Ellipsis in additive responses*

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1 Additive responses in English and Gaelic

One of the ways to assert a kind of agreement with your interlocutor in English is by *so/neither*-inversion. I dub these *additive responses*:

(1) a. Lilly caught a frog.
     b. So did Dodger.

(2) a. Lilly didn't catch a frog.
     b. Neither did Dodger.

Scottish Gaelic, apparently, does things a little differently. In this language, the conjunctions *is*, 'and', and *no*, 'or' appear:

(3) a. Ghlac   Lilly losgann
         catch.PAST Lilly frog
         'Lilly caught a frog.'
     b. Ghlac   is Dodger
         catch.PAST and Dodger
         'So did Dodger.'

(4) a. Cha do ghlac   Lilly losgann
         Neg PAST catch.PAST Lilly frog
         'Lilly didn't catch a frog.'
     b. Cha do ghlac   no Dodger
         Neg PAST catch.PAST or Dodger
         'Neither did Dodger.'

Scottish Gaelic is not alone. Other languages, like Japanese, use similar syntactic technology, involving repetition of the predicate and a marker with additive semantics.
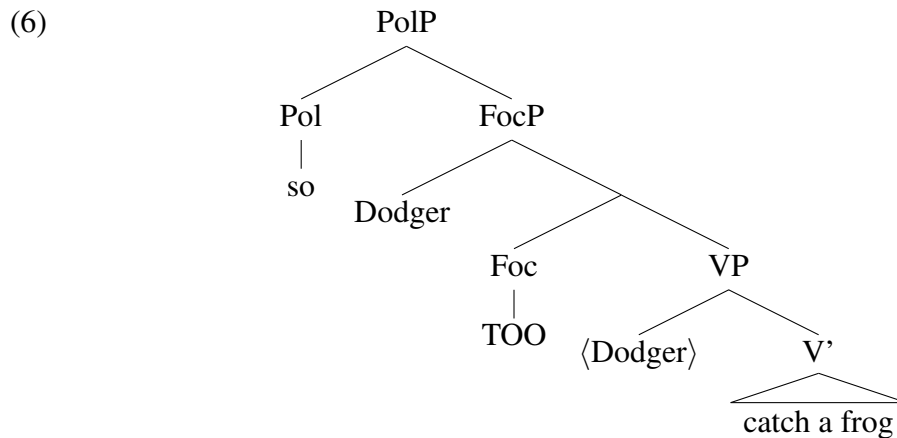
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(5)   a.   Mari-wa   kaeru-o   tsukamae-ta
                  Mari-TOP frog-ACC catch-PAST
                  'Mari caught a frog.'
       b.   Erika-mo tsukamae-ta
                  Erika-ALSO catch-PAST
                  'So did Erika.'

I'll argue, however, that the surface differences mark an underlying unity. Drawing on the same ingredients as Johnson's (2009) analysis of gapping, I'll argue that all of these constructions involve coordination and ellipsis. The differences depend on whether there is ATB movement of the predicate, and what the morphological form of the coordinating conjunction is.

2   *So*-inversion as Focus plus remnant roll-up

Wood (2008) proposes an elegant analysis of the English construction. He argues that it involves both a low focus position, which may host an (optionally unpronounced) *too*, and a polarity head Pol, which is realised as *so*. For the examples above, the derivation Wood gives involves the subject raising from the VP to the specifier of the Focus head, followed by Merge of the Polarity head:

(6)

```
                    PolP
                 ／      ＼
             Pol           FocP
              |          ／     ＼
             so      Dodger       ＼
                              ／        ＼
                           Foc            VP
                            |          ／    ＼
                          TOO   ⟨Dodger⟩        V'
                                            ／    ＼
                                          catch a frog
```

The VP then raises out of PolP, followed by Merge of T, and then Merge of a Laka-style Σ head which attracts PolP to its specifier and T to its head. Ellipsis of the lower part of the structure gives the required result:

