The Order of Demonstrative, Numeral, Adjective and Noun

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1. those three black horses
   Dem Num Adj N

2. Overview of paper
   a. Report on the relative frequency of the different orders in a sample of 528 languages
   b. Comparison of the generative approach of Cinque (2005) to my own account in terms of five
      surface principles
   c. Both approaches use a set of principles to account for the relative frequency of the different types
   d. A crucial difference is that Cinque’s account is formulated in terms of syntactic categories while
      mine is in terms of semantic categories independent of the syntactic realization of these semantic
      categories

3. Universal 20 of Greenberg (1963):
   When any or all of the items (demonstrative, numeral, and descriptive adjective) precede the noun,
   they are always in that order. If they follow, the order is either the same or its opposite.

4. a. If all three modifiers precede the noun:
   Dem-Num-Adj-N (DNAn) 104
   *Dem-Num-Adj-N (DANn) 3
   *Num-Dem-Adj-N (NDAn) 2
   *Num-Adj-Dem-N (NADn) 0
   *Adj-Dem-Num-N (ADNn) 0
   *Adj-Num-Dem-N (ANDn) 0

   b. If all three modifiers follow the noun:
   N-Adj-Num-Dem (nAND) 163
   N-Num-Adj-Num (nADN) 34
   N-Dem-Adj-Num (nDAN) 11
   N-Num-Adj-Dem (nNAD) 10
   N-Num-Dem-Adj (nNDA) 1

   c. If two of them precede the noun:
   Dem-Num-N-Adj (DNNa) 37
   *Num-Dem-N-Adj (NDNn) 0
   *Dem-Adj-N-Num (DAnN) 14
   *Adj-Num-Adj-N (ANnD) 0
   *Num-Adj-N-Dem (NnAD) 5
   *Dem-Num-D-Num (NDnA) 5
   *Adj-Num-D-Num (AdnD) 0
   *Num-Dem-Adj (nDAN) 47

   d. If two of them follow the noun:
   Adj-N-Dem-Num (AnDN) 5
   Adj-N-Num-Dem (AnND) 5
   Num-N-Dem-Adj (NnDA) 5
   Num-N-Adj-Dem (NnAD) 63
   Dem-N-Num-Adj (DnNA) 9
   Dem-N-Adj-Num (DnAN) 47

5. Walman (Torricelli; Papua New Guinea): Noun-Adj-Num-Dem (nAND)
   ngko-y mntim-mntim wiey ntaynien
   thing-PL small.PL-small.PL two this.PL
   N Adj Num Dem
   ‘these two little things’ (my own data)
6. Greenberg’s formulation is too strong in that exceptions have been found, primarily with respect to the order when all three follow the noun.

7. Akha (Burmes-Lolo, Tibeto-Burman): N-Adj-Dem-Num (nADN)
   
   tsh̥-h̥à jə-mỳ xhɔ njì yà
   person good those two CLSFR
   N Adj Dem Num
   ‘those two good persons’ (Hansson 2003: 241)

   
   enoh-ciï ciï ci-yaanaaw-ciï ci-daŋkah-ciï
   cow-DEF DEM ATTR-white-DEF ATTR-ten-DEF
   N Dem Adj Num
   ‘these ten white cows’ (Soukka 2000:129)

9. Haya (Bantu, Niger-Congo; Tanzania): N-Num-Dem-Adj (nNDA)
   
   enjú zanje ibly’ êz’ ézi-lùngi
   house my two these NC-good
   N Num Dem Adj
   ‘these two good houses of mine’ (Byarushengo 1977:13)

10. Dhivehi (Indic, Indo-European; Maldive Islands (India)): Dem-Adj-Num-N (DANn)
    
    mi ra’gału tin fot
    this good three book
    Dem Adj Num N
    ‘these three good books’ (Cain and Gair 2000: 33)

11. Ingush (Nakh-Dagestanian; Russia): Dem-Adj-Num-N (DANn)
    
    uq b-oaqqa-cha qea wazh-agh
    this.OBL GEND-big-OBL three.OBL apple-LAT
    Dem Adj Num N
    ‘(about) these three big apples’ (Nichols 2011:446)

    
    guapalo ei pani
    two DEF hand
    ‘the two hands’

13. Sierra Popoluca (Mixe-Zoque; Mexico): Num-Dem-Adj-N (NDAn)
    
    ʔiku-kóm tukuteen jeʔm pok
    3ERG-fill.COMPL three that gourd
    Num Dem N
    ‘He filled the three gourds.’ (de Jong Boudreault 2009: 248)
Cinque’s Approach

   a. All languages are underlyingly Dem-Num-Adj-N.
   b. Other types are achieved via movement.
   c. All movement is leftward and upward.
   d. Only constituents containing the noun move.
   e. Different combinations of movements are less marked or more marked.

