 6 feet.
b. John has written as many as 25 papers.
c. John ate as much cheese as 5 pounds.
d. John has as much experience as?
e. John likes Mary as much as?

It is evident that the numerical standard is allowed in two cases: (a) with properties measurable with conventional units like feet, pound, inch, etc.; (b) with countable entities, objects, events, frequency, etc., the quantity of which is expressed with natural numbers.

We assume after Bogusławski (1973) that measure phrases are predicates. Thus, a phrase like '20 feet tall' has the semantic representation as in (85):

(85)




According to Bogusławski (1973: 14), expressions like (83) can be defined as an „assignment of a numerical predicate B to some A". We think that in such comparative constructions there is more semantic material than Bogusławski's formula implies. Consider the following examples:

(86) a. Mary bought as many as 10 records.
b. Mary bought as few as 10 records.
c. Mary bought 10 records.

(86a and b) imply what (86c) asserts, namely that Mary bought 10 records[2]. Thus, they all fit Bogusławski's formula. Due to these implications all three can possibly be used as contextual equivalents but it is obvious that they are not semantic equivalents. The first observation we want to make is that Bogusławski's formula fails to show that in (86a, b) the relation of identity is asserted, while it can hardly be claimed that (86c) also involves the same semantic relationship.

[2] It is interesting to note that the Polish equivalents of (86a, b) are rendered with *aż* and *tylko/zaledwie* respectively:

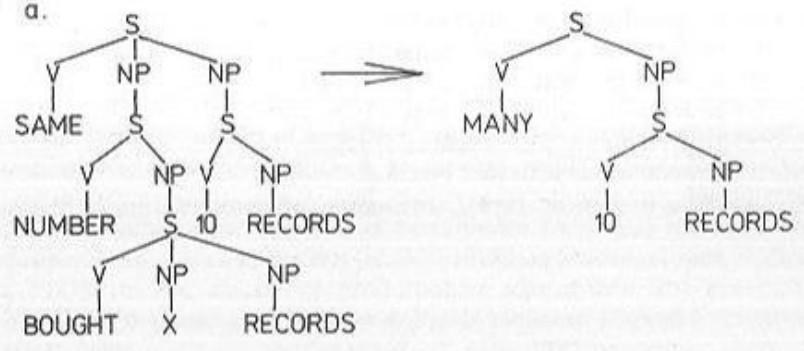
(a) Mary kupiła aż 10 płyt.
(b) Mary kupiła { tylko / zaledwie } 10 płyt.



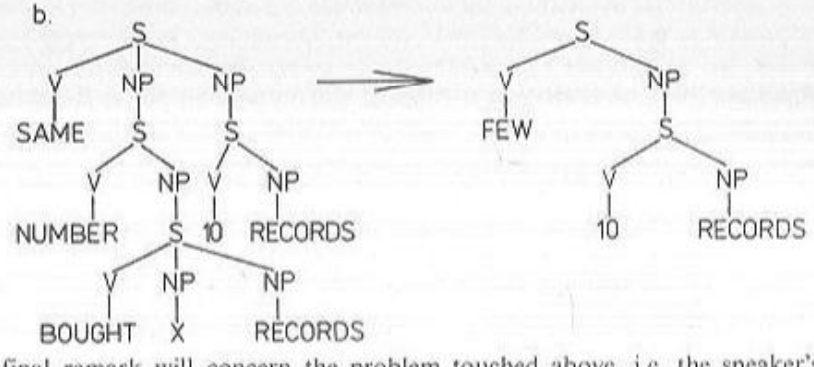
Another semantic difference between (86a, b) on the one hand, and (86c) on the other, is that the former indicate the speaker's attitude to the proposition he asserts. In (86a) the speaker seems to consider 10 records to be a big number. In (86b) he seems to consider 10 records to be a small number. There is not such attitudinal content in (86c), where the speaker does nothing beyond mere asserting of the exact number of records bought.

The speaker's attitude in (86a, b) can be translated into his presuppositions about the quantity of entities in question and as such attached to the semantic structures underlying the constructions in question. Thus (86a, b) have the semantic structures of approximately the following form:

(87) a.




b.




Our final remark will concern the problem touched above, i.e. the speaker's presuppositions associated with the quantity of entities defined by the measure phrase. Notice that (a) and (b) examples below are not necessarily synonymous of each other:

(88) a. John is as tall as 6 feet.
b. John is as much as 6 feet tall.
(89) a. John has as many books as 100.
b. John has as many as 100 books.
(90) a. John has written as many papers as 20.
b. John has written as many as 20 papers.

(91) a. John ate as much cheese as 5 pounds.
b. John ate as much as 5 pounds of cheese.

All (b) examples seem to be marked as far as the speaker's presuppositions are concerned. Each of them has a presupposition connected with it that the quantity expressed numerically is big. The (a) examples can be interpreted as ambiguous between the big and unspecified quantity expressed by the numerical phrases.

It is natural that the speaker may believe that the value named by the standard is small. Such a presupposition is connected with the semantic structures underlying the following sentences:

(92) a. John is as short as 4 feet.
b. John is as few as 4 feet short.
(93) a. John has as few books as 5.
b. John has as few as 5 books.
(94) a. John has written as few papers as 2.
b. John has written as few as 2 papers.
(95) a. John ate as little cheese as 1 ounce.
b. John ate as little as 1 ounce of cheese.

It is interesting to note that (a) and (b) examples allow only the marked interpretation.

# Chapter IV

# BEYOND THE AS-AS PATTERN

## 4.1 STATEMENT OF PURPOSE

For a long time linguistic analyses of comparison were confined to discussions of syntactic and semantic aspects of *more/less... than* and *as... as* constructions. The semanticization of linguistic description in recent years made it possible to extend the label „comparative construction" to still other linguistic expressions. Thus certain conventionalized syntactic structures have been shown to display semantic and syntactic properties of true comparatives (cf. Post 1979a on functional comparatives and Post 1979b on the clauses of proportionate agreement). The generative semanticists' claim that lexical items have syntactic structure allowed to interpret certain lexical items as covert comparatives (cf. Geis 1970 on certain temporal conjunctions).

The works just mentioned neatly define two important fields of future research on linguistic expressions of comparison, i.e. (a) identification of other comparatives among the conventionalized syntactic structures, (b) description of lexical comparatives. It is the purpose of this chapter to contribute to these two fields.

## 4.2 *SAME, IDENTICAL, EQUAL* AND COMPARATIVES OF IDENTITY

In this section, we will discuss semantic and syntactic properties of comparative constructions in which lexical items *same, identical,* and *equal* function as the exponents of relational meaning. Accordingly, we label the three items as Identity Predicates. All three items are adjectives capable of functioning as predicates of the copulative verb *be*, and our discussion is confined to constructions in which the above items occur in just this function. We think that in this position they most directly lexicalize the semantic relational structure underlying them.

The following token-sentences illustrate the constructions with lexicalized relation and the possessors of properties:

(1) X and Y are $\left\{\begin{array}{l}\text{identical}\\ \text{the same}\\ \text{equal}\end{array}\right\}$.

Sentences like (1) represent the situation when both subjects are topicalized. Identity Predicates allow the option with one of the entities topicalized, as in the following:

(2) X is { identical to / the same as / equal to } Y.

In the case represented by (1), the comparison relation holding between the terms is made the comment. In (2), the comparison relationship and the standard term are made the comment.