(7)
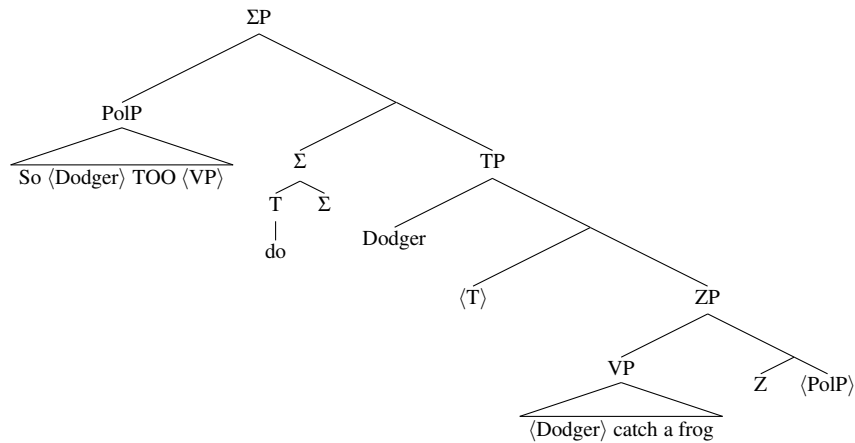
The analysis neatly extends to the *neither*-inversion cases, on the assumption that Pol contains negation, and *either* starts in Foc and raises to negation to give *neither*.

Elegant as this proposal is, it faces linked theoretical and empirical problems. If the subject raises to a Focus projection just outside VP, what then allows it to violate Improper Movement and raise to the case position SpecTP? Connected to this, what stops an object from raising to the Focus projection, then further to SpecTP, with the case feature on the unmoved subject deleted by ellipsis? This would incorrectly predict:

(8) a. Lilly caught a frog
     b. So did a mouse (= She also caught a mouse)

A further issue is that, as noted by Culicover & Winkler (2008), it is possible in *so/neither*-inversion to have a string of auxiliaries. Culicover and Winkler give examples like the following (I have removed their marking of focus stress):

(9) a. As the pyramid rose, the working space would have diminished, of course, and **so** *would have* the number of teams that could simultaneously work atop it...
     b. His hair was light, and **so** *would have been* his complexion, had it not been burned red by exposure to the hot sun of the tropics...

In Wood's analysis, the inversion over the subject is achieved by T-to-C type movement. In order to accommodate examples like (9), the whole string of auxiliaries would have to be inside PolP, including the finite auxiliary. But the presence of *do*-support in these inversion constructions militates against this move.

3   An ellipsis account of Gaelic

The Scottish Gaelic construction suggests an alternative analysis. I'll assume the analysis of Gaelic clause structure in (11) (e.g., Adger 2007):

(10)   Cha do   ghlac   Lilly losgann
        Neg PAST catch.PAST Lilly frog
        'Lilly didn't catch a frog.'

(11)
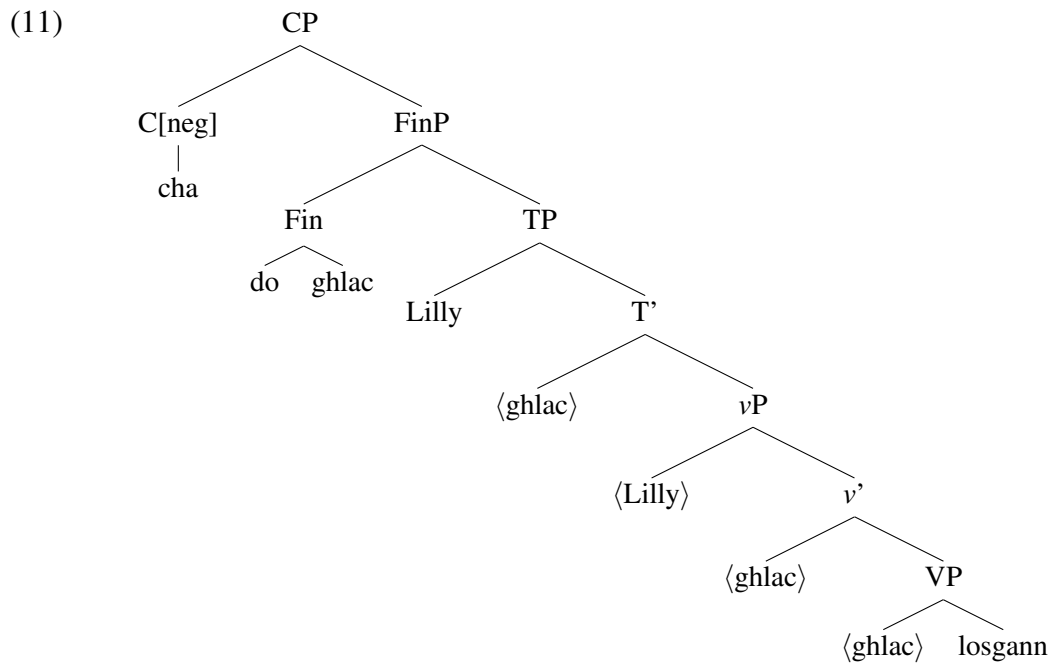
The V raises to *v* then T then to Fin, with negation in C. The particle *do* is a marker of finiteness that agrees in tense with T.

