Some Thoughts on English Modal *Need*

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1.
    Isačenko (1974) suggested that Russian lacks a verbal *need* with a nominative argumental subject, as in:
  (1)  He needs a sister.
because Russian lacks a verb *have* in sentences like:
  (2)  He has a sister.
That is, Russian has no direct counterpart of either of these.
    More specifically, Isačenko takes English *need* to 'piggyback' on English *have*, much as in the (later and more general) spirit of Hale and Keyser (1993; 2002) and Noonan (1993), which amounts to saying, as in Harves and Kayne (2012), that (1) should be analyzed as:
  (3)  ...HAVE need...
with nominal object *need* incorporating to the silent light verb HAVE (capitals will henceforth indicate silence), in some sense of the term 'incorporation'.[1]
    The incorporation that underlies (1) is not sensitive to the finiteness or nonfiniteness of HAVE since (1), with verbal *need,* readily has non-finite counterparts:
  (4)  There will need to be more work done.
  (5)  He has always needed a sister.
  (6)  Despite needing a sister,...

2.
    On the other hand, finiteness vs. non-finiteness matters (unsurprisingly, at first glance, given general properties of English modals) for what we call modal *need* in English (which is followed by an infinitive without *to* and which has polarity properties):
  (7)  They needn't stay.
  (8)  *They haven't needed talk to us.
  (9)  *They couldn't possibly have needed do that.
  (10)  *Despite not needing leave, they left.
    The question now is why English should have this (apparently lexical) property of allowing *need* to act either like an ordinary verb, as in (1) and (4)-(6), or like a modal, as in (7), where it precedes *n't*.  *Need* also acts like a modal in its lack of subject-verb agreement:
  (11)  He needs to work harder.  (verbal *need*)
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[1]Indirectly relevant here is Mahajan (1994) on the general *have/be* question.  On incorporation, cf. Baker (1988).

vs.
   (12)  He need(*s)n't work any harder.  (modal *need*)
   (13)  Need(*s) he really work harder?  (modal *need*)

3.
    The first idea that I would like to consider is that the modal-like behavior of *need* (which is not complete, as we shall see later on) is dependent on a second incorporation-like step, namely the incorporation of verbal *need* (itself derived from silent verbal HAVE + nominal *need*) to a silent counterpart of modal *would*.  That is, (7) might be thought of as containing, at some stage of the derivation, with subsequent raising past *n't*:
   (14)  ... n't  WOULD  HAVE  need...
    This might provide (the beginning of) an account of the fact that in (7) *need* necessarily scopes under *n't,* although we can note that the polarity property of modal *need* dilutes this point.[2]  Worth noting, too, is that from this perspective the limitation of modal *need* to finite contexts could not be a primitive fact about modal *need,* if only because modal *need* itself would not be, given (14), a primitive element at all.[3]  Rather it would reduce at least in part to a property of modal *would*.
    That the overall limitation of modal *need* to finite contexts, as well as its ability to invert in questions and to precede *n't* and to license VP-deletion, is derivative is indirectly supported by the fact that (for me) the participial and gerundial examples of (8)-(10) are more sharply deviant than the corresponding examples with an embedded bare infinitive *need*, which are marginally acceptable:
   (15)  ?In fact, French *ce* itself would need have no gender.
   (16)  ?You wouldn't need stay any longer than necessary.
   (17)  ?Nobody would need stay any longer than necessary.
    Important here is the contrasting fact that with modals other than *need*, the infinitive form remains for me sharply unacceptable:[4]
   (18)  *He wouldn't must/can/may...
    From the perspective of (14), the fact that modal *need* is followed by an infinitive without *to*:
   (19)  You needn't (*to) leave so soon.
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[2]That an item has polarity properties is something that calls for explanation - cf. Kayne (2021) on *long*.
[3]This would differ in part from (extensions to English of) Cinque (1999; 2006).  Cattaneo (2009, chapter 5) suggests that other (Italian) modals are not primitives, either.
[4]The status of the sometimes found *shouldn't ought to* (cf. Kayne (to appear)) needs to be looked into.
   That standard English modals are generally limited to finite contexts recalls the limitation, possibly in all English, of negative *n't* to finite contexts (leading to a question of learnability).  On finiteness, see Lapointe (1981, 237) and Zwicky & Pullum (1983, 507).  This finiteness property of *-n't* may be related to what one finds in other languages, as noted by Payne (1985, 240); see also  Pelliciardi (1977, 174), Haegeman and Zanuttini (1991, 237), and Zanuttini (1996, 192).