In expressions like (1) and (2), the subjects of *identical, equal* and *same* are either conjoined NP's, or a plural NP, or appropriate form of personal pronoun:

(3) { Pete and George / Our papers / They } are { identical / same / equal }

The optimal lexicalization of the semantic representations underlying comparatives additionally includes the presence of a property attributable to possessors in the surface structure. This is achieved, with the predicates involved, by adding the following complements:

(4) a. in the way { that / which } S

b. in NP

Of interest here is the NP occuring in the complement *in* NP. The NP in this position can be either a nominalization denoting a mode of action, or a noun denoting an abstract measurable, but not directly observable, property:

(5) a. George and Mary are { the same / identical / *equal } in gestures.

b. George and Mary are { the same / identical / equal } in height.

Notice that only *same*, and *identical* are compatible with both types of NP's. *Equal* is compatible only with NP's denoting measurable properties.

The behaviour of the three items in (5) supports our interpretation of 'equality' as involving quantified relation of identity (cf. section 2.1 above). In such a situation, *equal* obviously can only collocate with complements defining inherently quantifiable properties. The remaining two predicates are not constrained so because they lexicalize the bare relation of identity. Their quantitative or qualitative interpretation depends solely on whether the complement specifies quantifiable property, or not.

We conclude that the three predicates occur in two types of comparative constructions; the qualitative and the quantitative. *Identical* and *same* occur in both types. *Equal* is confined to quantitative expressions only.

Our next remarks will concern the functional and semantic likeness of *in* $NP_{manner}$ and *in the way that S* complements:

(6) a. John is { the same as / identical to / *equal to } Peter in { gestures / smiling / dancing }

b. John is { the same as / identical to / *equal to } Peter in the way that he { gesticulates / smiles / dances }



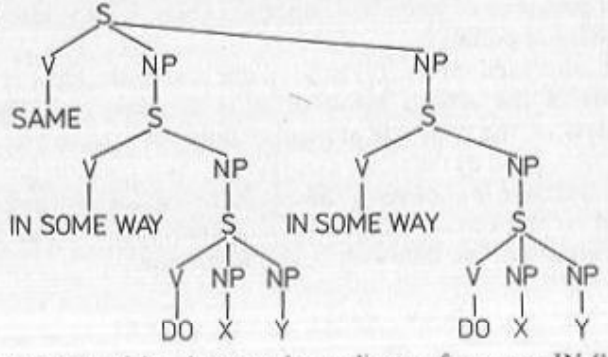
The above sentences show that first, *equal* is neither compatible with *in the way that* S complement, nor with *in* $NP_{manner}$ complements, which evidences that the constructions with the two complements involved represent the qualitative case. Second, (a) and (b) are synonymous hence we suggest that the complement *in* $NP_{manner}$ be treated as a reduced form of *in the way that* S. The process involved in the derivation of (a) expressions from (b) expressions includes the nominalization of the S and deletion of the constituent *the way that*.

We now turn to the problem of semantic structures underlying expressions with the Identity Predicates. It has been demonstrated above that the three predicates occur in two types of comparative constructions, (a) quantitative, and (b) qualitative. Of the three predicates, only *equal* is confined to quantitative CI's, the remaining two occur freely in both types, collocating with appropriate complements.

Quantitative CI's with Identity Predicates are derived from the semantic structure underlying adjectival comparatives of identity (cf. section 3.2 above). They differ, however, from the latter constructions in that they can be only 'one-variable' comparative expressions.

Qualitative CI's seem to derive from a semantic representation like the following:

(6)




Manner is here represented by the generic predicate of manner IN SOME WAY, which is directly lexicalized when not explicitly verbalized what aspect of manner one has in mind. Manner is defined in such constructions indirectly. In the same position one may have a predicate denoting a specific aspect of manner like *rudeness, loudness, gracefulness,* etc. In such a case, the specific properties are in the scope of quantity predicates and are realized as *-ly* adverbs modifying surface verbs (cf. section 3.3.1). The absence of quantity predicates in this representation reflects the incompatibility of *equal* with manner complements. (6) underlies certain conventionalized constructions denoting identity of manner which will be discussed in section 4.3.

### 4.3 CONSTRUCTIONS OF COMPARISON AND MANNER

By constructions of comparison and manner are meant syntactic expressions illustrated by (7) and (8):

(7) We do our duty as our predecessors did.

(8) a. He smiled as if he were already seated in the house.

b. She lay for several minutes as though stunned.

In traditional grammar, they are assumed to involve both comparison and manner. Comparison is a way of indicating the manner of action (cf. Poutsma 1914, Quirk et al. 1972, Jespersen 1942). Constructions illustrated by (7) and (8) are assumed to be „real world" comparatives and „hypothetical" comparatives respectively. The former type of construction is formally indicated by *as*. The latter type of construction is formally marked by *as if/though*.

In our interpretation, constructions like (7) and (8) are qualitative CI's, derived from the same kind of semantic relational structure as constructions with Identity Predicates of the qualitative type (cf. section 4.2. diagram (6)).

Besides being qualitative CI's, constructions like (7) and (8) share with Identity Predicate constructions two other properties. First, in such constructions manner is defined only indirectly, i.e. the manner is implied by the surface subordinate clause. Second, both types of constructions are, semantically, 'one-variable' comparatives in which $X_1 \neq X_2$ but $P_1 = P_2$, where the P's stand for manner predicates.

The two types of constructions differ, however, as to what is asserted in uttering them. The focus in expressions like (6) is the assertion of identity of the agents of the propositions in the scope of manner predicates, the manner itself functioning as the basis on which it is possible to make such an assertion. It should be emphasized that the identity of manner is of secondary importance here, it is the identity of the agents that is of primary importance.

In uttering constructions like (7) and (8), one asserts the identity of manner, and not the agents of the actions involved, as is the case with Identity Predicate expressions. Besides, the predicate of manner does not surface here, but we suggest that it gets incorporated by the surface markers of these constructions, i.e. *as*, so that the basis of comparison is not overtly present in the surface structure in any form, but rather implied by the surface markers. Accordingly, we propose that the surface marker *as* incorporates the following semantic material:

(9) $\text{WAY}_1\ \text{SAME}\ \text{WAY}_2 \longrightarrow \text{as}$

The other type of markers, i.e. *as if/though* incorporate additional information, the discussion of which is postponed until later.

We said above that in expressions like (7) and (8) the manner of action is defined indirectly. What was meant by this is that the way in which the focus action is performed brings to the speaker's mind another action performed in exactly the same way, and instead of explicitly stating this manner, the speaker chooses to report this situation. In this respect, constructions like (7) and (8) behave in exactly the same way as other CI's, i.e. they presuppose the hearer's familiarity with the second term of comparison. In the case of CI's like (7) and (8), the speaker presupposes the familiarity of the hearer with the manner in which the action brought to his mind is performed. In this interpretation, the complement, i.e. the material following the formal markers should be viewed as the standard of comparison *par excellence*.

Considering the contents of the second term of comparison in „real world" CI's, two groups of standards can be distinguished: (a) referential standards, and (b) metaphoric standards. By referential standards are meant complements referring to actual events, situations, actions, etc., as illustrated by the following examples:



(10) a. She cooks a turkey as my mother did.
b. I have a mind to serve him as he served Mademoiselle's hound.
c. I have only come to tell you how sorry I was to see you treated as you were by my uncle.

