

## The English Comparative Adjective Construction

Richard Stanley  
University of California, Berkeley

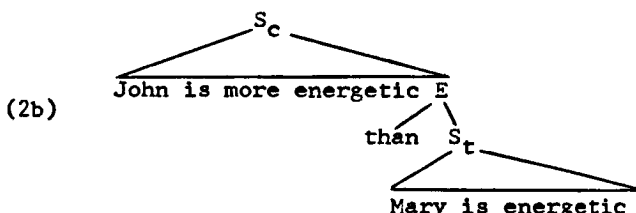
It has often been noticed in the past few years that a sentence like 1a is ungrammatical, while the perfectly parallel sentence 1b is grammatical. Intuitively, it seems clear that 1a is bad since it presupposes that Mary is a man. 1b is acceptable since the corresponding presupposition, that Bill is a man, is acceptable. It also seems clear that these are syntactic facts, not semantic ones. To see this, note that 1c, which is grammatical, differs from the ungrammatical 1a only by the preposing of the compared adjective "more energetic." This difference, application vs. non-application of the late syntactic rule of adjective preposing, could hardly form the basis for a semantic explanation of these facts.

- (1a)\*A more energetic man than Mary would be hard to find.
- (1b) A more energetic man than Bill would be hard to find.
- (1c) A man more energetic than Mary would be hard to find.

An obvious way to solve the problem would be to build the sentence "Bill is a man" into the deep structure of 1b, since then it would be explicit that 1b presupposes that Bill is a man. 1a would have to have the sentence "Mary is a man" in its deep structure, and this would be desirable since the oddity of 1a would be linked to the oddity of this component of its deep structure. The trouble with this approach is that it seems to provide no way of marking 1a as ungrammatical while still allowing 1c to be grammatical. Nevertheless, I will show that there is a very simple analysis along these lines that avoids this trouble in a natural way.

First consider the simplest comparative constructions, those of the form 2a. For these the deep structure is straightforward, on the order of 2b. The two morphemes that mark the comparative construction, "more" and "than," are discontinuous in 2b; still an analysis where they started off as continuous would not be essentially different. The node E is an adverbial "extent" node; in addition to containing comparatives, E would be the source of measure phrases such as "six feet" in a sentence such as "John is six feet tall." The symbol  $S_T$  will be used throughout to denote the sentence dominated by the node E, and  $S_C$  will be used to denote the sentence that contains the node E. Note that  $S_C$  may contain the node E directly, as in 2b, or in a relative clause, as in 5b below.

(2a) John is more energetic than Mary.



I will be vague about many of the details of deep structures since the analysis is independent of these details. However, one crucial aspect of the deep structure 2b is that  $S_c$  must be parallel in structure to  $S_t$ ; this is stated informally as 3. This constraint is meant to rule out such sentences as "John is more energetic than Mary went home," where there is an adjective in  $S_c$  but none in  $S_t$ . It would also rule out a sentence such as "John is more energetic than Bill saw a girl who was," where the adjective is in a relative clause in  $S_t$  but not in  $S_c$ . In more complicated comparatives, the constraint 3 will have more interesting and crucial consequences.

(3) Deep structure constraint:  $S_c$  is parallel in structure to  $S_t$ .

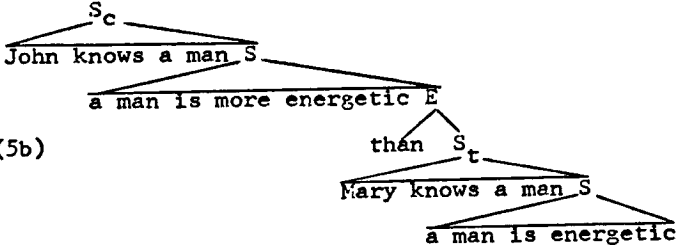
The transformation involved in deriving comparatives (actually a class of transformations) is described informally in 4a. The actual statement of this rule involves several subcases, some optional and some obligatory, and other additional detail, but no real problems, so I will leave the rule in the informal formulation of 4a. In 2b, rule 4a deletes "is energetic" from  $S_t$ , yielding 2a.

