Main point: There is evidence for a functional projection below DP and above NP, and all indications are that it is responsible for grammatical number; it is **NumP**.

To begin:
- Modern Hebrew is basically a SVO language.
- Deverbal nouns like *the eating* in Hebrew show NSO order.
- As is common in accounting for VSO, we assume this is derived by *head movement* from a SNO base order.

Two basic kinds of noun phrases: **Construct State** (**CS**) and **Free Genitive** (**FG**).

Construct state:
- Never has a definite determiner in initial position
    - —from this we conclude that there is a Ø D assigning GEN (D_{GEN}).
- Imposes certain phonological changes on the head noun (*beyt* vs. *beyit*).
    - —in order to make D_{GEN} visible.
- Adjectives agree in definiteness with genitive argument.
- (Most embedded) genitive argument determines definiteness of whole DP

Free genitives:
- Initial determiner allowed
    - —from this we conclude that there is *no* D_{GEN} in FG.
- Genitive introduced by *ʃel* 'of'
- Even when there is an initial determiner, the head noun precedes the genitive.
    - —there's not enough space in the clause without another projection.

We can use adjectives to see where things are (like we used adverbs in French).

(1)   a.   axilat dan (??ha-menumeset) et ha-uga   *Construct State*
             eating Dan (??the-polite) acc the-cake
             'Dan's polite eating of the cake'

   b.   axilat dan et ha-uga (*ha-menumeset)
   eating Dan acc the-cake (*the-polite)

(2)   a.   ha-axila ha-menumeset ʃel dan et ha-uga   *Free Genitives*
             the-eating the-polite of Dan acc the-cake
             'Dan's polite eating of the cake'

   b. *   ha-axila ʃel dan ha-menumeset et ha-uga
             the-eating of Dan the-polite acc the-cake

So, the generalizations are:

(3)   CS: N Subj (??Adj) Obj
      FG: Det N (Adj) Subj Obj

How can we explain these orders?
FG:
- N moves up—but can't be moving to D (since D is occupied by *ha*), so it must be moving to someplace lower, say, Num.
- Assume adjectives are NP-adjuncts (like adverbs are VP-adjuncts).
- Assume the genitive starts off in SpecNP (subject of NP)
- Assume that *ʃel* 'of' is basically inserted where a noun needs Case but can't get it anywhere else (cf. *destroy the city ~ destruction of the city*).

(4)

Free Genitive
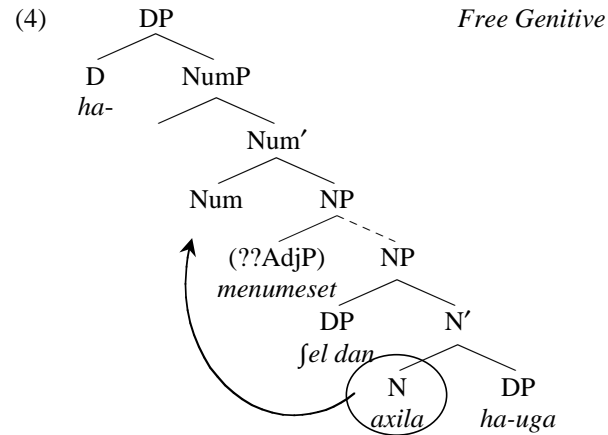
CS: • *ha* is prohibited, so we assume there is something else occupying D (D$_{GEN}$).

• D$_{GEN}$ assigns genitive to the subject—*only rightward and only to adjacent DP*

(similar claims were made about English objective Case—
consider: *I consider John (*wholeheartedly) to be a genius.*
             John stole (*sneakily) a sandwich from the table.

• The subject appears before the adjective—it must have moved to get there.
• The head noun appears first, before the subject—it must have moved to D.

(5)   DP   *Construct State*

(a ʃel game?)
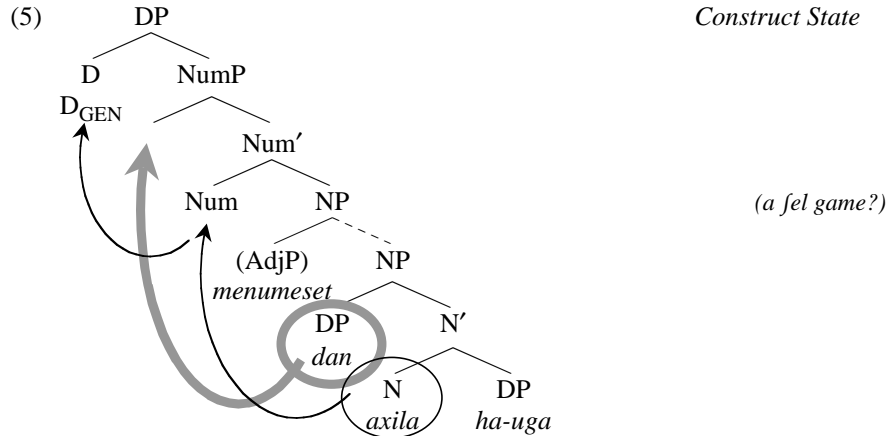
So, the only real difference between them is whether D$_{GEN}$ is used or not.