is a property of modal *need* that is inherited from modal *would*, as is the lack of subject-verb agreement:

   (20)  She need(*s)n't leave so soon.

4.

     There is a present tense vs. past tense contrast with modal *need* (as noted by Levine (2013)):

   (21)  They needn't work so hard.
   (22)  *They neededn't work so hard.
Similarly:
   (23)  Nobody need stay any longer than necessary.
   (24)  *Nobody needed stay any longer than necessary.
     Strictly speaking, the term 'present tense' as applied to (21), for example, is not quite right, given that:

   (25) They needn't have worked so hard.
does not really have the interpretive status of:
   (26)  ?They don't need to have worked so hard.
but actually feels closer in interpretation to:
   (27)  They didn't need to work so hard.
     In initial conclusion, then, the presence of modal-like *need* in English is a side-effect of the presence of nominal *need* + the presence of *have* + the presence of modal *would* (along with the special properties that modals have in English).  This initially plausible conclusion will be partially revised below.

5.

     Put another way, the presence in English of modal-like *need* is not an irreducible fact about the English lexicon.  As in the case of 'ordinary' verbal *need* discussed in section 1 above, significant syntax is involved, as is also true for a number of other seemingly idiosyncratic facts about the lexicon of English, e.g. *is to*:[5]

   (28)  You are to return home by midnight.
and for causative-like *have*+infinitive:[6]
   (29)  We'll have them call you tomorrow.
as well as for English *grand* (in the apparently money-related sense of *thousand*):[7]
   (30)  That'll cost you ten grand.
and *wherewithal*:[8]
   (31)  They don't have the wherewithal to buy that house.

6.

     An alternative to the proposal indicated in (14) would try to relate the existence of modal *need* in English more directly to the existence in (some) English of auxiliary(-like) possessive *have*, as in:

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[5]Cf. Kayne (2014).
[6]Cf. Kayne (2023).
[7]Cf. Kayne (2012).
[8]Cf. Kayne (2017).

(32)  ?We haven't any money.[9]

which shares with *need* the ability to precede *n't*.  There are, however, (at least) three discrepancies that would count against this.  One is that auxiliary(-like) possessive *have* and modal *need* differ sharply with respect to the *-s* of agreement:

(33)  ?He hasn't any money.

vs.

(34)  He need(*s)n't see them quite yet.

   A second is that they differ with respect to past tense forms:

(35)  ?Back then, he hadn't any money.

vs.

(36)  *He neededn't work hard.

   A third is the following:

(37)  ?They haven't any money.

(38)  *They needn't any money.

Auxiliary-like possessive *have* is compatible (in certain varieties of English) with a direct object, in a way that modal-like *need* is not.


7.

   The challenge posed by (37) vs. (38) carries over, in fact, to the proposal made earlier in (14), repeated here:

(39)   ... n't WOULD HAVE need...

Since the proposal in (39) rests on the presence of HAVE, it cannot easily account for modal *need* differing from *have* with respect to direct objects.

   Let us therefore consider a new (and final) proposal that keeps to the idea that incorporation of nominal *need* to a silent modal is what underlies modal *need*, while having recourse to a different modal, namely *must*/MUST (and eliminating HAVE).  This alternative brings in archaic:

(40)  You must needs do that.

a current counterpart of which would seem to be:

(41)  You must of necessity do that.

or:

(42)  You must necessarily do that.

   Taking (40) as a clue, this alternative proposal, instead of (39), now has:

(43)  ...n't MUST need...

with nominal *need* being related to MUST as adjunct-like, non-object *necessity* is to *must* in (41), and with incorporation of this non-object *need* in (43) to MUST,[10] followed
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[9]On this type of sentence, acceptable in some varieties of English, note Leonard's (2007) proposal for a silent GOT.