16. Relative markedness of different types of movement in Cinque’s account:
   a. Unmarked: no movement at all.
   b. Unmarked: movement of what he calls pied-piping of the whose-picture type, which amounts to movement of a constituent containing the N, where the N is on the left edge of the constituent that moves.
   c. Marked: movement without pied-piping, i.e. extraction of the N out of a larger constituent
   d. Very marked (if even possible): a special case of (c), “subextraction” of the N out of N+Adj within N+Adj+Num
   e. Very marked: movement of what he calls pied-piping of the picture-of-who type, which amounts to movement of a constituent containing the N, where the N is not on the left edge of the constituent that moves.
   f. Marked: partial movement: the constituent that moved could move further up the tree but doesn’t
   g. Unmarked: total movement: the constituent that moved could not move any further than it has moved

17. a. If nothing moves, then we get DNAn.
   b. If just the N (or NP in Cinque’s terms) moves once, we get DNnA: (line 5 of (11) below)

\[
\text{Dem} \quad \text{Num} \quad \text{Adj} \quad \text{N} \quad \rightarrow \quad \text{Dem} \quad \text{Num} \quad \text{N} \quad \text{Adj} \quad \text{(DNnA)}
\]

   c. If just the N moves twice, we get DnNA: (line 10)

\[
\text{Dem} \quad \text{Num} \quad \text{Adj} \quad \text{N} \quad \rightarrow \quad \text{Dem} \quad \text{N} \quad \text{Num} \quad \text{Adj} \quad \text{(DnNA)}
\]

   d. If there is pied-piping, the N moves along with some constituent it is part of. If the Adj+N moves once, we get DAnN: (line 8)

\[
\text{Dem} \quad \text{Num} \quad \text{Adj} \quad \text{N} \quad \rightarrow \quad \text{Dem} \quad \text{Adj} \quad \text{N} \quad \text{Num} \quad \text{(DAnN)}
\]
e. If there is successive pied piping from DNAn to DNnA to DnAN and finally to nAND, then we get the mirror image of DNAn: (line 1)

![Diagram showing the order Dem Num Adj N → Dem Num N Adj → Dem N Adj Num → N Adj Num Dem (nAND)]

18. How Cinque’s approach predicts the nonexistence of the types he claims do not exist:

   a. The only possible order if all three modifiers precede the noun is DNAn, because if anything moves, something containing the n must move leftward, in which case we won’t have three modifiers preceding the noun. Hence *DANn, *NDAn, *ADNn, *NADn, and *ANDn.

   b. There is no way that we can get Num+Dem before the n, since the only way for Num to precede Dem is if some constituent containing both Num and n moves in front of Dem, in which case Dem will not precede the n. Hence *NDnA.

   c. The same explains why we cannot get Adj+Num or Adj+Dem before the n. Hence *ANnD and *ADnN.

   d. We cannot get NnDA because for the Num+n to move past the Dem, the Adj would have to come with them, since only constituents can move.

   e. We similarly cannot get nNDA for an analogous reason. To get it, we would have to move n+Num past Dem without moving Adj, but then we wouldn’t be moving a constituent.

Orders predicted not to exist by Cinque (2005) and the languages with these orders in my sample:

19. a. Num-N-Dem-Adj (NnDA) (line 14)

   Austro-Asiatic: KATUIJC: Katu (Costello 1969: 22)
   Austronesian: YAPESE: Yapese (Jensen 1977: 168)

   b. Kilivila (Senft 1986: 104, 105)

   "na-lima vivila mi-na-si-na na-manabweta mina Tauwema
   CLSFR-five girls this-CLSFR-PL-this CLSFR-beautiful from Tauwema
   Num N Dem Adj
   ‘these five beautiful girls from Tauwema’