• If D$_{GEN}$ is used: N moves all the way to D (through Num).
                                 Subject DP moves to SpecNumP to get Case from D$_{GEN}$.

• If any other D is used: N moves only as far as Num.
   Subject DP gets Case from *ʃel* (insertion).

Simple CS: N POSS (A)

Still suggests possessor escaped NP (it precedes adjectives), so we can continue to assume that the genitive (possessor) occupies SpecNumP and receives Case from D$_{GEN}$ even when there is no object.

In FG, you can have *multiple ʃel*-marked constituents, but in CS you can only have one bare genitive. Ritter's idea: Some of these *ʃel*-marked phrases (in particular, *ʃel* possessors—as opposed to *ʃel* subjects) are rightward DP adjuncts (she calls them "KP" for "Case phrases", taking *ʃel* to head a 'Case' projection).

As predicted, if these *ʃel*-phrases are right-adjoined at the top, they should follow any adjectives.

(6)   a.   ha-bayit ha-gadol ʃel ha-mora
              the-house the-big of the-teacher
              'the teacher's big house'

   b.   * ha-bayit ʃel ha-mora ha-gadol
              the-house of the-teacher the-big

(7)   DP
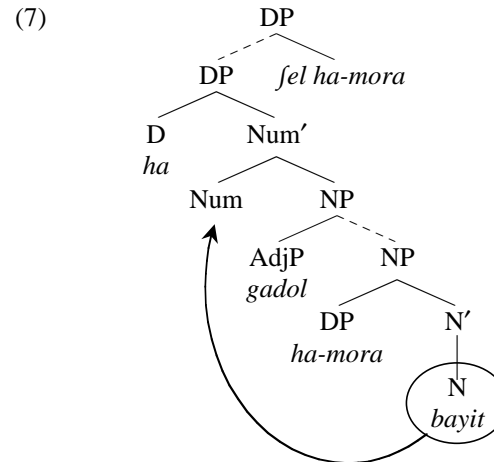
But remember (2a)—the *ʃel* phrase comes before the object—so it is also possible to have a *ʃel*-phrase inside the NP.

(2)   a.   ha-axila ha-menumeset ʃel dan et ha-uga   *Free Genitives*
              the-eating the-polite of Dan acc the-cake
              'Dan's polite eating of the cake'

Conclusion: "Dummy case marker" *ʃel* shows up in two cases:
                        • On rightward adjunct to DP
                        • On subjects remaining in SpecNP

Also, nothing prevents tacking on a *ʃel*-phrase to a CS nominal, as in this "picture NP":

(8)   tmunat ha-yalda ʃel ha-mora
        picture the-girl of the-teacher
        'the teacher's picture of the girl'

(9)
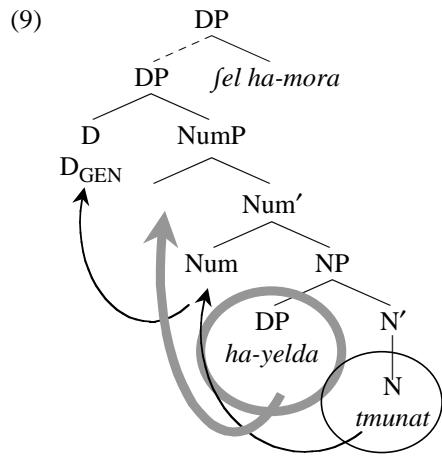
The other kind of case where there is a *ʃel*-phrase in a CS is a "clitic-doubled construct state noun phrase" (or "**doubled CS**")

(10) a.   beyt-o ʃel dan   (cf. *beyt-o* 'his house')
            house-his of dan
            'Dan's house'

      b.   beyt-a ʃel sara   (cf. *beyt-a* 'her house')
            house-her of sara
            'Sara's house'

Manifests N(Adj)SO order—suggesting that the *ʃel*-phrase is still NP-internal.

(11) a.   axilat-o (ha-menumeset) ʃel dan et ha-uga
            eating-his (the-polite) of dan acc the-cake
            'Dan's polite eating of the cake.'

      b. * axilat-o ʃel dan ha-menumeset et ha-uga
            eating-his of dan the-polite acc the-cake

• Phonological change indicates D$_{GEN}$.
• Can never take initial determiner—also indicates D$_{GEN}$.
• But has ʃel on subject/possessor—D$_{GEN}$ seems not to be assigning Case to subject.
• And has an extra pronoun. Why?
      —D$_{GEN}$ has a Case to assign, ʃel tells us it isn't being assigned to the subject—
            hence, the pronoun is needed in order to receive D$_{GEN}$'s assigned Case.