- (4a) Delete (or replace with proforms) elements in  $S_t$  under identity with the corresponding elements in  $S_c$ .  
 (b) relativization  
 (c) relative clause reduction  
 (d) adjective preposing

Consider next sentences such as 5a that have pre-nominal compared adjectives. If we assume that the deep structure is on the order of 5b, then 5a can be derived from 5b by the rules in 4 (of which only 4a is peculiar to the comparative). Rule 4a deletes the identical string "a man - a man is energetic" from  $S_t$ , and replaces "knows" by "does" in  $S_t$ . Then rules (b), (c), and (d) apply in the familiar way to  $S_c$ , yielding 5a. Notice that 5b meets the constraint 3 since both  $S_c$  and  $S_t$  contain the adjective in a relative clause; thus  $S_c$  must

be the topmost S in 5b, a fact that will be crucial later on.

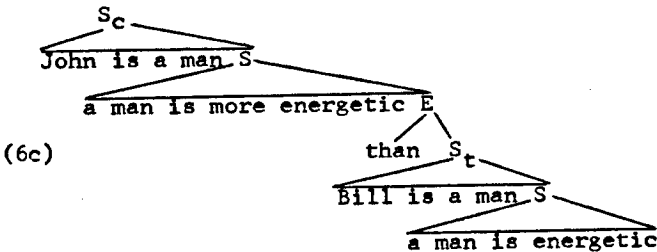
- (5a) John knows a more energetic man than Mary does.



Notice that the sentence  $S_t$  in 5b is (roughly) "Mary knows a man who is energetic." An alternative might be to reverse the order of embedding and let  $S_t$  be "a man who Mary knows is energetic." However, this alternative would involve enormous additional complexity in the rules. Thus we will not adopt it; in fact, the constraint 3 rules it out automatically.

A sentence that is closer to the type of comparative involved in sentences 1a to 1c is 6a, whose deep structure is given in 6c. This is exactly parallel to 5b, and the rules apply in just the same way. The important thing to notice is that we can now account for the ungrammaticality of 6b. This follows since 6b would have to have a deep structure just like 6c except that the well-formed component "Bill is a man" would be replaced by the ill-formed component "Mary is a man."

- (6a) John is a more energetic man than Bill is.  
 (6b) \*John is a more energetic man than Mary is.

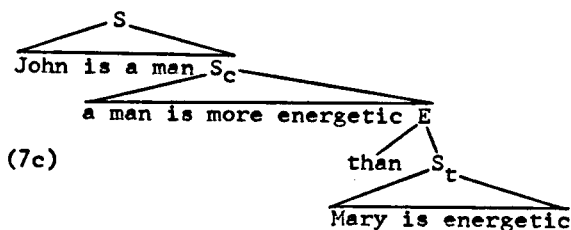


At this point it may well be asked what happens if the sentence  $S_t$ , "Bill is a man who is energetic" in 6c is replaced by the perfectly acceptable sentence "Mary is a girl who is energetic." With this deep structure the rules yield the ungrammatical "John is a more ener-

getic man than Mary is a girl who is." However, notice that this sentence has the property that rule (c), relative clause reduction, deletes the copula in the upper adjective sentence even though the copula in the lower adjective sentence is left undeleted. It seems to me that a quite general and natural constraint can rule out this situation, namely a constraint to the effect that no element in  $S_c$  can be deleted if the corresponding element in  $S_t$  remains undeleted.

Consider now 7a, which in surface structure is rather similar to 6a, the main difference being that the adjective has not been preposed in 7a. However, the deep structure for 7a, given in 7c, is rather different from 6c. That is, in 7c the comparative construction  $S_c$  is not the topmost S, but is embedded as a relative clause. It is easy to check that the rules (a) and (b) do in fact derive the sentence 7a from the structure 7c.

- (7a) John is a man who is more energetic than Mary.  
 (7b) \*John is a more energetic man than Mary.