I propose to take the presence of the conjunctions in the Gaelic additive response at face value, and suggest that the Gaelic structure is to be analysed as a TP coordination. One concrete option for deriving (12) under such assumptions is (13):

(12)   Cha do   ghlac   no Dodger
        Neg PAST catch.PAST or Dodger
        'Neither did Dodger.'

(13)

```
                                    CP
                    _____
                   /                                   \
              C[neg]                                  FinP
                 |                    _____
               cha                   /                                 \
                                   Fin                                ConjP
                                  /   \                 _____
                                 do   ghlac            /                                 \
                                                      TP                                Conj'
                                              _____            _____
                                             /           \          /                           \
                                    Lilly ⟨ghlac⟩ losgann           no                        FocP
                                                                              _____
                                                                             /                       \
                                                                         Dodger                      TP
                                                                                             _____
                                                                                            /           \
                                                                                       ⟨ghlac⟩ losgann
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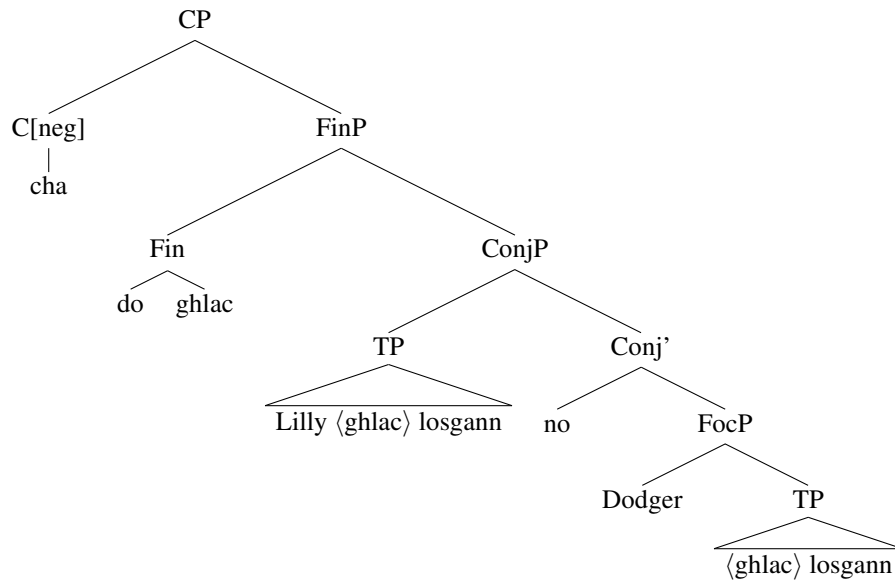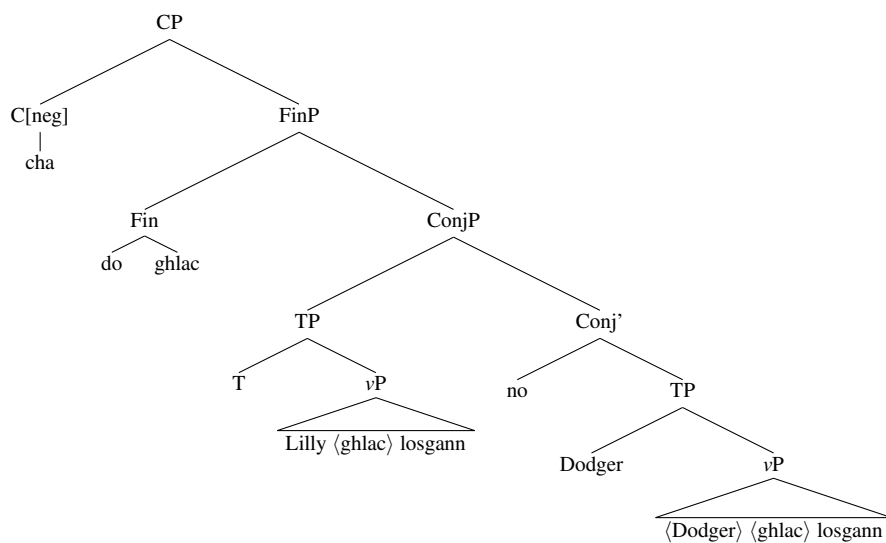
Here we have ATB movement of the verb to Fin, followed by ellipsis of TP in both conjuncts. If we are to elide TP in both cases, then a further movement of the subject to escape the ellipsis in the right hand conjunct is required (see Thoms 2016 for a proposal from a different area of Scottish Gaelic grammar that this is necessary).

An alternative to (13), that does not involve focus movement, is that the subject doesn't raise to a case position in the left hand conjunct, and what is elided in both cases is *v*P:

(14)