The non-referential standards involve all kinds of metaphors, clichès and generic expressions, as in the following:

(11) a. They hunted him as a tiger stalks his prey.
b. Sweet thoughts would swarm as bees about their queen.
c. The childhood shows the man as morning shows the day.
d. She plays with him as a cat with a mouse.

Now we wish to turn to „hypothetical" CI's. To establish the properties distinguishing them from the „real world" CI's, we propose to consider the following sentences:

(12) a. He acts as a leader does.
b. He acts as if he were a leader.
(13) a. She cared for me as she did for her son.
b. She cared for me as if I had been her son.

(12a) and (13a) only assert the identity of manner, in (12b) and (13b) we additionally have the explicit identification of the matrix subject with the complement subject (12b) and the complement object (13b). In view of this identification, it is important to note that in the actual world the subject is neither a leader nor the woman's son. The identification takes place in some hypothetical world, different from the world of the matrix clause, and of the performative clause. Thus, for (12b) and (13b) to be appropriately used, the speaker has to presuppose the negation of the clause following it. In other words, the speaker of constructions like (12b) and (13b) presupposes the non-identity of the world of the complement and the matrix sentence. Naturally, (12a) and (13a) have propositions associated with them: *He is not a leader*, and *He is not the woman's son*, but they are not the conditions for them to be appropriately used, but rather entailments following from them.

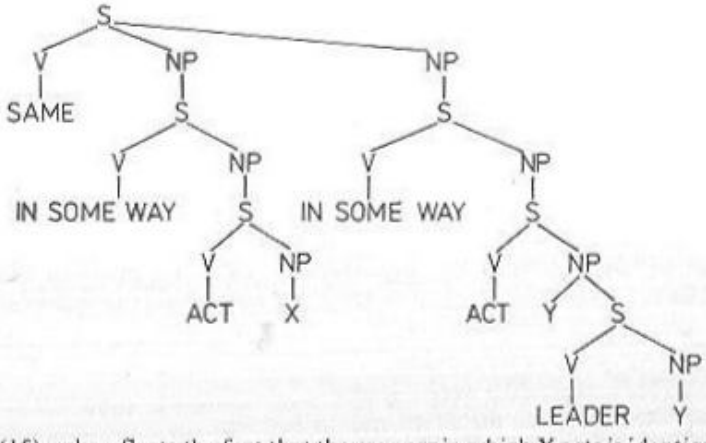
The *if*— clause of „hypothetical" CI's is reminiscent of the antecedent clause of counterfactual conditionals, which are also presupposed to be false, i.e. the proposition involved in it is not true in the actual world (cf. Karttunen 1971). In Nielsen (1972), we find actually a full counterfactual conditional at an intermediate stage in the derivation. For expressions like (12a), Nielsen has for the inputs, strings as in (14)

(14) A leader acts some way$_1$<br>He acts some way$_1$<br>He is not a leader } ⇒ He acts as (he would act) if he were a leader.

He correctly recognizes the necessity to have the input *He is not a leader*, for the semantics of such an expression but the inclusion of the consequent (the material in brackets) seems to be intuitively unsatisfactory. In uttering „hypothetical" CI's, the speaker does not hypothesize about how the referent of the matrix subject would act if he found himself in the situation described by the complement, because he actually „puts" him into this situation through the identification. Thus (12b) entails that one acts in a certain way when he is a leader, and the referent of the matrix subject is

identified with this unspecified agent in a world which is non-identical with the real world. We envisage the semantic structure underlying (12b) as in (15):

(15)




As it stands, (15) only reflects the fact that the manner in which X acts is identical with the way in which a leader acts, i.e. (15) underlies a „real world" CI like (12a). To account for the identification of X and Y, in the hypothetical world, we propose that the following presuppositions be attached to the semantic structure like (15):

(16) $X \neq Y$ in the real world and $X \equiv Y$ in the hypothetical world

Thus in our interpretation, the semantic core for „real world" and „hypothetical" CI's is the same, as in (15). The difference in meaning among these two types lies in the presuppositions concerning the relation of this core and the speaker's beliefs. In the „hypothetical" type it is the non-identity and identity of agents in the real world and hypothetical world respectively. This mismatching of the worlds is indicated in English by *if* + subjunctive form of verbs, which serve as a warning to the listener not to make the inference that the speaker believes the complement to be true.

It follows from the above that the essential difference between the two types of formal markers: *as* on the one hand, and *as if/though* on the other is that the latter incorporate the information about the mismatching of the two worlds.

### 4.4 CONSTRUCTIONS OF PROPORTIONATE AGREEMENT

This section treats sentences such as (17):

(17) a. The more I thought of her, the more I missed her.
b. The less he sleeps, the more restless he becomes.

The constructions are formally marked by the occurence of two *the's* (henceforth TT) followed by the comparative.

What we intend to say about the semantic characteristics of the constructions in question will largely be based on our earlier discussion of TT constructions (cf. Post 1979b).

In pre-transformational grammar of English, sentences like (17) were classified with other complex sentences. Some grammarians treat them as constructions of proportionate agreement (Curme 1931, Poutsma 1914, Quirk et al. 1972). Others like



Jespersen (1942) and Grzebieniowski (1964) think they are adverbial clauses of parallelism; Ganshina and Vasilevskaya (1964) subsume them under the class of adverbial clauses of comparison.

Crucial to our discussion of TT constructions is the historical source of their formal markers. Some grammarians argue that neither of the *the's* is a development of the definite OE article (Jespersen 1942, Curme 1931, House and Harman 1946). Jespersen holds that one of the *the's* is a development of *þy*, the OE instrumental of the determinative pronoun *that*. The other *the* originates from the relative *þe*. In Curme's opinion the *the's* are the OE double determinative. The first *the* is a determinative, i.e. neuter instrumental case of the determinative *þæt*. The second *the* is a demonstrative *þæt*. House and Harman maintain that the *the's* in OE were the instrumental case of the demonstrative *þæt*. In Jespersen's interpretation the two *the's* mean 'by how much — by so much', while in Curme's they have a meaning akin to 'in that degree — in that degree'. House and Harman propose 'by that much — by that much' to render the meaning encoded in the *the's*. Accordingly, a sentence like (18)

(18) The more money he makes, the more he wants.

seems to mean something like (19):

(19) In that degree: he makes more money, in that degree: he wants more.

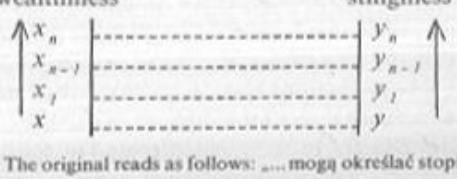
Considering the origin and the meaning of the *the's*, we hypothesize that the relationship between the degrees of properties encoded in the constituent clauses of (17a,b) is that of equality. But such an assertion of identity as holding between invariant values of properties contradicts a universally recognized dynamic character of TT constructions. Jespersen (1942: 380) says that TT's indicate a „parallel increase in two interdependent cases". Ampel (1975: 86) observes that the corresponding Polish constructions „define the degree of a property as changeable and dependent on another property"[1]. It is plausible then that in sentences like (17a,b) one has to do with a change of two qualities, cases, propositions, etc.

Now we shall attempt to reconcile the apparently static statement of identity holding in TT's with their implicit dynamism. To show this, we propose to examine the following sentence:

(20) The wealthier he grew, the stingier he seemed.

