

IMMEDIATE DOMINANCE AND IDENTITY DELETION*

ABSTRACT. A non-universal Immediate Dominance Condition on identity deletion is proposed to explain the systematic differences between languages like Chinese and languages like English in their respective patterns of coordination, topicalization, dislocation, and relativization. By assuming that this condition holds for languages of the Chinese-type, but not for those of the English-type, it is possible to account for the well-formed coordinations of all languages by means of a single universal principle of coordination reduction, and it is possible to derive the well-formed topicalizations, dislocations, and relative clause constructions of all languages by means of the same set of universal principles of Copying, Deletion, and Pronominalization.

INTRODUCTION

In this paper we will propose that there is a non-universal Immediate Dominance Condition on identity deletion which is capable of providing a systematic explanation of various differences between languages like Mandarin Chinese and languages like English. It will be shown that this condition is justified for languages like Chinese but not for those like English, and that this grammatical difference is sufficient to account for a number of superficial differences between these language types in diverse constructions involving identity deletion.

In the first part of the paper, we will show how the Immediate Dominance Condition serves to account for the distinctive patterns of coordination which are characteristic of each of the two language types. In the second and third parts, we will show that this condition is also capable of explaining certain interesting differences between the two types in their patterns of pronominalization and deletion in relative clauses and other subordinate constructions.

1. COORDINATION

In all known natural languages it appears to be the case that, for any sentential coordination with identical superficial subjects, there is a reduced

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paraphrase with coordinate predicates; and, for any sentential coordination with identical predicates, there is a reduced paraphrase with coordinate subjects. For example, both in English and Chinese, (1b) and (2b) are well-formed paraphrases of (1a) and (2a), respectively.

- (1) (a) John hit the boy, and John kicked the girl.
John dǎle nánhǎizi, John tīle nǚhǎizi.
(hit) (boy) (kicked) (girl)
- (b) John hit the boy and kicked the girl.
John dǎle nánhǎizi, tīle nǚhǎizi.
- (2) (a) John hit the boy, and Bill hit the boy.
John dǎle nánhǎizi, Bǐll dǎle nánhǎizi.
- (b) John and Bill hit the boy.
John gēn Bǐll dǎle nánhǎizi.¹
(and)

Both of these relations can be accounted for in terms of a single universal principle of Coordination Reduction which justifies the reduction of coordinate structures by the deletion of identical constituents. This principle would thus allow for the reduction of (1a) to (1b) by deletion of one of its two identical subjects, and of (2a) to (2b) by deletion of one of its two identical predicates. This process of Coordination Reduction is governed by certain general constituency restrictions on deletion and is also associated with a number of restrictions on ordering and regrouping.² We will be concerned here only with the matter of constituency restriction.

¹ The conjunction AND is represented in Chinese by the morpheme *gēn* when it conjoins noun-phrase conjuncts. For all other kinds of conjuncts, AND is represented by an intonational break.

The system of transcription that is used here for the representation of Chinese sentences is the conventional *pinyin* (spelling) system, as used, for example, in J. De Francis, *Beginning Chinese*, Yale University Press, New Haven, 1963.

² The restrictions we are discussing are independent of any differences between particular theories of coordination. For example, there is a general directionality restriction to the effect that left branching identical constituents may be absent only in the right branching conjuncts of a reduced coordination, and right branching identical constituents may be absent only in the left branching conjuncts. The problem of how this directionality relation is accounted for, however, is independent of any of the principles which we are going to be concerned with here. (See Ross (1967a) and Sanders (1969) for discussion and alternative explanations of this relation.) Also, our proposals are independent of the particular ways in which the process of Regrouping in Coordination Reduction is handled. (For a detailed discussion of the various formulations of Coordination Reduction, see Tai (1969).) It should also be noted that we will not be concerned here with *also*, *but*, *too*, or *do so* coordinations, or with interrogative coordinations of the disjunctive type, since some of these constructions appear to involve anaphoric as well as elliptical

For English and many other languages, there are, in addition to the reduced coordinations derivable by the deletion of identical subjects or predicates, other coordinations which can be derived by Coordination Reduction from their synonymous unreduced sentential coordinations by the deletion of one of two identical verbs or by the deletion of one of two identical objects. Thus, for example, (3b) can be derived from (3a) by deletion of an identical verb, and (4b) from (4a) by deletion of an identical object.

- (3) (a) John hit the boy, and Bill hit the girl.
(b) John hit the boy, and Bill the girl.
- (4) (a) John hit the boy, and Bill kicked the boy.
(b) John hit and Bill kicked the boy.

In Chinese, on the other hand, both of these types of reduction are ungrammatical. Thus (5a) cannot be reduced to (5b) by identical verb deletion; nor can (6a) be reduced to (6b) by identical object deletion.

- (5) (a) John dǎle nánhǎizi, Bǐll dǎle nǚhǎizi.
(John hit the boy, and Bill hit the girl.)
(b) *John dǎle nánhǎizi, Bǐll nǚhǎizi.
(John hit the boy, and Bill the girl.)
- (6) (a) John dǎle nánhǎizi, Bǐll tīle nánhǎizi.
(John hit the boy, and Bill kicked the boy.)
(b) *John dǎle, Bǐll tīle nánhǎizi.
(John hit and Bill kicked the boy.)