20. Dem-Adj-Num-N (DANn) (line 16)

   Indo-European: INDIC: Dhivehi (Cain and Gair 2000: 33)
   Nakh-Daghestanian: NAKH: Chechen (Johanna Nichols, p.c.), Ingush (Nichols 2011: 669)
   Austronesian: OCEANIC: Wuvulu
   Mixe-Zoque: MIXE-ZOQUE: Sierra Popoluca

22. N-Num-Dem-Adj (nNDA) (line 18):
   Niger-Congo: BANTOID: Haya

23. Comparing Cinque’s predicted frequencies with actual frequencies in my sample

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24. a. Type NnAD is much more common than Cinque’s theory predicts (line 4)
b. Type nDAN is more common than Cinque’s theory predicts (line 7)
c. Type DAnN is more common than Cinque’s theory predicts (line 8)
d. Type nDNA is less common than Cinque’s theory predicts (line 12)
e. Type AnND is less common than Cinque’s theory predicts (line 13)
An Alternative Approach

25. Iconicity Principle 1:

The adjective and numeral tend to occur closer to the noun than the demonstrative when the demonstrative and the adjective or numeral (or both) occur on the same side of the noun.

Iconicity Principle 2:

The adjective tends to occur closer to the noun than the numeral when they occur on the same side of the noun.

The Asymmetry Principle

Exceptions to the iconicity principles will occur only with postnominal modifiers; the iconicity principles apply more strongly to prenominal modifiers than they do to postnominal modifiers.

The Postnominal Adjective Preference

Noun-adjective order is preferred over adjective-noun order

Intra-Categorial Harmony

The demonstrative, numeral, and adjective tend to all occur on the same side of the noun.

26. Frequencies of different orders and degree of conformity with my five principles

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Key: How each order conforms to each of the five principles, and the number of languages and genera of each order. (If one of the iconicity principles, IP1 or IP2, is violated by prenominal modifiers, I treat this as also violating the Asymmetry Principle (AP), but if they are violated by postnominal modifiers, then I treat this as consistent with AP.)

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Syntax or Semantics?

27. Cinque’s approach assumes that the generalizations about the possible orders of demonstrative, numeral, adjective and noun can be described (and explained) in terms of syntactic categories.

28. I claim that the generalizations cannot be described (or explained) in terms of syntactic categories.

29. Rather, the relevant notions of demonstrative, numeral, and adjective are semantic notions which are realized syntactically in different ways in different languages.

30. a. In some languages, adjectives are a distinct word class.
    b. In some languages, semantic adjectives are verbs grammatically and when modifying nouns are really relative clauses.
    c. In some languages, semantic adjectives are verbs grammatically, but can still modify nouns directly without occurring as relative clauses.
    d. In some languages, semantic adjectives are really verbs in internally-headed relative clauses so that the noun (or noun phrase) is the subject and the semantic adjective is the predicate so that the semantic adjective is not modifying the noun at all.

31. Ojibwa (Rich Rhodes, p.c.)
   a. nini e- gnoozi-d
    man REL-tall-3SG
    ‘a tall man’
   b. nini e- ngamo-d
    man REL-sing-3SG
    ‘a man who is singing’

32. Kutenai (my own data)
   hu wu·kat-i k=sahan p=รกiy.
   1.SUBJ see-INDIC SUBORD=bad woman
   ‘I saw the bad woman.’
b. **hu qaki?-ni k=sahan paŋkiy**
   1.SUBJ say-INDIC SUBORD=bad woman
   ‘I said that the woman was bad.’

33. a. In some languages, numerals are a distinct word class.
    b. In some languages, numerals belong to the class of adjectives.
    c. In some languages, numerals modify classifiers and these classifier phrases modify the noun.
    d. In some languages, numerals modify classifiers and these classifier phrases serve as heads of which the noun (and other modifiers) are dependents.
    e. In some languages, numerals (without classifiers) exhibit head-like properties, implying that the noun is a dependent of the numeral.
    f. In some languages, numerals are verbs grammatically and when modifying nouns are really relative clauses.
    g. In some languages, numerals are really verbs in internally-headed relative clauses so that the noun (or noun phrase) is the subject and the numeral is the predicate so that the numeral is not modifying the noun at all.