In keeping with the above, we suggest that in (20) two scales are involved; the scale of stinginess and the scale of wealthiness. (20) asserts among other things, that his being wealthy has a degree, and that his being stingy also has a degree. These degrees, however, are not constant values but are subject to change, i.e. any change on the first scale is accompanied by a change on the other scale. If we now represented the increase of wealthiness as an imaginary movement along the axis of wealthiness from point to point, then each of the degrees of wealthiness would have its corresponding degree of stinginess. Graphically, this might be represented as in (21):

(21)




[1] Translation ours, M. P. The original reads as follows: „...mogą określać stopień cechy jako zmienny i zależny od innej cechy" (Ampel 1975: 86).

where arrows indicate the direction of the change. It follows from the diagram that the quantities of properties at any $x_n$ and the corresponding $y_n$ are larger than the respective quantities of properties at $x_{n-1}$ and $y_{n-1}$. Needless to say, the quantities at the starting points of the movement along the axes, i.e. $x$ and $y$ are irrelevant. They can be identical but not necessarily so.

In our earlier paper (Post 1979b) we suggested that the quantitative increase of two qualities measured at any of the corresponding points along the dimensions involved is identical. More precisely, the increased quantity of wealthiness at $x_1$ is equal to the increased quantity at $y_1$; the increased quantity at $x_2$ is equal to the increased quantity at $y_2$; the increased quantity at $x_n$ is equal to the increased quantity at $y_n$. It would seem then that at every point along the axes we have the relation of equality holding between the corresponding quantities of properties, the total semantic content of TT's being a „sum" of $n$-comparison of identity.

However, there is a different view on between what and what the identity relationship holds. In Zandvoort's opinion what the TT's express is „that two qualities increase or decrease at an equal rate" (Zandvoort 1957: 224). Thus, in TT's either (a) quantitative increase of two qualities is equal, or (b) the rate of quantitative increase of two qualities is equal.

In Post (1979b), we subscribed to view (a). As far as the second view is concerned, we hypothesized there that the relation of identity remains unchanged under the condition that the degrees of properties change at the same rate, and proposed that asserting the propositions of (17) presupposes the same change, as to the rate, in the interdependent cases described in the main and subordinate clauses respectively.

Since writing the 1979b paper, we have come to believe that view (b) is the correct one. The chief reason for the change of our opinion is that the majority of the speakers of English that have been consulted find the second interpretation corresponding with their own understanding of the meaning of TT's. What is more, they consider (b) as more realistic, and view (a) as improbable though not impossible.

Having subscribed to view (b), we feel obliged to explain how we interpret Zandvoort's phrase *at an equal rate*. In our discussion, rate will be denoted by the semantic predicates INCREASE and DECREASE. 'Equal' is a derived semantic relationship meaning 'same quantity'. Thus the expression *at an equal rate* means to us something like 'the quantity of the increase described in the main clause is the same as the quantity of the increase described in the subordinate clause'. But recall that in TT constructions we already have the quantities of properties (wealthiness and stinginess in (20)). These remarks seem to indicate what a well-formed semantic representation underlying the constructions in question should be like. At this stage of the discussion, we envisage the obligatory part of such a representation as something approximate to (22):

(22) the quantity$_h$ of the increase$_i$ of the quantity$_i$ of the property$_i$ is the same as the quantity$_k$ of the increase$_j$ of the quantity$_j$ of the property$_j$

The last statement of the preceding paragraph implies that an adequate semantic representation of TT constructions should include other semantic material as well. This is exactly what we mean and intend to show further in this section.

In the above formulae, we have two predicates INCREASE, which by no means implies that this is the only possible combination of change predicates in the structures underlying TT's. In our 1979b paper, we observed that depending on the type of the change predicate in the constituent clauses, two semantic types of TT's can be distinguished. We called them symmetric and asymmetric TT's, respectively. Consider, for example, the following sentence:



(23) The longer I think of your proposal, the less I like it.

Structurally, (23) is similar to all other constructions we have discussed above, i.e. we find a comparative in both clauses preceded by the *the's*. Semantically, however, (23) differs from (20). In (20) it made sense to have the predicates INCREASE in the sentential arguments of SAME indicating growth of degrees; in (23) it seems that we should have INCREASE in the subordinate clauses, and DECREASE in the main one. (23) asserts that duration of my thinking increases at the same rate as my liking decreases.

One should not be surprised to find sentences with the DECREASE predicates in the subordinate clauses, and INCREASE in the main clauses, as in (24):

(24) The less he sleeps, the more restless he becomes.

Naturally, we also find constructions with the DECREASE predicates in both constituent clauses:

(25) The less he sleeps, the less effective his work becomes.

The above examples indicate that in English we deal with (a) symmetric constructions, based on INCREASE-INCREASE or DECREASE-DECREASE predicates, and (2) asymmetric constructions based on DECREASE-INCREASE and INCREASE-DECREASE pairs.

Now we wish to discuss one more semantic property of TT's which, we believe, should be represented in the semantic structures underlying them. It is plausible that, semantically, the constructions involved are more than just comparative constructions founded on the relation of identity. That we are right in this claim becomes evident when one examines the nature of the interdependence of the two situations described in the main and subordinate clauses, respectively.

Consider the following sentences:

(26) a. The noisier they were, the more impatient their mother was.
b. The longer he stayed, the more sullen he became.
c. The more I thought of her, the more I missed her.

It can be said about (26a, b, c) that if the situation described in the subordinate clauses ($S_1$) had not taken place, the situation described in the main clauses ($S_2$) would not have taken place either:

(27) $\sim S_1 \supset \sim S_2$

But what are precisely the situations described by $S_1$ and $S_2$? We said above that TT constructions describe quantitative increase/decrease of certain properties. Thus, it is probably more accurate to say that if there had not been the increase/decrease in $S_1$, there would not have been the increase/decrease in $S_2$. Or in more general terms, we should say that if there had not been the quantitative change in $S_1$ there would not have been the quantitative change in $S_2$:

(28) $\sim C_1 \supset \sim C_2$

In view of the above, it is only natural to claim that the change in $S_1$ causes the change in $S_2$ and the change in $S_2$ is the result of the change in $S_1$. But to suggest that is tantamount to saying that we deal with cause-result relation in TT constructions.

If this argumentation is true, then we are dealing with two semantic relationships in TT's, namely, those of cause and equality.

But the notion of causation is far from being homogenous. In an important paper, McCawley (1976) observed that in the following sentences two different types of causation are involved:

(29) John boiled the eggs for five minutes.

(30) John boiled the eggs in five minutes.

In (29) the caused proposition — the eggs are boiling — is a condition that the activity maintains at each instant. It is noncommital as to whether the activity ends with eggs in a cooked state. (30) involves the causal relation present in (29) and additionally the fact that the activity ends with the eggs in a cooked state. The activity is at each point causing the eggs to be boiling and the total activity causes the eggs to be cooked. McCawley calles the two types of causation CONTINUOUS CAUSATION and CULMINATION respectively.

It seems to us that in TT's we deal with the first of the two types of causation described in McCawley (1976). For example, in view of what has been said about the properties of TT's so far, it is true to say about (31):

(31) The more I think of her, the more I miss her.

that the increase of the quantity of thinking is causing at each instant the increase of the quantity of missing her. It goes without saying that the „at-each-instant--causation" can be easily extended to all TT constructions. Thus, we suggest that in the constructions involved the proposition described by the main clause is caused and maintained at each instant by the process described in the subordinate clause.

