The Puzzle: Consider the sentences in (1):

(1) Context: Eight of the nine highest mountains in the world are in Nepal. K2 is the world’s second–highest mountain, and it is not in Nepal.
   a. The highest mountains in the world are in Nepal. ✓
   b. The highest eight mountains in the world are in Nepal. ✓
   c. The eight highest mountains in the world are in Nepal. ×

There is a reading of (1a) in which we are concerned with the collective height of Nepal’s (high) mountains. Under this reading, the sentence is judged true, even with the knowledge that the second–highest mountain in the world is NOT included in the referent of the highest mountains in the world. (1b) admits a similar reading, and is also judged true. Something about the the cardinal in (1c) prevents this interpretation; there is no reading of (1c) that is judged true in the context given. How is it possible for the highest mountains in the world not to refer in part to the second–highest mountain, and why does the insertion of a numeral block this reading only when the numeral precedes the superlative?

Traditionally, plural superlatives are taken to refer to individuals that fall at the end of a scale (cf. e.g. Fitzgibbons e.a. To Appear). A contextual cut–off determines which individuals are included in the referent, and, crucially, each individual that falls above the cut–off must be included in the referent. I call this reading of a plural superlative the ABSOLUTE READING. With this reading, the referent of the highest mountains must have the property that each of the mountains associated with it be higher than all other relevant mountains; i.e. that each part x of the referent X satisfies the gradable relation R to some degree d (d–R) such that no other relevant individual y is d–R, and d is greater than the cutoff. With this requirement of distributive predication, a mountain plurality is only as high as its lowest member.

I call the felicitous reading of (1a) and (1b) the COLLECTIVE READING of a plural superlative. This reading is characterized by allowing the referent of a plural superlative to collectively (and not distributively) satisfy a relation R to some degree d such that no other relevant individual is d–R. In (1a), it’s not the case that each of the mountains in Nepal are higher than all other mountains; all but Everest will not be higher than the second–highest mountain in the world, K2.

This collective reading becomes more apparent when we look at cases of plural comparison. Following Heim (1999), we may assume that superlative descriptions are coextensive with comparatives with universally quantified than–phrases. That is, the highest mountains refers to the same individuals as the mountains higher than all other mountains. In Figures 1 & 2, the A Mountains are judged higher than the B Mountains. Because we can say that the A Mountains are higher than the B Mountains (i.e. all the other mountains), we can thus say that the A Mountains are the highest.
If we understand \( y \) is higher than \( x \) to mean ‘there is a \( d \) such that \( y \) is \( d \)-high and \( x \) is not’, we must understand how to characterize the degrees collectively associated with the A Mountains, \( d \), and with the B mountains, \( d' \), so that \( d > d' \) in Figures 1 & 2.

**The Proposal:** I claim that the collective reading is one in which the items that we compare are ontologically groups (cf. Landman 1989), so that the group with the greatest degree \( d \) that satisfies a gradable relation \( R \) is picked out of the comparison class \( C \) by the superlative description the \( R \)-est, just as in Heim’s analysis of singular superlatives. In order to carry out this comparison, we must understand what it means for a group to satisfy a gradable relation with a single degree. A prominent solution is that the degree associated with a group \( G \) is the average of the maximal degrees true of each member of \( G \). That is, \( R(d)(G) = 1 \) just in case \( d \) is equal to the average of the maximal degrees true of each part of \( G \).

This analysis predicts that a mountain range can be as tall as the average of the heights of its members, or a track team as fast as the average of the fastness of its teammates—predictions that I show to be correct, as in Figures 1 & 2. In (1a), we may compare groups of (high) mountains relative to countries, so that the group of mountains for Nepal beats out the group associated with any other country, including the one to which K2 belongs. Thus, we reduce the semantics of collective readings of plural superlatives to the semantics of singular superlatives, where groups, and not pure atoms, are compared with one another.

The computation of the collective reading requires that a generalized group formation operator \( \uparrow_{(et,et)} \) (from Landman’s \( \uparrow_{(e,o)} \)) attach sufficiently low in the superlative DP, below the adjective, so that by the time the gradable relation composes with its internal argument, those arguments are groups—this is what allows the the collective predication that characterizes a group with a maximal degree potentially different from the maximal degrees of each of its members. When the superlative evaluates the comparison class and selects the individual which satisfies \( d-R \) with the greatest \( d \), it will be selecting from a set of groups, and, accepting the average analysis, choosing the greatest average.\(^1\)

Once we introduce a numeral into the superlative description, we must have \( \uparrow \) take scope over Num. Otherwise, Num would be counting the number of groups, rather than the number of group members. That is, \( \uparrow[3[movies]] \) characterizes a set of groups, each of which contains three movies—i.e. a set of movie trilogies. \( 3[\uparrow[movies]] \), however, characterizes a set of triplets whose members are themselves groups of movies. Because there are no constraints on the number of members per group, here three movies could refer to a possibly infinite number of movies. This is clearly not what is meant by three movies. Presumably, something about its craziness blocks this reading.

We can thus explain the contrast in meaning between the three [best[\( \uparrow[movies] \)]] and the best [three[\( \uparrow[movies] \)]] where only the latter may refer to the best movie trilogy, by observing that the numeral in the three best movies is too high to be in the scope of \( \uparrow \) and thus yield a collective reading. Predication in the three best movies will always be distributive, because no groups are involved. Group-less accounts of the collective reading fail to derive the contrast.


\(^1\)I leave open the possibility that pragmatic factors affect how we predicate a degree of a group.