Mandarin transitive comparatives and the syntax of measurement

Introduction: The distribution of measure phrases (MPs) as arguments of scalar predicates shows two major points of cross-linguistic variation. The first is whether MPs are acceptable with the positive (unmarked) form of the adjective (as in 2 meters tall) or only with the comparative form (2 meters taller); as documented by Schwarzschild (2005), every language that has the former option has the latter, but not vice-versa. The second point of variation for languages of the first type concerns the membership of the positive predicates that allow MPs. For example, Norwegian tung ‘heavy’ and dyr ‘expensive’ allow MPs, but the English variants do not; German schnell ‘fast’ allows MPs but the English variant does not; etc. Two recent papers provide alternative accounts of this variation. Starting from the first point of variation, Schwarzschild (2005) argues that comparative and positive gradable predicates differ in semantic type, such that only the former can compose with MPs. In order for a positive predicate to combine with a MP, it must undergo a special type-shifting rule; whether this rule applies, and which predicates it applies to, is a matter of cross-linguistic variation. In contrast, Svenonius and Kennedy (2006) argue that MPs are introduced by a special functional head M, which selects generally for comparative predicates and in a lexically-encoded, language-specific way for non-comparative predicates. The goal of this paper is to provide further support for the syntactic approach based on the syntax of Mandarin Chinese comparatives.

The data: Mandarin employs two syntactic strategies for comparisons of superiority. In “bi-comparatives” like (1a–b), the standard of comparison is introduced by bi; in “transitive comparatives” like (2a), the standard of comparison directly follows the gradable predicate. However, as noted (but not explained) by Xiang (2005), transitive comparatives are subject to two restrictions: they require an overt MP (numeral or indefinite), as indicated in (2a); and they are incompatible with gradable predicates such as happy for which no measurement system is defined, as shown in (2b). Mandarin thus provides a clear example of a language in which the acceptability of a particular syntactic form (the transitive comparative) is dependent on whether or not a predicate allows for a MP. It is unclear how this sort of alternation could be explained in a semantic account of the distribution of MPs like Schwarzschild’s. On the other hand, it can be straightforwardly accounted for within a framework in which MPs are introduced by a special functional head.

Analysis: Following Svenonius and Kennedy 2006, we take measure phrases to be introduced by a functional head M, so that (3) has the structure in (4). The fact that MPs in comparatives are clause-final (compare (3) with (1a/2a)) suggests the presence of a higher functional head (here labeled Deg) that introduces the standard of comparison and induces movement of the gradable predicate over the measure phrase, as shown in (5). We further follow Xiang 2005 in deriving bi-comparatives and transitive comparatives from a single structure by taking bi-comparatives to be the result of insertion of bi into a high functional position (here labeled F), while transitive comparatives are derived by raising the gradable predicate into that position. As we saw above, this option is possible only if a MP is projected: when no MP is present insertion of bi is the only option. Following a well established idea that abstract case is assigned from left to right in Mandarin (Travis 1984, Li 1990), we explain this restriction by hypothesizing that the standard of comparison, itself a DP (Xiang 2003, 2005), must receive case from the element preceding it. The standard marker bi can assign case, but as expected, an adjective cannot. We propose that the functional head M, however, is capable of assigning case, and that it raises to F along with the adjective in a transitive comparative, as shown in (6). A prediction of this account is that in the absence of an overt standard DP, nothing should prevent the adjective from raising to F in the absence of M, as there is no case requirement. The acceptability of “intransitive” comparatives such as (7a–b) show that this prediction is correct. We conclude with a brief comparison of the Mandarin data with similar examples of transitive comparatives in Maonan (8) and Cantonese (9), which show a similar restriction to predicates that permit MPs. Taken together, these facts support the general view that the MPs are introduced by functional morphology, which in turn allows us to account for their sometimes idiosyncratic distributional variation in terms of the familiar mechanism of lexical selectional restrictions.
(1) a. zhangsan bi lisi gao (yi-cun/yi-dian).
   Zhangsan SM Lisi tall one-inch/a-little
   ‘Zhangsan is (one inch/a little) taller than Lisi.’
   b. zhangsan bi lisi gaoxing (yi-dian).
   Zhangsan SM Lisi happy a-little
   ‘Zhangsan is (a little) happier than Lisi.’

(2) a. zhangsan gao lisi*(yi-cun/yi-dian).
   Zhangsan tall Lisi one-inch/a-little
   ‘Zhangsan is (one inch/a little) taller than Lisi.’
   b. *zhangsan gaoxing lisi (yi-dian).
   Zhangsan happy Lisi a-little

(3) zhangsan liang-mi gao.
   Zhangsan two-meter tall
   ‘Zhangsan is two meters tall.’

(4)  

(5)  

(6)  

(7) a. zhangsan gao (yi-cun/yi-dian).
   Zhangsan tall (one-inch/a-little)
   ‘Zhangsan is (a little/one inch) taller [than someone known from context].’
   b. zhangsan gaoxing (yi-dian).
   Zhangsan happy (a-little)
   ‘Zhangsan is (a little) happier [than someone known from context].’

(8) fia vang ng *(saam zjen).
   1SG tall 3SG three inch
   ‘I am three inches taller than he is.’
   (MAONAN: Morev 1998)

(9) keoi gou aa can*(loeng cyun).
   3SG tall Aa Can two inch
   ‘He is two inches taller than Aa Can.’
   (CANTONESE: Mok 1998)