It appears then that the relational meaning of TT's involves two semantic relationships, namely, of cause-result and equality. Consequently, the semantic structure which we would like to assign for TT's will involve the assertion of identity and the assertion of causation, respectively. The first can be spelled as in (22), repeated for convenience:

(32) the quantity$_h$ of the increase$_i$ of the quantity$_i$ of the property$_j$ is the same as the quantity$_k$ of the increase$_j$ of the quantity$_j$ of the property$_j$

For the second assertion we propose the following formulae:

(33) the increase$_i$ of the quantity$_i$ of the property$_i$ causes the increase$_j$ of the quantity$_j$ of the property$_j$

The appropriate semantic representation for TT's will be formed through a combination of the two types of formulae, represented by (32) and (33) respectively. We can think of two ways how this could be accomplished; either through coordination or through subordination. Of the two, only subordination is consistent with our earlier recognizing of the fact that TT's are comparatives of identity which involve causation (cf. Post 1979b).

# Chapter V

# SUMMARY AND CONCLUSIONS

## 5.1 SUMMARY

The goal of the present work has been to investigate the semantic properties of syntactic constructions of Modern English labelled by us „comparatives of identity". The relevant data were introduced in section „General statement of purpose" of INTRODUCTION. There we proposed that comparatives of identity be derived from a single semantic core involving a two-argument predicate of identity SAME. In section „Theoretical assumptions" of the same chapter, we introduced the theoretical linguistic framework of the present analysis.

In Chapter One we introduced the major theoretical issue that had arisen in the linguistic studies of comparison, i.e. the question whether comparison is a formal--syntactic problem or a semantic one. In connection with this, we surveyed a number of earlier studies representing the two sides of the issue. Sections 1.1 and 1.2 were devoted to formal syntactic accounts of comparison constructions. The semantic branch was presented in section 1.3. We concluded this chapter with a brief discussion of the inadequacy of earlier theories of comparison for the present analysis (1.4).

Following the critical comments of the previous chapter, we presented in Chapter Two an overview of the principles of our own theory of comparative constructions. In section 2.1, we discussed various aspects of the semantic relational structure underlying comparatives of identity. Section 2.2 was devoted to specifying of the conditions under which identity can be asserted. In section 2.3 we considered the problem of „exact equality" which arose in connection with the quantitative comparatives of identity.

Chapter Three contains a detailed analysis of semantic properties of quantitative comparatives of identity. In section 3.1, general characteristics of quantitative comparatives of identity were presented. Section 3.2 was *in toto* devoted to adjectival comparatives. It was argued that the selection of adjectives in such constructions is presupposition governed. We also demonstrated that the surface structure of adjectival comparatives of identity was determined by such factors as matching of property predicates and the arguments they take. Finally, we showed that a class of adjectival comparatives should be interpreted as derived from the semantic structure underlying adverbial comparatives of identity.

True adverbial comparatives were discussed in section 3.3. It was also demonstrated that a class of surface adverbial comparatives of identity was derived

from semantic structures underlying true adjectival comparatives. We suggested that adjectives and the corresponding *-ly* adverbs were represented at the semantic structure by the same semantic element, the choice between the two surface forms being determined by the type of structure in the scope of this element, and also by certain decisions of the speaker.

Overtly quantified comparatives of identity were examined in section 3.4. We showed that within the group of surface overtly quantified comparatives there is a class of constructions with DEGREE predicates in their semantic structures. In the same section, we examined quantitative comparatives of identity in which the second term surfaces as a numerical expression.

Chapter Four extended the analysis of the previous chapter to a group of syntactic constructions of Modern English, which we claim, represent comparison of identity. In section 4.2, we examined constructions containing so called Identity Predicates. Section 4.3 was devoted to constructions which define manner through comparison. Finally, in 4.4 it was argued that a certain construction of proportionate agreement of traditional grammar is a comparative of identity.

## 5.2 NEW ANSWERS, NEW QUESTIONS

The present work is, to our knowledge, the most comprehensive semantic study of comparatives of identity that had been cartied out up to date. We believe that it contains a number of new discoveries that probably extend our understanding of comparison and comparative constructions. Of all the major and minor findings that have just been summarized, we think the following three constitute the most important innovations of the present work:

(1) The discovery that 'identity' is an elementary comparison relation rather than 'similarity' and 'equality' as was assumed by some linguists before.

(2) The discovery that a semantically adequate theory of comparative constructions has to distinguish between quantitative and qualitative constructions.

(3) The discovery that a variety of linguistic exspressions other than the conventional *as... as* constructions should be subsumed under the class of comparatives of identity.

Not surprisingly, the present study opens up a number of new paths that invite additional exploration. The first major path of investigation that we would like to see explored would be to discover rules relating the proposed semantic structures to their appropriate surface forms. In Post (1980) we propose a number of rules needed in such a grammar.

The second task should be to undertake a crosslinguistic comparison. A cross-linguistic study, apart from satisfying the natural curiosity of a linguist, would probably provide confirmation for a number of claims made in the present work.

Finally, we would like to see a series of studies attempting to discover what other expressions of English should be included in the class of comparatives of identity. Such studies will include:

(a) reinterpretation of syntactic constructions of English in the manner described in 4.3 and 4.4;



(b) establishing of the set of comparative words, and a discussion of their semanto-syntactic properties.

In the present study, we have most probably overlooked many problems, both large and small, that must be resolved before the domain of comparison of identity can be regarded as „chartered territory". Nonetheless, we hope that the investigations reported on in this work threw some light onto an area of English grammar that had for a long time been neglected.

## BIBLIOGRAPHY


Ampel, T. (1975), *Wypowiedzenie okolicznikowe profrazowe we współczesnym języku polskim*, Rzeszów: Rzeszowskie Towarzystwo Przyjaciół Nauk.

Bach, E., R. T. Harms, eds. (1968), *Universals in Linguistic Theory*, New York: Holt, Rinehart & Winston.

Bartsch, R., T. Vennemann (1972), *Semantic Structures*, Frankfurt/Main: Athenaum Verlag.

Beach, W. A., S. E. Fox, S. Philosoph, eds. (1977), *Papers from the Thirteenth Regional Meeting of the Chicago Linguistic Society*, Chicago, Illinois: Chicago Linguistic Society.

Berndt, R. (1974), „A Semantically Based Approach to Language Description and its Potential Impact on the Teaching of Foreign Languages" in: Fisiak (1974), 33-64.

Bierwisch, M. (1970), „Semantics" in: Lyons (1970), 166-184.

Binnick, R., A. Davison, G. M. Green, J. L. Morgan, eds. (1969), *Papers from the Fifth Regional Meeting of the Chicago Linguistic Society*, Chicago, Illinois: Chicago Linguistic Society.

Bogusławski, A. (1973), „Nazwy pospolite przedmiotów konkretnych i niektóre właściwości ich form liczbowych i połączeń z liczebnikami w języku polskim" in: *Liczba, miara, ilość*, Wrocław 1973.

Bogusławski, A. (1975), „Measures are Measures: In Defence of Diversity of Comparatives and Positives", *Linguistische Berichte* 36, 1-9.

