

Comitative coordination of adjectives

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1 The problem

It is customary to interpret conjunctive coordination as **intersection** – in the sentential case, as intersection between the two propositions. Thus Zimmermann and Sternefeld (2013) define:

$$(1) \quad \llbracket S_1 \text{ and } S_2 \rrbracket := \llbracket S_1 \rrbracket \cap \llbracket S_2 \rrbracket$$

Conjunction of predicates is commonly defined, say, as in (2):

$$(2) \quad \llbracket \text{and}_{(et)((et)(et))} \rrbracket_s = \lambda P \lambda Q P \cap Q$$

This predicts that (3) means the same as (4).

(3) China's flag is red and rectangular.

(4) China's flag is red and
China's flag is rectangular.



Which is borne out, so, so far, so good. But:

(2) also predicts that (5) means the same as (6).

(5) Poland's flag is red and white.

(6) Poland's flag is red and
Poland's flag is white.



Which is not borne out, so something is wrong.

2 Solutions

Various solutions: some relying on treating flags as non-atomic individuals, some relying on treating colors and materials as (atomic) individuals.

2.1 Krifka (1990)

Krifka (1990) proposed a ‘weak’ interpretation of predicate conjunction:

$$(K) \quad \llbracket \text{and}_{(et)((et)(et))} \rrbracket_s = \lambda P \lambda Q \{ x \mid \exists y \sqsubseteq x \exists z \sqsubseteq x : y \in P \wedge z \in Q \}$$

This analysis gives the right result for (5). However,

2.2 Lasersohn (1995) and Winter (2001)

Lasersohn (1995), followed by Winter (2001), contends that it overgenerates: the frame of the piano can be heavy and its hammers can be light, and still,

(7) #The piano is heavy and light.

Lasersohn notes that the ‘weak’ interpretation is limited to color adjectives and material adjectives and that these can be used as nominals as well:

(8) The 1994 Olympics gold medals were granite and gold.

(9) Purple rules!

His proposal is that *red and white* in (5) is basically a nominal conjunction, denoting a sum of two colors, in Winter’s terms, a set of color names $\{r, w\}$.

This plural individual can be interpreted ‘collectively’ as a name for a colour combination (Winter 2001: 358).

This solution is not spelt out in detail, though, and it is unclear how it would avoid predicting that this flag is red and white: \rightarrow



Moreover, there may be reason to doubt both the generalization that the relevant adjectives are color or material adjectives and the generalization that they lead a double life as names and adjectives:

(10) The crust is thin and thick.

(11) Her shirt is both tight and loose.

These adjectives are neither color adjectives nor material adjectives, yet the sentences are not contradictory so the interpretation parallels that of (5).

(12) Die Medaillen waren golden und steinern. (German)
the medals were gold-ADJ and stone-ADJ

In a language like German, material adjectives are lexically overtly derived.

2.3 Paperno (2012)

Paperno (2012) considers a language where *and* splits in two words: Q'anjob'al.

- (13) a. Ètot učitel' staryj i mudryj (Russian)
 this teacher.NOM old.NOM and wise.NOM
 b. #Ètot učitel' staryj s mudrym
 this teacher.NOM old.NOM with wise.INSTR
- (14) a. #Èta čaška belaja i černaja
 this cup.NOM white.NOM and black.NOM
 b. Èta čaška belaja s černym
 this cup.NOM white.NOM with black.INSTR

Building on McNally (1993), he proposes an analysis where Q'anjob'al *yetoq* (or Russian *s*) denotes the sum operation on individuals:

$$(P) \quad \llbracket \text{yetoq} \rrbracket_s = \lambda z \lambda y \ y \oplus z$$

He then employs Flexible Function Argument Application (Hagstrom 1998), with two non-standard composition principles, to derive the result

$$(15) \quad \llbracket A_1 \text{ yetoq} A_2 \rrbracket_s = \{ x \mid \exists y \exists z : y \in \llbracket A_1 \rrbracket_s \wedge z \in \llbracket A_2 \rrbracket_s \wedge x = y \oplus z \}$$

which is the same as under Krifka's analysis (K).

2.4 Champollion (t.a.)

Champollion vindicates the intersective theory of conjunction, in particular for noun coordination, but also for adjective coordination.

... we move to a mereological setting in which parts of ordinary objects, in addition to pluralities of these objects, are explicitly represented as entities in the model. [...] The result is that *green and white* denotes the set of all fusions of a green and a white entity, as desired. [...] A challenge consists in preventing this approach to adjective conjunctions from overgenerating to cases like # *the bridge is long and short* without ruling out *the bridges are long and short*... Most long bridges can be divided into a long part and a short part, yet we cannot apply collective predicate coordination in this case. (Champollion t.a.: 39)

Without going into the details of Champollion's theory, it is evident that it gives the same result for (5) as do the analyses by Krifka and Paperno, and that like those, it relies on treating flags as sum individuals.

The facts from Russian, however, would seem to pose a problem for it.

2 Discussion


In regard to languages like Russian, the ‘overgeneration’ problem reduces to what is wrong with sentences like (16):


- (16) #Rojal’ tjaželyj s lëgkym
piano.NOM heavy.NOM with light.INSTR

In the light of examples like (10) and (11), it would seem that the boundaries are not sharp. It seems to be a matter of how difficult it is to conceive of the subject as a sum of parts with respect to the adjectives under consideration. According to a suggestion by Alexandra Spalek, the key factor is the relative homogeneity of the thing, its (perspectivized) divisibility; cf. (17):

- (17) Here, the crust is thin / #bridge is short.

Finally, how about a case like:

- (18) Austria’s flag is red and white and red. 

As far as I can see, none of the given accounts can account for this. In particular, Poland’s flag will also come out as *red, white and red*. 

References

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