Side point: Where is the pronoun, how does this case absorption work?
                Ritter proposes that the pronoun is a base-generated adjunct to N—that is,
                    that N comes into the derivation looking like:
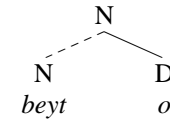
                and when this N moves up to D$_{GEN}$, it can absorb D$_{GEN}$'s case by virtue
                of being part of the same complex head.
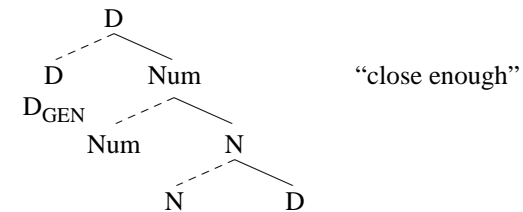
In support of calling this projection *Num*P:
      • To keep the DP parallel to the clause we like to think it is something relating to
            agreement features like number, gender, …
      • Conceptually, gender is *inherent* to a noun—you learn the gender as you learn
            the noun. In support:
            —M. Hebrew has minimal pairs where gender differentiates meaning:
                  maxsan 'warehouse (m)' vs. *maxsan-it* 'magazine (f)'
            —Denominal verbs often retain the feminine suffix, but never plural suffix
                  tixnet 'to program', from *toxnit* 'program (f)' </txn/+/it/
                                          cf. *toxen* 'content (m)
            —Several possible feminine endings, unpredictable, learned (in fact,
                  sometimes distinctive; *mexon-a* 'machine' vs. *mexon-it* 'car'

                  Anyone notice that here [p. 52], *toxnit* is listed as 'plan' vs.
                  toxna 'program (computer)'—so which is it? It makes
                  at least a slight different for her point about the arbitrariness
                  of the choice of suffix—that is, that one suffix is not always
                  more specific than the other)

            —Gender isn't even a feature of Num, because there are nouns which
                  idiosyncratically select for a feminine plural ending (presumably a
                  feminine Num) yet the verb agreement triggered is still masculine.

Certain quantifiers (like *kol* 'all') look like actual overt realizations of Num, too.
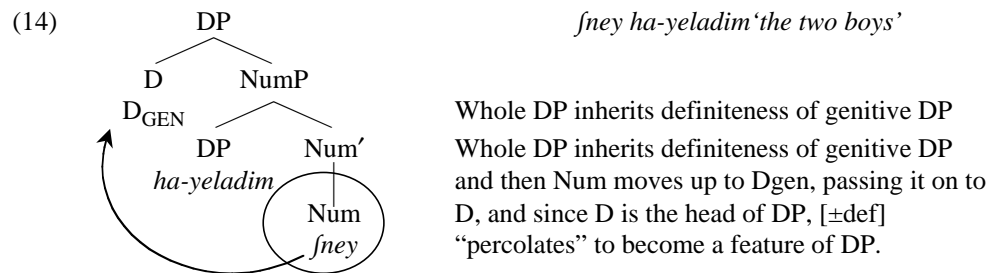
kol 'all' can only appear in CS constructions (no FGs with ʃel, no doubled CSs), and can't co-occur with an initial determiner.

(12)   a.   kol ha-yeladim
            all the-boys

       b.   * ha-kol (ha-)yeladim
             the-all (the-)boys

In other respects, these act like normal CS constructions—e.g., definiteness of the whole things is determined by the definiteness of the genitive DP, possessor can be either a pronominal clitic or itself be a CS.

(13)   a.   kol [yaldey ha-kita]   (cf. *beyt [xaver ha-mora]*
            all [boys the-class]   'the teacher's friend's house')
            'All of the boys in the class.'

       b.   kul-am   (cf. *beyt-am* 'their house')
            all-3.masc.pl
            'All of them'

Proposal: In these cases, we have a Num (*kol*) with no NP; and D_{GEN} in D (making it essentially a CS construction).

(14)   DP   *ʃney ha-yeladim* 'the two boys'

                          Whole DP inherits definiteness of genitive DP

Whole DP inherits definiteness of genitive DP and then Num moves up to Dgen, passing it on to D, and since D is the head of DP, [±def] "percolates" to become a feature of DP.

But *kol* <u>can</u> take an NP complement: *kol yeled* 'all the boys' (no *ha-* allowed, indicating NP), and in fact, it is possible to get *ha-kol* 'everything' (although for some mysterious reason in these cases it is not possible to have a NP complement).

Summary:

The distributional facts about Modern Hebrew noun phrases can be captured by supposing the following things:
- DP contains a NumP which contains an NP.
- Hebrew can either opt to use D_{GEN} to mark genitive case on the possessor or not, in the latter case allowing "dummy" ʃel to mark the possessor.
- N always raises to Num.
- D_{GEN} requires that something raise to it (morphological support?).
- D_{GEN} can assign genitive Case, but only *rightward* and *adjacent*.
- Number is at least a plausible candidate for the content of the intermediate projection, given that *two* is argued to be a Num.