Composing Additive Complex Numerals in the DP

Ionin and Matushansky (2004/2006) argue only simple numerals merge into DPs and all DPs containing additive complex numerals (1) are conjoined DPs undergoing right-node-raising (RNR) (2a) or noun PF-deletion (2b). Zabbal (2005) argues additive complex numerals must merge into the DP as whole units (3).

Main claim: I show *both* strategies exist in parallel, and additive complex numerals cannot always be reduced to simple modifiers in complex DPs (2): the computational system must allow internal composition of numerals with each other like (3).

1. Fifty-three boys

2. a. [$_{ConjP}$ [$_{DP1}$fifty ~~boys~~] [$_{Conj'}$ [AND[$_{DP2}$three ~~boys~~]]] boys] (I&M 2006)
   b. [$_{ConjP}$ [$_{DP1}$fifty ~~boys~~] [$_{Conj}$ [AND[$_{DP2}$three boys]]]]

3. [$_{DP}$ [$_{Num}$ [$_{A\#}$[$_{A}$fifty]AND[$_{A}$three]] [$_{NP}$ boys]]] (Z 2005)

Claim1: Not all additive complex numerals are conjoined DPs (2). Some must be (3).

Evidence: Lebanese Arabic verbs must agree in number with the subject in SVO order[1] (4). Conjoined DPs force plural verbal agreement (5)-(6). Crucially, unlike conjoined DPs, DPs containing additive complex numerals over 10 allow both singular (7a) and plural verbal agreement (7b).

4. a. l-wleed weSl-uu/*weSel
   the-boy-**pl** arrived-**pl**/*arrived-sg
   'The boys arrived'
   b. l-walad weSel/*weSl-uu
   the-boy-**sg** arrived-**sg**/*arrived-pl
   'The boy arrived'

5. a. [rejjeel w walad] weSl-uu/*weSel
   man-sg **and** boy-sg **arrived-pl/*arrived-sg** 'A man and a boy arrived'

6. [$_{ConjP}$ **[$_{DP1}$ a man]** [$_{Conj'}$ [AND **[$_{DP2}$ a boy]**]]] → Plural Agreement

7. a. tleeteh w xamsiin walad **weSl-uu/weSel**
   three and fifty boy-sg **arrived-pl/arrived-sg**
   'Fifty-three boys arrived'

Importantly, contrast (7b) and (5b). The DP in (7b) behaves unlike, and thus is structurally different from conjoined DPs. Thus, not all additive complex numeral are conjoined DPs (3).

Claim2: Some additive complex numerals must be conjoined DPs (2).

Evidence: *weeHed* 'one' and *tnein* 'two' cannot precede nouns in Lebanese/Standard Arabic (Schlonsky 2004). Interestingly, numerals 101 and 102 cannot fully precede the noun either (8); instead conjoined DPs must be used, either repeating the noun ((9a)-(10)) or deleting it (9b). Actually, case marking on the second conjunct matches the numeral, not the noun, in the first conjunct (Standard Arabic), so they must have the conjoined DP structure in (11). Indeed, verbal agreement following them must be plural (9a).

8. a. *miyyeh w weeHed/tneen kteeb/ketob
   hundred and one/two book-ø/book-pl

9. a. miit kteib w kteib/kteib-ein weSluu/*weSel
   hundred book-ø and book-ø/ book-dl arrived-pl/*arrived-sg
   'A hundred and one/two books'
   b. miiyeh w kteib/kteib-ein…
   hundred and book-ø/book-dl…

10. a. mi'atu kitaab-in wa kitaab-on
    hundred-**nom** book-genand book-**nom**
    'A hundred and one books'

11. [$_{ConjP}$[$_{DP1}$ hundred (book)] [$_{Conj'}$[AND [$_{DP2}$book-dual]]]]

Refuting criticism of (2): Zabbal (2005) argues that since nouns with different number and case marking follow 'three' and 'fifty' in Arabic, PF deletion and RNR are out, making (13) ungrammatical.

12. a. thalaathatu rijaal-in
    three man.**pl-gen**
    b. xamsuuna rajul-an
    fifty man.**sg-acc**

13. [$_{DP1}$ thalaathatun ~~rijaal-in~~] wa- [$_{DP2}$?ushruuna ~~rajul-an~~] rajul-an
    three man.**pl-gen** and twenty man.**sg-acc** man.sg-acc

I show, however, identical number and case is unnecessary for RNR (14), thus (12) does not preclude a conjoined DP structure for additive numerals.

14. I asked for one_____and you brought two **expensive mirrors**
    genitive, non-plural *accusative, plural*

Conclusion: Syntax must allow for numerals to compose internally (3). Complex numerals cannot be reduced to modifiers in complex DPs (2).

[1] I deal only with SVO cases, where agreement is typically obligatory, which is distinct from VSO cases.