```
                                       CP
                       _____
                      /                                  \
                 C[neg]                                 FinP
                    |                 _____
                  cha                /                                   \
                                   Fin                                 ConjP
                                  /   \                 _____
                                 do  ghlac             /                                 \
                                                      TP                                Conj'
                                                 _____            _____
                                                /          \          /                           \
                                               T          vP         no                          TP
                                                      _____                        _____
                                                     /          \                      /                   \
                                            Lilly ⟨ghlac⟩ losgann               Dodger                     vP
                                                                                                 _____
                                                                                                /                   \
                                                                                      ⟨Dodger⟩ ⟨ghlac⟩ losgann
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In fact, there is good independent evidence that the movement of a subject to the specifier of TP in Scottish Gaelic and in Irish is not triggered by T, but rather by the case requirements of the noun. In certain circumstances, such as unaccusatives, the specifier of TP remains unfilled when the subject is case-licensed low (McCloskey 1996, Adger 2000). For example:

(15)   Chaidh aig Daibhidh air sin a   dhèanamh
       go.PAST at David   on that PRT do.VN
       'David managed to do that.'

Here the past tense form of the verb meaning 'go' lacks a structural subject. Its thematic subject appears in a PP. McCloskey and Adger show for Irish and Gaelic respectively that such PPs are low in the structure, and that the specifier of TP is unfilled. If this proposal is correct, then ellipsis of the entire *v*P may include the subject. It does so in the leftmost TP, but in the rightmost TP the subject raises to the specifier and is pronounced.

If there were Focus movement in these constructions, the same problem as I pointed out above with respect to Wood's analysis of English raises its head: what would prevent the object moving to the focus position, with ellipsis then deleting the subject? This derivation would give the following kind of additive response.

(16)   a.   Cha do ghlac   Lilly losgann
            Neg PAST catch.PAST Lilly frog
            'Lilly didn't catch a frog.'
       b. *Cha do ghlac   no luchag
            Neg PAST catch.PAST or mouse
            for 'Nor did she catch a mouse.'[1]

I'll assume, therefore, that the subject following the conjunction in Gaelic is higher than the ellipsis site, while, in the leftmost TP, it is lower.

The same analysis might be tentatively extended to the Japanese examples:

(17)   a.   Mari-wa kaeru-o tsukamae-ta
            Mari-TOP frog-ACC catch-PAST
            'Mari caught a frog.'

[1] The (b) response here is marginally possible, but, as far as I have been able to determine, it has the intonational structure of two distinct utterances. The first *Cha do ghlac* is a negative agreement, then there is a second utterance which has the flavour of an afterthought. The meaning of the response is not, then, 'Neither did she catch a mouse', but it is rather something more like 'No (I agree). Nor a mouse.' I will assume that this has a different analysis to the additive responses under discussion here, though if it could be unified with them, then the Focus movement analysis would be available.

      b.   Erika-mo tsukamae-ta
            Erika-ALSO catch-PAST
   'So did Erika.'

As in Gaelic, the finite V is external to the VP, as is the subject. The particle *mo* serves as a conjunction, with the subject *Erika* external to the ellided VP in one of the coordinated constituents (I leave open wither this is TP or a smaller constituent). The verb has ATB moved out of the coordinated structure:

(18)   [$_{XP}$ Erika [$_{VP}$ kaeru t$_V$] mo [$_{XP}$ [$_{VP}$ Mari kaeru t$_V$]] tsukamae-ta]

This suggestion, that there is one subject that stays low, while another raises high, is, of course, independently motivated for English by Johnson (2009), though the ellipsis operation at play in Gaelic is at the *v*P rather than the VP level. With this idea, and our discussion of Gaelic in hand, let's return to English inversion.