[10]As opposed to the incorporation of object *need* to *have* in Harves and Kayne (2012), for the case of verbal *need*.  On incorporation of adjunct-like elements, cf. English compounds such as *head-fake, need-based, backflip* et al.

   Stephanie Harves (p.c.) asks whether the deontic vs. epistemic distinction that holds with *must* carries over to *need*.  It may, given the contrast:

   i)  He needn't work so hard.

   ii)  There needn't be any solution to that equation.

by preposing past *n't*, yielding what we think of as modal *need*.

8.
     If (43) is in fact closer to the truth than (39), we need to ask why the language faculty would have turned its back on an initially plausible (39).  A possible answer is that the presence in (39) of intervening HAVE would interfere with the incorporation of *need* to WOULD, in a way that will need to be made more precise.[11]

9.
     Scope facts turn out to be important to the proposal in (43), insofar as there is a scope difference between:
   (44)  You mustn't do that.
and:
   (45)  You needn't do that.
with *must* appearing to scope over *n't* and *need* appearing to scope under *n't*.  However to my ear, there is a change if we add *necessarily* to *must*:
   (46)  You mustn't necessarily do that.
Especially with stress on *necessarily*, (46) seems to me to pretty much lose the 'must > n't' reading and to pretty much allow 'n't > must', or perhaps better, to allow:
   (47)  'n't  necessarily  >  must'
     If so, then the higher scope of *n't* in (43)/(45) reduces to the higher scope of *n't* in (46)/(47), assuming that 'n't...need' in (43) acts scopewise parallel to 'n't necessarily' in (46)/(47).[12]

10.
     The scope effect of *necessarily* just seen also seems relevant to a fact concerning VP-deletion discovered by Levine (2013), who noticed the following surprising instances of unacceptability (among others):
   (48)  You don't think he need work so hard and I don't think he need *(work so hard), either.
   (49)  He hardly need *(worry).
Although modal *need* is compatible with VP-deletion is some cases:
   (50)  You needn't leave so early and he needn't, either.
   (51)  Need he really?
VP-deletion is not possible in (48) or (49).  Yet to my ear, adding *necessarily* after *need* leads to a degree of improvement, as compared with (48):
   (52)  ?You don't think he need (necessarily) work so hard and I don't think he need necessarily *(work so hard), either.
and (49) can be somewhat improved if *hardly* is put post-*need*:
   (53)  He need hardly ?(worry).
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[11]Or, as Stephanie Harves (p.c.) suggests, there might be a link to Myers's (1984); cf. also Pesetsky (1995).
[12]With *n't necessarily* perhaps originating as a constituent  -  cf. Chomsky (1973: 242) and especially Collins and Postal (2014).

The generalization appears to be that modal *need* is compatible with VP-deletion only if it has visibly raised to a modal-like position, as it has past *n't* in (50), past subject *he* in (51), and arguably past pre-VP *necessarily* in (52) and pre-VP *hardly* in (53).[13]

Whereas in (48) and (49) it has not raised to a modal-like position, perhaps because vacuous movement (of that sort) is prohibited. (That modal-like *need* can fail to raise to a modal position was seen in a different way in (16) and (17).)

The fact that modal *need* can in some cases fail to raise distinguishes it from other English modals, which don't show the behavior of (48) or (49):

(54) You don't think he should work so hard and I don't think he should, either.

(55) He hardly can.

From the present perspective, this is due to *need* being the only English modal that requires a derivation in which a nominal element is raised to a silent modal, as in (43), repeated here:

(56) ...n't MUST need..

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[13]On raising past pre-VP adverbs, see especially Pollock (1989) and Cinque (1999). In:

i) He claims to have/be.

it seems virtually certain that infinitival *have* and *be* have raised, even if not as high as the corresponding finite *have* and *be* - cf. Pollock (1989) on (all) French verbs raising less high as infinitives than as finite verbs.

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