HOW MANY CATS?*

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Consider how many cats are involved and what colors they have in each of the following sentences.

- (1) a. a black and white cat
- b. the black and white cat
- (2) a. balck and white cats
- b. the black and white cats

Superficially, the pairs in 1 and 2 constitute a minimal pair in that there exists only an article choice difference. It has been assumed that the semantic contrast between definite and indefinite articles can be dealt with in terms of definiteness. If this assumption is correct, we might expect to have the same contrast between the above two pairs.

Both 1a and 1b represent one cat with two-color combination, and they differ only in definiteness. Therefore the semantic contrast in 1 can simply be attributed to definite/indefinite contrast.

In 2, on the contrary, the situation is rather complicated. 2a can be three ways ambiguous, having the following three possible underlying structures.

* This squib would not have been completed without the help of four American informants, whose judgments about acceptability and interpretations led me to tackle the question which I had been wondering about for a long time and for which no grammar books, to my knowledge, provide any adequate or satisfactory account. It is a fact that there is a wide range of idiolectal and/or dialectal variation among native speakers of English concerning the phenomena in question. The procedure followed here is simply to abstract away from what seem to be unsystematic or arbitrary judgments and interpretations and to discover systematic principles which govern the phenomena. Therefore this is a first approximation to the problem in the sense that the further research may well reveal more general principles by taking more data into account.

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- (3) a. [a black cat] and [a white cat]¹
- b. [black cats] and [white cats]
- c. [[black and white] cats]

The number of the cats involved is two in 3a, four or more in 3b, and two or more in 3c. 3a and 3c can share the number of the cats but differ in their colors; in 3a one cat has one color and in 3c all the cats have two colors at the same time. When 2a has 3c as its underlying structure, it is the plural form of 1a. In both 3a and 3b two types of cats are involved and they differ in the number.

If the pair in 2 showed the same contrast as that in 1, 2b might be expected to have three underlying structures parallel to those in 3:

- (4) a. [the black cat] and [the white cat]
- b. [the black cats] and [the white cats]
- c. [the [black and white] cats]

The truth is that 4b and 4c can underlie 2b while 4a never can. Then, a question raised here is: how can 4a be realized? The answer is:²

- (5) the black and the white cats

Needless to say, 5 represents at least two cats so that it can also have 4b as its underlying structure.³

Before proceeding to seek for the rules behind the facts observed so far, let us consider the question when two conjoined premodifiers represent two types and when only one type is involved. First observe the following examples from Quirk et al. (1985).⁴

- (6) a. They sell manual and electric typewriters.
- b.(=a) They sell manual typewriters and electric typewriters.
- (7) a. White and brown sugar are (equally) acceptable for this recipe.

¹ For some informants, 3a is not synonymous with 2a but with

(i) a black and a white cat.

² The underlying structure 4a can also be realized as

(i) the black and the white cat.

³ As far as two types of cats are concerned, 2a fails to denote **THREE** cats. According to my informants, numerals are used when expressing three: for example, "one black cat and two white cats". It is interesting to note here that 2b can represent three cats. Therefore, besides 4b and 4c, 2b can have an additional underlying structure:

(i) [the black {cat/cats}] and [the white {cats/cat}].

⁴ The synonymy judgment in each pair is also due to them. The mark ($\neq$ a) in 8 and 9 should be interpreted "not always equal to", since, as will be mentioned below, the (a) and the (b) sentences can be synonymous in 8 and 9.

- b.(=a) White sugar and brown sugar are (equally) acceptable for this recipe.
- (8) a. They made salmon and cucumber sandwiches.
b.(≠a) They made salmon sandwiches and cucumber sandwiches.
- (9) a. spacious and well-furnished apartments to let
b.(≠a) spacious apartments and well-furnished apartments to let

Under the interpretation in which (a) and (b) are synonymous, (a) is "the reduced form" of (b) in the sense that in the latter there are two occurrences of the head noun and in the former there is one. Whether the form $[X_1 + \text{and} + X_2 + N]_{NP}$ is a reduced form or not depends on semantic and/or pragmatic factors. If the premodifiers/specifiers X_1 and X_2 are semantically/pragmatically incompatible, the form in question is a reduced form and has the corresponding unreduced form $[[X_1 N] \text{ and } [X_2 N]]_{NP}$. If X_1 and X_2 are compatible, the form may be non-reduced form in itself and has no reduced forms. As for typewriters, they cannot be manual and electric at the same time, and as for sugar, it cannot be white and brown at the same time. On the other hand, it is possible for sandwiches to have both salmon and cucumber in between, and for apartments to be both spacious and well-furnished. As for cats, they can be black or white, or both. Therefore 2a can be ambiguous between reduced and non-reduced forms.