34. Swahili (Ashton 1947)
   a. **ma-chungwa ma-wili**
      NC₆(PL)-orange NC₆(PL)-two
      two oranges
   b. **ki-su ki-refu**
      NC₇-knife NC₇-long
      a long knife
   c. **ki-jiji hi-ki**
      NC₇-village this-NC₇
      ‘this village’

35. Irish (Nolan 2012: 232)
   dhá theach salach
two house dirty
Num N Adj
‘two dirty houses’

36. Sre (Manley 1972: 157)
   bār nəm sraʔ pa khay dɔ
two CLSFR book new his this
Num N Adj Dem
‘these two new books of his’

   a. **tḷata [n towrar]**
      three [GEN hill]
      ‘three hills’
   b. **axxam [n wəryaz]**
      house [GEN man]
      ‘the man’s house’
38. Creek (Martin 2011:315, 392)
   a. honan-tá:ki hokkô:l-os
      man-PL two:RESULTATIVE.PERF-DIMIN
      ‘two men’
   b. asêy ifá wo·hk-i a:-hôyl
      that dog bark.EVENTIVE-DUR DIR-stand:RESULTATIVE.PERF
      ‘those dogs standing over there barking’

39. Kutenai

   hu  wu·kat-i  ki=?as  ničtahał.
   1.SUBJ see-INDIC SUBORD=two young.man
   ‘I saw two young men.’

40. a. In some languages, demonstratives pattern with articles (and perhaps possessive words), in which case they can be analysed as belonging to a category of determiners.
   b. In some languages, demonstratives do not pattern with the articles in the language, in which case they do not belong to the category of determiners.
   c. In some languages, there are no articles, and there is little motivation for positing a category of determiner, and demonstratives may be a distinct word class.
   d. In some languages, demonstratives are grammatically adjectives.
   e. In some languages, demonstratives and articles freely combine with constituents other than nouns (such as clauses), so that they are more head-like than nouns.

44. My claim is that the generalizations expressed by the five principles, resulting in the different frequencies of the 24 types, apply regardless of the syntactic realization of the semantic categories of demonstrative, numeral and adjective, that these generalizations cannot be expressed as generalizations over syntactic categories.

45. Crucially, the data regarding the relative frequency of the different types is based on classifying languages according to the semantic categories.

46. For example, the unattested and rare types are unattested and rare regardless of the syntactic realization of these semantic categories.

47. Cinque suggests [footnote 2] that in some languages that seem to be exceptions to his theory of what types are possible, in which adjectives appear outside numerals or even outside demonstratives, the “adjectives” are really verbs and hence are really relative clauses. He observes that relative clauses crosslinguistically tend to occur outside numerals and either inside or outside demonstratives, so that “adjectives” which are really relative clauses should occur outside numerals.

48. Cinque’s approach would seem to predict that we should find languages in which semantic adjectives are verbs and in which the semantic adjective precedes the demonstrative or numeral before the noun, such as Dem-Adj-Num-N or Adj-Dem-Num-N.
49. Dhivehi (Cain 2000: 91)
mi fot ra’gālu.
this book good
‘This book is good.’

50. Ingush (Nichols 2011: 520)
Gettara dika d-y.
very good GEND-be.PRS
‘That’s wonderful.’

In many cases, even when semantic adjectives are verbs, they still conform to the same principles governing the position of adjectives relative to demonstratives and numerals

51. In Amis (Wu 2006: 96, 97), relative clauses based on verbs expressing semantic adjectives must occur inside numerals, closer to the noun (a, b) while other relative clauses can occur on either side of numeral (c, d):

a. Mi-cakay cingra t-u tusa tata’ak-ay kuhting-ay a favuy.
   ACTOR-buy 3SG.NOM DAT-CN two big-FAC black-FAC LINK pig
   Num Adj N
   ‘He is going to buy two big black pigs.’

b. *Mi-cakay cingra t-u kuhting-ay tusa tata’ak-ay a favuy.
   ACTOR-buy 3SG.NOM DAT-CN black-FAC two big-FAC LINK pig
   Adj Num N
   ‘He is going to buy two big black pigs.’

c. Ma-araw aku k-u-ya ta-tulu a tawinan
   UNDERGOER-see 1SG.GEN NOM-CN-that PL-three LINK mother.animal
   Num
   a mi-repel-an n-i mayaw a kulong.
   LINK TIGHT-FILE GEN-PPN Mayaw LINK water.buffalo
   Rel N
   ‘I saw the three female water buffaloes caught by Mayaw.’