When we compare the coordinate structures of English and Chinese, then, we observe that there is a correlation between deletability of verbs and deletability of objects in sentential coordinations, both types of reduction being possible in English and neither type being possible in Chinese. That this correlation is not merely accidental to the grammars of these two languages is strongly suggested by the fact that for each of a large number of languages of various families investigated thus far in this respect, the same correlation holds, the language being either of the English-type, permitting both verb and object deletion, or of the Chinese-type, permitting neither of these deletions.³

³ Koutsoudas (1971) has investigated more than thirty languages of different families to test this correlation. According to him, Akuapem, Hausa, Indonesian, Lebanese, Mam, Maninka, Susu, Toba Batak, Temne, Thai, Wolof, and Yoruba belong to the class of Chinese-type languages, while Arabic, Croatian, Estonian, Finnish, French, German, Hungarian, Japanese, Korean, Latvian, Modern Greek, Norwegian, Rumanian, Russian, Swedish, Telugu, and Zulu belong to the class of English-type languages. In

For example, Greek, Japanese, and Russian are like English in this respect, and Thai, Hausa and Lebanese Arabic are like Chinese. Thus, in Japanese, sentential coordinations can be reduced both by identical verb deletion (as illustrated in (7)) and by identical object deletion (illustrated in (8)), while in Lebanese, as shown in (9) and (10), neither verb deletion nor object deletion is possible.

- (7) (a) John ga syonen o nagutte, Bill ga syozyo o nagutta.
 (boy) (hit) (girl)
 (John hit the boy, and Bill hit the girl.)
 (b) John ga syonen o, Bill ga syozyo o nagutta.
 (John hit the boy, and Bill the girl.)
 (8) (a) John ga syonen o nagutte, Bill ga syonen o ketta.
 (kicked)
 (John hit the boy, and Bill kicked the boy.)
 (b) John ga syonen o nagutte, Bill ga ketta.
 (John hit and Bill kicked the boy.)
 (9) (a) John darab il walad, wa Bill darab il bint.
 (hit) (the) (boy) (and) (girl)
 (John hit the boy, and Bill hit the girl.)
 (b) *John darab il walad, wa Bill il bint.
 (John hit the boy, and Bill the girl.)
 (10) (a) John darab il walad, wa Bill rafas il walad.
 (kicked)
 (John hit the boy, and Bill kicked the boy.)
 (b) *John darab wa Bill rafas il walad.
 (John hit and Bill kicked the boy.)

Thus far, in other words, it appears to be true for all natural languages that while some coordinations of sentences are always reducible by the deletion of identical subjects or predicates, reductions by verb deletion and by object deletion will either be jointly grammatical in a language or else jointly ungrammatical.⁴

⁴ More precisely, no instances have been found thus far of a language which permits object deletion in conjunctive coordinations but does not permit verb deletion, or of a language which permits verb deletion but does not permit any form of object deletion. There appear to be some languages of the English-type, however, such as French, Greek, and Portuguese, which allow verb-deletion under exactly the same conditions as English does, but are reported to have certain additional restrictions on object-deletion which do not hold for English. Thus, in some dialects of modern Greek, as reported by Koutsoindas (1971), object reduced coordinations are grammatical only if a clitic object pronoun

There are actually two correlations, then, which must be accounted for here. First, the correlation between superficial subjects and predicates, which are both deletable in the sentence coordinations of all languages. Second, the correlation between superficial verbs and objects, which are always either both deletable in a language, or both non-deletable. Comparing these two sets of constituents, it can readily be seen that there is only one essential difference between them: subjects and predicates are immediate constituents of sentences, while verbs and objects are not. This suggests that the operant restriction on coordinate identity deletion in languages of the Chinese-type is a restriction against the deletion of any constituent which is not immediately dominated by a conjunct sentence. We call this restriction the Immediate Dominance Condition.

By assuming that the Immediate Dominance Condition is included in the grammars of languages like Chinese, Thai, and Lebanese, but not those of languages like English, Japanese, or Russian, we can explain all of the facts discussed thus far in a very simple and straightforward way. Thus the fact that all languages permit subject and predicate deletion in sentence coordinations follows from the fact that subjects and predicates are immediately dominated by sentences and thus satisfy the constituency conditions for deletion both in languages which observe the Immediate Dominance Condition and in those which don't. Similarly, the correlation between verb-deletion and object-deletion in languages follows from the fact that neither of these constituents is immediately dominated by S and thus that neither can be deleted in any language that observes the Immediate Dominance Condition, while both will be deletable in any language which doesn't observe this condition.

It should be noted that the motivation for this condition can be demonstrated quite independently of any facts of a comparative or typological nature. It can be readily shown, in fact, that the Immediate Dominance Condition is not merely sufficient but necessary for a language like Chinese, since there is no other principled basis for the differentiation of grammatical from ungrammatical coordinations in such a language or for the differentia-

- (1) to koritsi *tin* ide ke to peði *tin* xtipise tin yata.
the girl *it* saw and the boy *it* hit the cat.
- (2) to koritsi *tin* ide ke to peði xtipise tin yata.
- (3) *to koritsi ide ke to peði *tin* xtipise tin yata.
- (4) *to koritsi ide ke to peði xtipise tin yata.

While the existence of these restrictions makes sentences derived by object-deletion less common in these languages than those derived by verb-deletion (a fact which may be true for English too), it obviously does not contradict the generalization that if there is any situation in which either verb-deletion or object-deletion is possible in a language,