Bowers, J. S. (1975), „Adjectives and Adverbs in English", *Foundations of Language* 13: 4, 529-562.

Bresnan, J. (1971), „On a Non-source for Comparatives" *Linguistic Inquiry* 2: 1, 117-123.

Bresnan, J. (1973), „Syntax of the Comparative Clause Construction in English", *Linguistic Inquiry* 4: 3, 275-343.

Buren, P. Van (1976), *Localism, Comparative and (Hopefully) Applied Linguistics*, read at the 12th International Conference on English-Polish contrastive linguistics in Białowieża.

Campbell, R. N., R. J. Wales (1969), „Comparative Structures in English", *Journal of Linguistics* 5: 2, 215-251.

Cantrall, W. R. (1977), „Comparison and Beyond" in: Beach et al. (1977), 69-81.

Chomsky, N. (1957), *Syntactic Structures*, The Hague: Mouton.

Chomsky, N. (1965), *Aspects of the Theory of Syntax*, Cambridge, Mass.: The MIT Press.

Chomsky, N. (1968), „Remarks on Nominalizations" in: Jacobs and Rosenbaum (1970), 184-221.

Chomsky, N. (1971), „Deep Structure, Surface Structure and Semantic Representation" in: Steinberg and Jakobovits (1971), 183-216.

Curme, G. O. (1931), *A Grammar of English Language vol. 3. Syntax*, Boston: Barnes & Noble, Inc.

Corum, C., T. C. Smith-Stark, A. Weiser, eds. (1973), *Papers from the Ninth Regional Meeting of the Chicago Linguistic Society*, Chicago, Illinois: Chicago Linguistic Society.

Davidson, D., G. Harman, eds. (1972), *Semantics of Natural Language*, Dordrecht: D. Reidel Publishing Company.

Darden, B. J., C. J. N. Bailey, A. Davison, eds. (1968), *Papers from the Fourth Regional Meeting of the Chicago Linguistic Society*, Chicago, Illinois: Chicago Linguistic Society.

Di Pietro, R., E. Blansit, eds. (1976), *The Third Lacus Forum*, Columbia: Hornbeam Press, Inc.

Doherty, P. C., A. Schwartz (1967), „The Syntax of the Compared Adjective in English", *Language* 43: 4, 903-936.

Fillmore, C. (1968), „The Case for Case" in: Bach and Harms (1968), 1-90.

Fillmore, C. (1972), „Verbs of Judging: An Exercise in Semantic Description" in: Fillmore and Langendoen (1972), 273-290.

Fillmore, C., T. Langendoen, eds. (1972), *Studies in Linguistic Semantics*, New York: Holt, Rinehart & Winston.





Fisiak, J., ed. (1974), *Papers and Studies in Contrastive Linguistics 2*, Poznań: Adam Mickiewicz University Press.

Fisiak, J., ed. (1976), *Papers and Studies in Contrastive Linguistics 4*, Poznań: Adam Mickiewicz University Press.

Fisiak, J., ed (1980), *Papers and Studies in Contrastive Linguistics 11*, Poznań: Adam Mickiewicz University Press.

Fries, P. H. (1976), „English Predication of Comparison" in: Di Pietro and Blansit (1976), 545-556.

Ganshina, M., M. Vasilevskaya (1964), *English Grammar*, Moscow: Higher School Publishing House.

Geis, M. (1970), „Time Prepositions as Underlying Verbs" in: *Papers from the Sixth Regional Meeting of the Chicago Linguistic Society* (1970), 235-249.

Givon, T. (1970), „Notes on the Semantic Structure of English Adjectives", *Language* 46: 4, 816-837.

Green, G. (1970), „More X than not X", *Linguistic Inquiry* 1: 1, 126-127

Grzebieniowski, T. (1964), *Morfologia i składnia języka angielskiego*, Warszawa: PWN.

Grzegorczykowa, R. (1973), „Problemy kwantyfikacji w grupie werbalnej" in: *Liczba, ilość, miara* (1973), 83-99.

Hale, A. (1970), „Conditions on English Comparative Clause Pairing" in: Jacobs and Rosenbaum (1970), 30-55.

Hankamer, J. (1973), „Why there are two *than's* in English" in: Corum et al. (1973), 179-191.

Horn, L. R. (1976), *On the Semantic Properties of Logical Operators in English*, PhD dissertation distributed by the Indiana University Linguistic Club.

House, H., S. Harman (1946), *Descriptive English Grammar*, Englewood Cliffs: Prentice Hall.

Huddlestone, R. (1967), „More on the English Comparative" in *Journal of Linguistics* 3: 1, 91-102.

Huddlestone, R. (1971a), *The Sentence in Written English*, London: Cambridge University Press.

Huddlestone, R. (1971b), „A Comparative Tautology", *Linguistic Inquiry* 2, 252-254.

Hutchinson, L. G. (1971), „Presuppositions and Belief-Inferences" in: *Papers from the Seventh Regional Meeting of the Chicago Linguistic Society* (1971), 134-141.

Jacobs, R. A., P. S. Rosenbaum, eds. (1970), *Readings in English Transformational Grammar*, Waltham, Mass.: Ginn & Company. A Xerox Company.

Jespersen, O. (1917), *Negation in English and other Languages*, Copenhagen: Ejnar Munksgaard.

Jespersen, O. (1929), *The Philosophy of Grammar*, Copenhagen: Ejnar Munksgaard.

Jespersen, O. (1942), *A Modern English Grammar on Historical Principles*, vols. 5 and 7. Copenhagen: Ejnar Munksgaard.

Joly, A. (1967), *Negation and the Comparative Particle in English*, Quebec: Les Presses de L'Universite Laval.

Jurkowski, M. (1976), *Semantyka i składnia wyrażeń gradacyjnych w językach wschodnio-słowiańskich*, Katowice: Uniwersytet Śląski.

Karttunen, L. (1971), „Counterfactual Conditionals", *Linguistic Inquiry* 2: 4, 566-569.

Kiefer, F., N. Ruwet, eds. (1973), *Generative Grammar in Europe*, Dordrecht: D. Reidel Publishing Company.

Klemensiewicz, Z. (1958), „O znaczeniu stosunkowym struktur składniowych" in: Lewicki (1971), 122-141.

Lakoff, R. (1970), „Another Non-source for Comparatives" in: *Linguistic Inquiry* 1: 1, 128-129.

Lakoff, G. (1972), „Linguistic and Natural Logic" in: Davidson and Harman (1972), 545-665.

Lees, R. (1961), „Grammatical Analysis of the English Comparative Constructions", *Word* 17: 2, 171-185.

Lewicki, A. M., ed. (1971), *Problemy składni polskiej*, Warszawa: PWN.

*Liczba, ilość, miara*, Wrocław 1973.

Ljung, M. (1974), „Some Remarks on Antonymy", *Language* 50: 1, 74-88.

Lyons, J. (1968), *Introduction to Theoretical Linguistics*, London: Cambridge University Press.

Lyons, J., ed. (1970), *New Horizons in Linguistics*, Hamond Harmondsworth, Middlesex: Penguin Books LTD.

McCawley, J. D. (1968a), „Lexical Insertion in a Transformational Grammar without Deep Structure" in: Darden et al. (1968), 71-80.

McCawley, J. D. (1968b), „The Role of Semantics in Grammar" in: Bach and Harms (1968), 124-169.