d. Ma-araw aku k-u-ya mi-repel-an n-i mayaw a
   UNDERGOER-see 1SG.GEN NOM-CN-that TIGHT-FILE GEN-PPN Mayaw LINK
   ta-tulu a tawinan a kulong.
   PL-three LINK mother.animal LINK water.buffalo
   Num N
   ‘I saw the three female water buffaloes caught by Mayaw.’
52. In Nias (data from North dialect, Lea Brown, p.c.), both semantic adjectives and semantic numerals occur in relative clauses that follow the noun they modify (ignoring a distinct construction where the numeral precedes the noun, used when the NP is interpreted as indefinite). But adjective relative clauses occur inside the numeral relative clauses while other relative clauses occur outside numeral relative clauses.

a. No u-bunu n-asu s=afusi si=dua rozi.
   PAST 1SG-kill ABS-dog REL=white REL=two CLSFR
       N    Adj  Num
   ‘I killed the two white dogs’

b. *No u-bunu n-asu si=dua rozi s=afusi.
   PAST 1SG-kill ABS-dog REL=two CLSFR REL=white
       N    Num  Adj
   ‘I killed the two white dogs’

c. No u-bunu n-asu si=dua rozi si=mörö.
   PAST 1SG-kill ABS-dog REL=two CLSFR REL=sleep.
       N    Num  Rel
   ‘I killed the two dogs that were sleeping.’

d. *No u-bunu n-asu si=mörö si=dua rozi.
   PAST 1SG-kill ABS-dog REL=sleep REL=two CLSFR
       N    Rel  Num
   ‘I killed the two dogs that were sleeping.’

53. Creek (Martin 2011: 393)

ma ifá laslat-i: toccì:n-i:   pó:si
that dog black-DUR three:RESULTATIVE.PERF-DUR cat
Dem N    Rel  Rel
á:ssi:c-i      foll-â:t
chase.EVENTIVE-DUR go.about:TRIPLURAL:RESULTATIVE.PERF
       Rel
‘those three black dogs going around chasing cats’

54. Tukang Besi (Donohue 1999a: 171, 152)

a. No-meha na watu iso.
   3REAL-red NOM rock yon
   ‘That rock is red.’

b. Jari no-’eka di wunua=no.
   so 3REAL-go.up OBL house=3POSS
   ‘So she went up to her house.’
Semantic adjectives are verbs but occur inside possessive clitics while other relative clauses occur outside possessive clitics:

c. Te ana morunga=su k<um>onta-'e na ana(a)  
   CORE child young=1SG.POSS hold<SUBJ.REL>-3OBJ NOM child  
      N Adj=Poss Rel ...  
   u riirii ba'i measo'e.  
   GEN duck PREV REF.this  

   ‘my young child who was holding that duckling’ (Donohue 1999a: 307)

55. In Chickasaw (Pamela Munro, p.c.), both numerals and semantic adjectives are verbs and occur in internally-headed relative clauses to express meanings corresponding to adnominal numerals and adjectives in other languages. But despite the fact that neither is modifying the noun, the order is still N-Adj-Num-Dem:

   dog be.black be.three that=NOM 1sg.II-chase-PST  
   ‘Those three black dogs chased me.’

But

56. Yapese: Num-N-Dem-Adj (NnDA)

   rea kaarroo roog neey [ba roowroow]  
   SG car 1SG.POSS this [be red]  
   N Dem Adj  
   ‘this red car of mine’ (Jensen 1997: 168)

57. Teop: Num-N-Dem-Adj (NnDA)

   te=a hausik vai a beera  
   PREP=ART hospital this ART big  
   ‘to this big hospital’ (Mosel and Thiesen 2007: 96)

58. Kilivila: Num-N-Dem-Adj (NnDA)

   m-to-si-na su waga sena nanakwa taga  
   this-human-PL-this 3PL.POSS canoe very fast but  
   ma-waga-si. i-kaliseva-si.  
   1PL-canoe-PL 3-run.off-PL  
   ‘Their canoes are very fast, but our canoes are outstanding’ [literally ‘they run off’]  
   (Senft 1986: 87)