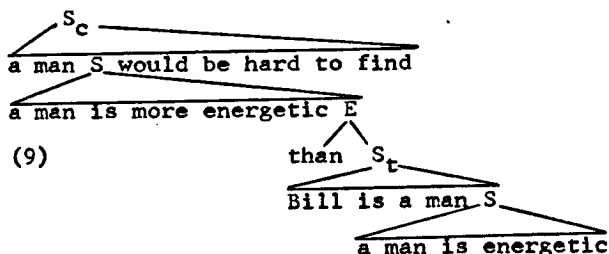


But the important question with respect to 7a is why rules (c) and (d) can't apply. We know that rule (d) at least shouldn't be able to apply, since if it does it produces the ungrammatical 7b. However, in the structures 5b and 6c the compared adjective "more energetic" has been preposed, correctly, by rule (d). Still, notice that there is a crucial difference between 5b and 6c on the one hand, and 7c on the other. Namely, in 5b and 6c the compared adjective is moving entirely within the sentence  $S_c$ , when it is being preposed. In 7c, on the other hand, if the compared adjective were to be preposed, giving 7b, it would have been moved out of the sentence  $S_c$ . Suppose, then, we give the constraint 8, which prevents the comparative morpheme "more" from being moved out of the comparative construction  $S_c$  by any rule. The constraint 8 has the desired effect of allowing preposing in 5b and 6c but preventing it in 7c. Moreover, the constraint is a rather natural

one. There is a clear sense in which the node  $S_c$  delimits the comparative construction, and a clear sense in which the morpheme "more" is a marker of this construction. A constraint to the effect that the marker of a construction never leave the domain of that construction is quite plausible.

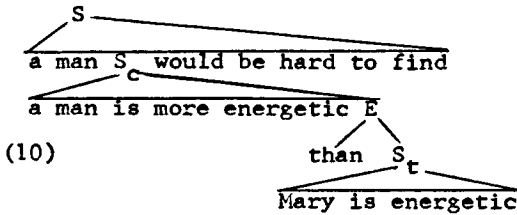
- (8) Constraint: do not move the comparative morpheme "more" outside the comparative construction  $S_c$ .

Finally, consider the original problem sentence 1b. This, I propose, has the deep structure given in 9. Notice that  $S_c$  and  $S_t$  in 9 are parallel in structure, in conformity with the constraint given in 3. That is,  $S_c$  and  $S_t$  are parallel in the sense that each has its adjective in a relative clause.



Rule (a) deletes the identical subpart of  $S_t$ , namely the part "a man - a man is energetic." Then rules (b), (c), and (d) apply, yielding 1b. Notice that the preposing of "more energetic" is not in violation of the constraint 8, since "more" is not moved out of  $S_c$ . The important thing to notice about the structure 9 is that  $S_t$  must contain its adjective in a relative clause, since  $S_c$  does. From this it is immediately clear why sentence 1a is ungrammatical; it would have to have a deep structure like 9 but with the subpart "Mary is a man" where 9 has "Bill is a man."

The grammaticality of sentence 1c is also explainable. It has the deep structure 10. The component "Mary is a man" is missing from  $S_t$ ; therefore, by the constraint 3,  $S_c$  must not be the topmost sentence but rather the relative clause. This fact prevents preposing of the compared adjective "more energetic" in 10, as desired. That is, rules (a), (b), and (c) can apply to 10 to yield 1c, but the constraint 8 prevents rule (d) from applying to yield the ungrammatical 1a. In short, the interaction of constraints 3 and 8 is such that preposing of the compared adjective is permitted in exactly the right places.



(In the discussion following the paper, Postal, Partee, Ross, Lakoff, and McCawley raised various objections, but these do not vitiate the analysis, in my opinion. Specifically, sentences like "John thinks he is taller than he is" are unusual because of some property of the verb "think" and not because of some property of the comparative; cf. "Bill thinks Mary bought a book she didn't buy." Sentences like \*"John is a different man than Mary" and "John is a man (who is) different than Mary" show that "different" acts just like a compared adjective; this behavior of "different" could thus be explained by letting it have the same deep structure occurrences as "more + adjective" in the above examples. The ungrammaticality of "John is a man who is more energetic than Mary is a girl who is" could be ruled out by a generalization of constraint 8 to one that requires "more" to end up precisely in the simplex sentence  $S_c$ . Finally, I have no explanation for the ungrammaticality of the definite article in "the taller man than Bill," but the grammaticality of "the man (who is) taller than Bill" shows that definite articles are prohibited only when they appear on the noun in the sentence  $S_c$  itself.)