

Set-Theoretic Commutativity of Noun Phrases in Predicate Inversion Constructions

This paper argues for set-theoretic commutativity of Noun Phrases in a Small Clause as a requirement for Predicate Inversion. Den Dikken (1998) claims that both the copular inversion construction (e.g. *The doctor is John*) and the *N of a N* construction (e.g. *that idiot of a doctor*) are instances of Predicate Inversion; the copular inversion construction is clausal level Predicate Inversion, while the *N of a N* construction is nominal-internal level Predicate Inversion. Syntactically speaking, Predicate Inversion is a result of A-movement of the predicate nominal in a Small Clause across its subject. In such a derivation, Den Dikken concludes that SC-head movement is obligatory; as a result of head movement, a copular element is phonetically realized in both instances of Predicate Inversion. Each derivation of Predicate Inversion constructions is shown in (1):

(1) a. The copular inversion construction:

[_{FP} Predicate_j [_{F'} F+X_i [_{XP} Subject [_{X'} t_i t_j]]]] (XP=SC)

b. The *N of a N* construction:

[_{DP} Det [_{FP} Predicate_j [_{F'} F+X_i [_{XP} Subject [_{X'} t_i t_j]]]]] (XP=SC)

Taking Den Dikken's claim as a starting point, I consider how a generalization on Predicate Inversion can be drawn from a semantic perspective. We will see there is indeed semantic parallelism between both instances of Predicate Inversion. This, as it turns out, is set-theoretic commutativity of Noun Phrases in a Small Clause. Specifically, the relationship between the two sets denoted by Noun Phrases in a Small Clause must be commutative: either via set identification or set intersection.

With the assumption that the two Noun Phrases originate in a Small Clause in both the copular inversion construction and the *N of a N* construction, each of the two Noun Phrases denotes a set. Letting P be the set denoted by the subject in a Small Clause, and Q be the set denoted by the predicate, I claim that $P=Q$ holds in the copular inversion construction, and $P \cap Q$ holds in the *N of a N* construction. Furthermore, if $P \subset Q$ holds, any kind of Predicate Inversion is not possible. Some puzzling restrictions on nominals in Predicate Inversion constructions can be neatly described with this claim as shown in (2) and (3):

(2) a. <i>the doctor is John</i>	[_{SC} John the doctor]	P=Q
b. <i>*animals are dogs</i>	[_{SC} dogs animals]	P ⊂ Q

c. <i>*a doctor is John</i>	[_{SC} John a doctor]	$P \subset Q$
(3) a. <i>that idiot of a doctor</i>	[_{SC} a doctor idiot]	$P \cap Q$
b. <i>*that idiot of the doctor</i>	[_{SC} the doctor idiot]	$P \subset Q$
c. <i>*that biggest idiot of a doctor</i>	[_{SC} a doctor biggest idiot]	$P = Q$

In (2a) P and Q are in identity relationship; thus, copular inversion is possible. However, in (2b) and (2c), P is a subset of Q; thus, copular inversion is not possible. In (3a), P and Q intersect, but there is no subset relationship; i.e. in our world w , a set of doctors is not a subset of a set of idiots. In (3b), since P is a singleton set, the relationship between P and Q becomes a special kind of intersection: a subset relationship; thus, the *N of a N* construction is not possible. In fact, whenever the cardinality of the set Q is specified, we obtain a subset relationship between P and Q. Thus, it conforms to Den Dikken's observation (1998; 2001) that the second nominal in *N of a N* constructions has to be something smaller than a DP or NumP. In (3c), Q is a singleton set due to the superlative, which makes P and Q have an identity relationship; thus, the *N of a N* construction is not possible.

The syntactic distinction between the two instances of Predicate Inversion is, according to Den Dikken, that a copular element *be* is realized in clausal level Predicate Inversion, while its nominal counterpart *of* is realized in nominal internal level Predicate Inversion. I also consider a semantic distinction between the two constructions. This boils down to a type of procedure that links two distinct sets. If a type of procedure is such that it creates a new set, there will be a need for a quantifier; if a type of procedure is such that it does not create a new set, there is no need for a quantifier. Specifically, the former is a procedure of set intersection, and the latter is a procedure of set identification. This is why we obtain set identification in clausal Predicate Inversion, and set intersection in DP internal Predicate Inversion.

References

- Dikken, Marcel den (1998). Predicate inversion in DP. In Artemis Alexiadou & Chris Wilder (eds), *Possessors, predicates and movement in the DP*. Amsterdam: John Benjamins. 177-214.
- Dikken, Marcel den (2001). *The syntax of non-verbal predication and the copula*. Classnotes. a course at CUNY Graduate Center.