59. Slave: Dem-N-Num-Adj (DnNA)

   Michael hayi luge tat'e i lek'a i welu i wohsee.  
   Michael N.MRKR fish three REL 3.fat REL 3.netted REL 1SG.OPT.boil  
   N Num Adj  
   ‘I will boil the three fat fish that Michael netted.’ (Rice 1989: 1316)
60. Girawa: Dem-N-Num-Adj (DnNA)
    na-n en oirori mokup ra-u.
    2SG-GEN dog two black be-3SG.PRES
    ‘Your two black dogs are (there).’ (Gasaway, Lillie, and Sims 1977: 48)

61. Number of genera containing languages classified by whether semantic adjectives are verbs and whether they occur closer to the noun than numerals when both occur on the same side of the noun

<table>
<thead>
<tr>
<th>Adj closer to noun than Num</th>
<th>Num closer to noun than Adj</th>
<th>Percent closer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adj is verb</td>
<td>30</td>
<td>4</td>
</tr>
<tr>
<td>Adj is not verb</td>
<td>106</td>
<td>12</td>
</tr>
</tbody>
</table>

62. Number of genera containing languages classified by whether semantic adjectives are verbs and whether they occur closer to the noun than demonstratives when both occur on the same side of the noun

<table>
<thead>
<tr>
<th>Adj closer to noun than Dem</th>
<th>Dem closer to noun than Adj</th>
<th>Percent closer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adj is verb</td>
<td>32</td>
<td>3</td>
</tr>
<tr>
<td>Adj is not verb</td>
<td>99</td>
<td>10</td>
</tr>
</tbody>
</table>

63. Begak Idaan
    asu gayo tollu tassa’ no
dog big three CLSFR yonder
    ‘those three big dogs’ (Goudswaard 2005: 272)

64. Other nAND languages in which numerals normally occur with classifiers:

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sgaw Karen (Jones 1961: 43)</td>
<td>Taba (Bowden 2001: 179, 242)</td>
</tr>
<tr>
<td>Nuosu (Gerner 2013: 64)</td>
<td>Loniu (Hamel 1994: 54, 94)</td>
</tr>
<tr>
<td>Palaung (Mak 2012: 110)</td>
<td>Nuaulu (Bolton 1990: 71)</td>
</tr>
<tr>
<td>Stieng (Miller 1976: 24-25)</td>
<td>Klun (Baird 2008: 63-64, 81)</td>
</tr>
<tr>
<td>Bunong (Bequette 2013: 28, 33)</td>
<td>Adang (Haan 2001: 124, 295-304)</td>
</tr>
<tr>
<td>Brao (Miller 1976: 29-30)</td>
<td>Abun (Berry and Berry 1999: 67-69)</td>
</tr>
<tr>
<td>Kasong (Sunee 2003: 172)</td>
<td>Meyah (Gravelle 2004: 167)</td>
</tr>
<tr>
<td>Tukang Besi (Donohue 1999a: 197, 304)</td>
<td>Tidore (Van Staden 2000: 166, 193)</td>
</tr>
<tr>
<td>Tugun (Hinton 1991: 45)</td>
<td>Bribri (Margery Peña 1982: xxvii)</td>
</tr>
<tr>
<td>Irarutu (Matsumara and Matsumara 1991: 105-106)</td>
<td></td>
</tr>
</tbody>
</table>

65. Languages with DNA order with numeral classifiers

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mangghuer (Slater 2003: 90, 95, 233)</td>
<td>Rukai (Li 1973: 73-74)</td>
</tr>
<tr>
<td>Burushaski (Yoshioka 2012: 177)</td>
<td>Palauan (Josephs 1975: 480)</td>
</tr>
</tbody>
</table>
66. DNnA languages with numeral classifiers:
   Khasi (Rabel 1961: 131)
   Ojibwa (Kathol and Rhodes 1999: 75-78; Valentine 2001: 883)
   Desano (Miller 1999: 4, 51)
   Baure (Danielsen 2007: 158, 169)
   Palikur (Green and Green 1972: 23-25)
   Yagua (Payne 1990: 97, 144).

67. Ma’vea (Guerin 2008: 74) (nADN)

   Vu-n vuae ror i rua ra-r-tur marrmarvitu.

   ‘These two trunks here are close to each other.’