McCawley, J. D. (?), *Two Notes on Comparatives*, mimeo.

McCawley, J. D. (1974a), „Prelexical Syntax" in: Seuren (1974), 29-42.

McCawley, J. D. (1974b), „English as a VSO Language" in: Seuren (1974), 75-96.

McCawley, J. D. (1976), „Remarks on What can Cause What" in: Shibatani (1976), 117-129.
Mittwoch, A. (1974), „Is there an Underlying Negative Element in Comparative Clauses?", *Linguistics* 122, 39-45.
*Papers from the Sixth Regional Meeting of the Chicago Linguistic Society*, Chicago, Illinois 1970.
*Papers from the Seventh Regional Meeting of the Chicago Linguistic Society*, Chicago, Illinois 1971.
Post, M. (1975), „Some Types of English and Polish Comparative Constructions. A Contrastive Analysis", *Anglica Wratislaviensia* 5, 23-35.
Post, M. (1977), „Towards a Semantic Description of Comparative Constructions in English", *Anglica Wratislaviensia* 6, 25-32.
Post, M. (1979a), „On the So called Functional Comparatives in English", *Anglica Wratislaviensia* 7.
Post, M. (1979b), „Semantics and Syntax of Just One Clause of Proportionate Agreement in Modern English", *Anglica Wratislaviensia* 7.
Post, M. (1980), „English The-The Constructions and their Polish Equivalents", in: Fisiak (1980), 25-37.
Poutsma, H. (1914), *A Grammar of Late Modern English*. Groningen: P. Noordhoff.
Quirk, R., S. Greenbaum, G. Leech, J. Svartvik (1972), *A Grammar of Contemporary English*, London: Longmans.
Reibel, D., S. Schane, eds. (1969), *Modern Studies in English*, Englewood Cliffs: Prentice Hall.
Rivara, R. (1975), „How Many Comparatives Are There?", *Linguistics* 163, 35-51.
Ross, J. R. (1968), *Constraints on Variables in Syntax*, PhD dissertation distributed by the Indiana University Linguistic Club.
Ross, J. R. (1969), „A Proposed Rule of Tree-pruning" in Reibel and Schane (1969), 288-299.
Ross, J. R., D. M. Perlmutter (1970), „A Non-source for Comparatives", *Linguistic Inquiry* 1: 1, 127-128.
Ross, J. R. (1974), „More on ER Globality", *Foundations of Language*, 12, 269-270.
Rusiecki, J. (1976), *Some Semantic Aspects of Relative Adjectives and Their Comparison*, read at the 12th International Conference on English-Polish Contrastive Linguistics in Białowieża.
Sapir, E. (1944), „Gradacja: Studium z Semantyki" in: Wierzbicka (1972a), 9-37.
Seuren, P. (1969), *Operators and Nucleus*, London: Cambridge University Press.
Seuren, P. (1973), „The Comparative" in: Kiefer and Ruwet (1973), 528-565.
Seuren, P., ed. (1974), *Semantic Syntax*, London: Oxford University Press.
Shibatani, M., ed. (1976), *Syntax and Semantics 6. The Grammar of Causative Constructions*, New York: Academic Press.
Small, G. W. (1924), *The Comparison of Inequality*, Baltimore: John Hopkins University Press.
Smith, C. S. (1961), „A Class of Complex Modifiers in English", *Language* 37, 342-365.
Stanley, R. (1969), „The English Comparative Adjective Construction" in: Binnick et al. (1969), 287-292.
Steinberg, D., L. Jakobovits, eds. (1972), *Semantics: An Interdisciplinary Reader in Philosophy, Linguistics and Psychology*, London: Cambridge University Press.
Wierzbicka, A., ed. (1972a), *Semantyka i słownik*, Wrocław: Ossolineum.
Wierzbicka, A. (1972), *Semantic Primitives*, Frankfurt/Main: Athenaum Verlag.
Wołoszyk-Pisarska, A. (1976), „Basic Characteristics of Comparative Constructions in English and Polish" in: Fisiak (1976), 153-165.
Zandvoort, R. W. (1957), *A Handbook of Modern English Grammar*, London: Longmans.

## KOMPARATYWY IDENTYCZNOŚCI W JĘZYKU ANGIELSKIM. STUDIUM SEMANTYCZNE

### Streszczenie

Niniejsza rozprawa jest wyczerpującym studium semantycznym komparatywów identyczności w języku angielskim, tzn. takich zjawisk gramatycznych, które związane są z wyrażaniem semantycznej relacji identyczności. Do komparatywów identyczności autor niniejszej pracy zaliczył sześć typów konstrukcji zdaniowych współczesnego języka angielskiego:

(1) John is as tall as Bill.
(2) Mary dances as gracefully as her younger sister.
(3) a. George works as {much / little} as I do.
b. Peter wrote as {many / few} papers as Paul.
(4) George and Mary are {the same / identical / equal} in height.
(5) a. She cooks a turkey as my mother did.
b. He groped with his hands as if he were blind.
(6) The more I think of her, the more I miss her.

Za podstawę teoretyczną opisu posłużyła teoria lingwistyczna znana pod nazwą semantyki generatywnej. Tak jak większość zwolenników tej teorii, autor niniejszej pracy przyjął, że do opisu semantycznego najlepiej nadaje się język logiki. Zgodnie z tym założeniem, przedstawione w rozprawie reprezentacje semantyczne mają strukturę predykatowo-argumentową. Dwa inne postulaty semantyki generatywnej, które odegrały ważną rolę w niniejszej pracy, to zależność niektórych procesów gramatycznych od tzw. presupozycji, a także konieczność przedstawienia jednostek leksykalnych w strukturze semantycznej zdań, w których one występują w postaci kompleksów niepodzielnych elementów (semantic primitives).

### I

Następnie autor przedstawił krytyczny przegląd wcześniejszych opisów konstrukcji porównawczych. Omawiane prace uporządkowane zostały chronologicznie w dwie grupy. Do pierwszej z nich należą opisy formalno-składniowe, do drugiej zaliczone zostały prace semantyczno-składniowe i semantyczne. Naczelnym problemem analiz obu grup jest określenie struktury wyjściowej konstrukcji porównawczych. Tak więc, analizy grupy pierwszej proponują strukturę wyjściową w oparciu o wczesny model gramatyki generatywnej, teorii standardowej i poszerzonej teorii standardowej. Omawiane prace grupy drugiej przedstawiają różne propozycje struktury wyjściowej konstrukcji porównawczych bazując na gramatyce przypadków, naturalnej gramatyce generatywnej, teorii lokalistycznej i różnych wersjach semantyki generatywnej.

Głównym celem przeglądu było ustalenie, czy któraś z propozycji nadaje się na teoretyczną podstawę jednolitego opisu komparatywów identyczności. Zdaniem autora, prace grupy pierwszej są nieprzydatne, ponieważ traktują porównanie jako problem formalno-składniowy. Konsekwencją takiego podejścia do problemu porównania jest semantycznie nieinterpretowalna struktura wyjściowa. Prace grupy drugiej,

chociaż traktują porównanie jako problem w pierwszym rzędzie semantyczny, nie nadają się na podstawę jednolitego opisu konstrukcji takich jak (1-6), ponieważ nie dają możliwości rozróżnienia między jakościowymi (qualitative) i ilościowymi (quantitative) komparatywami. Zdaniem autora, semantycznie adekwatna teoria konstrukcji porównawczych powinna rozróżniać między tymi dwoma typami wyrażeń porównawczych.