In cases involving an indefinite article, we can have the following rule.

- (10) The form $[X_1 + \text{and} + X_2 + N_{pl}]_{NP}$ can have either of the following underlying structures:

- (a) $[[a X_1 N_{sg}] \text{ and } [a X_2 N_{sg}]]_{NP}$
 (b) $[[X_1 N_{pl}] \text{ and } [X_2 N_{pl}]]_{NP}$
 (c) $[[X_1 \text{ and } X_2] N_{pl}]_{NP}$

When the underlying structure is 10a, N_{pl} in the reduced form is a result of an "indefinite article absorption". When 2a is synonymous with 3a, two occurrences of *a* in 3a are absorbed into the nominal plural morpheme *-s* in 2a.⁵ In case of uncountable nouns,

⁵ For speakers of the dialect mentioned in note 1, they do not have the indefinite article absorption rule.

Quirk et al. (1985: 760) state "a generic noun phrase with singular count head requires a plural verb when the head is premodified and the premodification contains coordination by *and*".

“abstract”⁶ *a*’s absorption ends in the verbal plural morpheme as in 7a. With such special cases, we might assert that 10 is a rule for indefinite article in conjoined structures.

Now let us seek for the rule involving a definite article. We have observed the following facts.

- (11) a. the black and white cats (=2b)
b. [the [black and white] cats] (=4c)
- (12) a. the black and white cats (=2b)
b. [the black cats] and [the white cats] (=4b)
- (13) a. the black and the white cats (=5)
b. [the black cats] and [the white cats] (=4b)
- (14) a. the black and the white cats (=5)
b. [the black cat] and [the white cat] (=4a)

Following the former definition, 12a, 13a and 14a can be called reduced forms. In 12a both the definite article and the head are reduced while in 13a only the head is reduced, and still they have the same underlying structure. In 14 two occurrences of the singular head are merged into a plural head. Recall that in cases of the indefinite article, two singular heads come to be a plural noun/verb as a result of indefinite article absorption. The facts about reduced forms involving the definite article lead us to conclude that there cannot be the rule of definite article absorption. The next question, then, is whether or not the definite article can be reduced. The examples here answer it: definite article should not be reduced when denoting two entities, otherwise the reduction is optional. Such restricted reducibility makes the situation so

- (i) The short-term and (the) long-term loan *are* handled very differently by the bank.
- (ii) A first-language and (a) second-language learner *share* some strategies in their acquisition of the language.

These observations can be given the interpretation in the framework developed here that in generics both indefinite and definite articles are absorbed into a plural verb. But the question remains as to whether this phenomenon is characteristic to a generic NP with singular count head or not. Quirk et al. only state that the NPs in (i) and (ii) are “notionally plural (‘short-term and long-term loans’; ‘first-language and second-language learners’)”.

⁶ Superficially, indefinite article cannot co-occur with uncountable nouns, but we assume here that there also exist abstract indefinite articles before uncountable nouns, which cannot incorporate them to result in the plural forms.

complicated; the underlying structure 4b can be realized as 2b or 5, which, in turn, has another underlying structure 4a. As a corollary to 10, the rule for definite article in conjoined structures can be stated as follows:

- (15) The form [*the*+X₁+*and*+*the*+X₂+N_{pl}]_{NP} can have either of the following underlying structures:

(a) [[*the* X₁ N_{sg}] *and* [*the* X₂ N_{sg}]]_{NP}

(b) [[*the* X₁ N_{pl}] *and* [*the* X₂ N_{pl}]]_{NP}

And the form [*the*+X₁+*and*+X₂+N_{pl}]_{NP} can have either of the following underlying structures:

(a) [[*the* X₁ N_{pl}] *and* [*the* X₂ N_{pl}]]_{NP}

(b) [*the* [X₁ *and* X₂] N_{pl}]_{NP}

REFERENCE

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