70. Number of genera containing languages, classified by whether the language has numeral classifiers and whether the numeral plus classifier occurs closer to the noun than demonstratives when both occur on the same side of the noun

<table>
<thead>
<tr>
<th></th>
<th>Num closer to noun than Dem</th>
<th>Dem closer to noun than Num</th>
<th>Percent closer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lg has numeral clsfr</td>
<td>44</td>
<td>4</td>
<td>.92</td>
</tr>
<tr>
<td>Lg lacks numeral clsfr</td>
<td>83</td>
<td>16</td>
<td>.84</td>
</tr>
</tbody>
</table>

71. Number of genera containing languages, classified by whether the language has numeral classifiers and whether the numeral plus classifier occurs closer to the noun than adjectives when both occur on the same side of the noun

<table>
<thead>
<tr>
<th></th>
<th>Adj closer to noun than Num</th>
<th>Num closer to noun than Adj</th>
<th>Percent closer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lg has numeral clsfr</td>
<td>47</td>
<td>3</td>
<td>.94</td>
</tr>
<tr>
<td>Lg lacks numeral clsfr</td>
<td>84</td>
<td>8</td>
<td>.91</td>
</tr>
</tbody>
</table>

**The semantic basis of the Postnominal Adjective Preference**

72. Order of adjective and noun, in languages where semantic adjectives are verbs and languages where semantic adjectives are not verbs

<table>
<thead>
<tr>
<th></th>
<th>AdjN</th>
<th>NAdj</th>
<th>Percent NAdj</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adj is verb</td>
<td>31</td>
<td>70</td>
<td>.69</td>
</tr>
<tr>
<td>Adj is not verb</td>
<td>87</td>
<td>164</td>
<td>.65</td>
</tr>
</tbody>
</table>
Is Intra-Categorial Harmony semantic?

73. Number of genera containing languages where the numeral and demonstrative occur on the same side of the noun or different sides of the noun, distinguishing languages with numeral classifiers from languages lacking numeral classifiers

<table>
<thead>
<tr>
<th></th>
<th>Num and Dem occur on same side of noun</th>
<th>Num and Dem occur on different sides of noun</th>
<th>Percent same side</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lg has classifiers</td>
<td>68</td>
<td>36</td>
<td>.65</td>
</tr>
<tr>
<td>Lg lacks classifiers</td>
<td>167</td>
<td>55</td>
<td>.72</td>
</tr>
</tbody>
</table>

74. Number of genera containing languages where the numeral and adjective occur on the same side of the noun or different sides of the noun, distinguishing languages with numeral classifiers from languages lacking numeral classifiers

<table>
<thead>
<tr>
<th></th>
<th>Num and Adj occur on same side of noun</th>
<th>Num and Adj occur on different sides of noun</th>
<th>Percent same side</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lg has classifiers</td>
<td>71</td>
<td>29</td>
<td>.71</td>
</tr>
<tr>
<td>Lg lacks classifiers</td>
<td>174</td>
<td>58</td>
<td>.75</td>
</tr>
</tbody>
</table>

Towards an explanation for the principles

75. a. The two Iconicity Principles probably reflect the same principles governing order among descriptive adjectives, whereby more inherent properties occur closer to the noun (e.g. a beautiful black horse vs. ??a black beautiful horse).

b. I have no good explanation for The Asymmetry Principle.

c. The Intra-Categorial Harmony Principle has long been assumed. It was once thought to be part of the general correlations with the order of object and verb, but given that none of these three pairs of elements correlate in order with the order of object and verb (except possibly numeral and noun, but here it is NumN that correlates with VO and NNum that correlates with OV), this is not the case. But independent of the correlations with the order of object and verb, there is still a separate set of correlations within the noun phrase.

76. Explaining the Postnominal Adjectival Preference

Relationship between the order of adjective and noun and the order of relative clause and noun in languages where adjectives are not verbs

<table>
<thead>
<tr>
<th></th>
<th>AdjN</th>
<th>NAdj</th>
</tr>
</thead>
<tbody>
<tr>
<td>RelN</td>
<td>31</td>
<td>17</td>
</tr>
<tr>
<td>NRel</td>
<td>26</td>
<td>90</td>
</tr>
</tbody>
</table>

Summary

77. a. My principles predict the relative frequency of the different types better than Cinque’s

b. The principles governing the order of demonstrative, numeral, adjective, and noun are based on semantic categories, not syntactic ones
References