## II

W kolejnej części pracy autor przedstawił propozycję własnej semantycznej teorii konstrukcji porównawczych. Wychodząc z założenia, że porównanie polega na ustanowieniu między dwoma obiektami relacji typu 'mniejszy niż', 'większy niż', 'podobny do', 'identyczny z' etc., autor przyjął, że w strukturze semantycznej konstrukcji porównawczych znajduje się dwu-argumentowy predykat reprezentujący jedną z wymienionych relacji. W przypadku komparatywów identyczności, jest to predykat identyczności SAME.

W interpretacji autora niniejszego studium ilościowe komparatywy zbudowane są na skwantyfikowanej relacji identyczności, natomiast jakościowe komparatywy tylko na relacji identyczności. Różnicę między tymi dwoma typami konstrukcji proponuje się przedstawić przy pomocy predykatu ilości (Quantity Predicate), znajdującego się tylko w strukturze semantycznej ilościowych komparatywów.

Następnie autor próbuje określić sytuacje, w których orzeka się identyczność dwóch obiektów. Biorąc pod uwagę fakt, że relacje porównawcze mogą być kwantyfikowane, wyróżnionych zostaje sześć takich przypadków:

(1) porównywane obiekty posiadają wszystkie (możliwe i wyobrażalne) cechy wspólne,
(2) porównywane obiekty posiadają jedną cechę wspólną,
(3) porównywane obiekty posiadają więcej niż jedną, ale mniej niż wszystkie cechy wspólne,
(4) porównywane obiekty posiadają wszystkie cechy wspólne w takiej samej ilości,
(5) porównywane obiekty posiadają jedną cechę wspólną w takiej samej ilości,
(6) porównywane obiekty posiadają dwie różne cechy w takiej samej ilości.

## III

Następna część pracy poświęcona jest szczegółowej analizie semantycznych właściwości ilościowych komparatywów identyczności, tj. przymiotnikowych, przysłówkowych i eksplicytnie kwantyfikowanych konstrukcji *as... as*. Autor zaproponował, aby przymiotniki i przysłówki występujące w takich konstrukcjach były reprezentowane w ich strukturze semantycznej przez ten sam element, nazwany predykatem właściwości (Property Predicate). Wykazuje się także, że przymiotniki, przysłówki i kwantyfikatory występujące w konstrukcjach *as... as* informują o ocenie mówiącego, dotyczącej ilości danej cechy u drugiego z porównywanych obiektów. Zdaniem autora, mówiący może przy pomocy przymiotników, przysłówków i kwantyfikatorów wyrażać trzy rodzaje sądów ilościowych:

(1) cecha posiadana jest w dużej ilości,
(2) cecha posiadana jest w małej ilości,
(3) cecha posiadana jest w ilości nieokreślonej.

W dalszej kolejności autor wykazał, że wybór pomiędzy przymiotnikową a przysłówkową konstrukcją jest między innymi zdeterminowany przez rodzaj struktury semantycznej, znajdującej się pod dominacją predykatu właściwości. Autor wskazał także na te aspekty reprezentacji semantycznej, które determinują ich powierzchniową realizację. Należą do nich identyczność cech posiadanych przez porównywane obiekty, a także identyczność referencjalna tych obiektów. Autor także zwraca uwagę na fakt, że niektóre przymiotnikowe komparatywy identyczności dają się interpretować jako realizacje struktury semantycznej typowej dla przysłówkowych komparatywów. Z kolei niektóre przysłówkowe komparatywy identyczności wydają się dzielić strukturę semantyczną z typowymi przymiotnikowymi komparatywami.

W tej samej części pracy autor wykazał, że z semantycznego punktu widzenia tzw. eksplicytnie kwantyfikowane komparatywy identyczności nie stanowią homogenicznej klasy. Dają się one uporządkować w trzy grupy, tj. eksplicytnie kwantyfikowane komparatywy stopnia, miary i liczby. W dalszej kolejności omówione zostały ilościowe komparatywy identyczności, w których drugim obiektem porównania jest wyrażenie numeryczne.

IV

W następnej części rozprawy, autor przedstawił przegląd i omówienie innych wyrażeń współczesnego języka angielskiego, które jego zdaniem wyrażają porównanie identyczności. Tak więc opisane zostały konstrukcje zawierające tak zwane predykaty identyczności, tj. konstrukcje, w których wykładnikiem formalnym relacji porównawczej identyczności jest nie zgramatykalizowana forma *as... as*, ale jednostki leksykalne, takie jak *same, identical* i *equal*. Omówione zostały także konstrukcje definiujące porównawczo sposób, a także konstrukcje znane w gramatykach języka angielskiego jako zdania proporcjonalnej zgodności lub równoległego wzrostu.

V

Ostani rozdział zawiera krótkie streszczenie, wnioski i sugestie dalszego kierunku badań nad zjawiskami gramatycznymi związanymi z wyrażaniem relacji porównawczych. Jednym z badań, które zdaniem autora należałoby podjąć, powinno być ustalenie, w oparciu o kryteria semantyczne, jakie inne konstrukcje języka angielskiego wyrażają relacje porównawcze. Ustalenia tego można by dokonać poprzez reinterpretację semantyczną niektórych konstrukcji składniowych języka angielskiego, a także ustalenie zbioru i opisanie semantyczno-składniowych własności tzw. słów porównawczych (Comparative Words).

Wydaje się, że niniejsza rozprawa mogłaby być uzupełniona pracą poświęconą ustaleniu i sprecyzowaniu reguł przekształcających zaproponowane struktury semantyczne w odpowiadające im struktury powierzchniowe. Obie prace dałyby kompletną gramatykę komparatywów identyczności w języku angielskim.

Zdaniem autora, materiał zawarty w niniejszym studium mógłby zostać także wykorzystany do analizy kontrastywnej. Analiza tego typu wykazałaby na ile semantyczne zjawiska, odkryte na materiale języka angielskiego, mają charakter uniwersalny, a na ile są charakterystyczne tylko dla badanego języka. Studium kontrastywne mogłoby także potwierdzić lub wykazać niesłuszność wielu stwierdzeń i obserwacji przedstawionych w niniejszej pracy.

Cena zł 35,—

WYDAWNICTWA UNIWERSYTETU WROCŁAWSKIEGO

SERIA „ANGLICA WRATISLAVIENSIA"

Henryk Kałuża, Tense Forms of the Indicative Mood in Contemporary English. Anglica Wratislaviensia I (Acta Universitatis Wratislaviensis nr 146), 1971, 15 zł.

Anglica Wratislaviensia II (A.U.Wr. nr 166), 1972, 10 zł.

Jan Cygan, Interrogation in English. Anglica Wratislaviensia III (A.U.Wr. nr 190), 1973, 19 zł.

Anglica Wratislaviensia IV (A.U.Wr. nr 233), 1974, 20 zł.

Anglica Wratislaviensia V (A.U.Wr. nr 282), 1975, 20 zł.

Anglica Wratislaviensia VI (A.U.Wr. nr 360), 1977, 25 zł.

Anglica Wratislaviensia VII (A.U.Wr. nr 454), 1979, 38 zł.

Anglica Wratislaviensia VIII (A.U.Wr. nr 531), w druku.