4   Inversion in English is ellipsis

We can think of the English cases as almost identical to the Gaelic ones, with *so/neither* being in C, and a null conjunction coordinating TP:

(19)
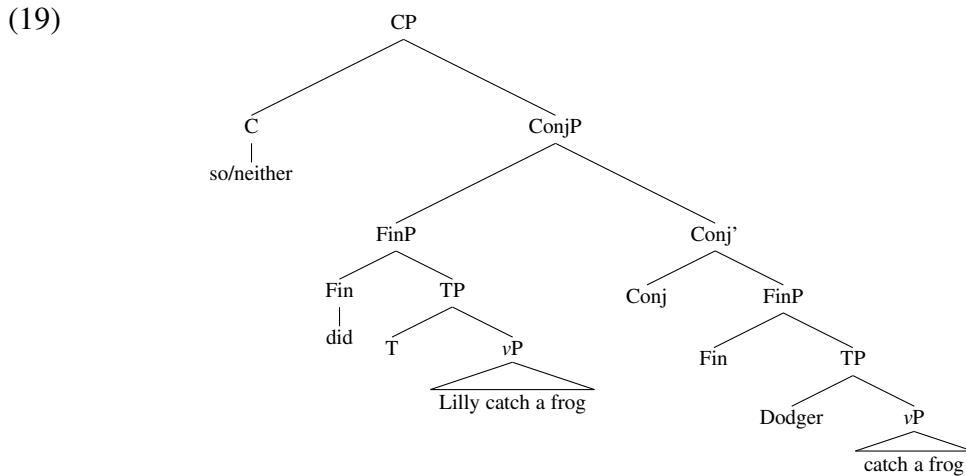
    Just as in Gaelic, the subject in the leftmost TP stays low, and the *v*P is ellided. I'll take no stance on whether the conjunction starts in Conj and raises to C, or whether it is null and there is some type of agreement relationship.
   The impossiblity of embedding these constructions suggests *so/neither* is in C.

(20)   a.   I think that Lilly caught a frog.
        b. *I think that so did Dodger.

In addition, this analysis does not suffer from the Improper Movement problem that besets Wood's proposal, nor does it have the associated problem of Focus movement allowing non-subjects. Further, given that the ellipsis applies to *v*P, we actually predict the existence of strings of auxiliaries.

(21) a. Lilly would have caught a frog.
      b. and so would have Dodger.

(22)
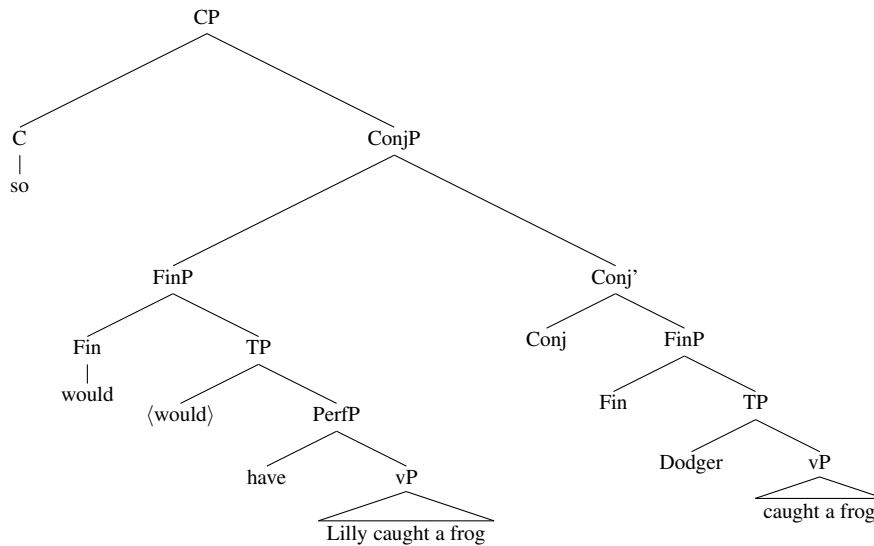
5 Conclusion

So/neither-inversion turns out not to be inversion of the familiar sort (T to C movement triggered by the element in the specifier of CP). Rather, the interaction of conjunction, ellipsis and ATB movement, in a way reminiscent of Johnson's proposal for gapping, provides a unified analysis of apparently quite different additive response constructions constructions in English and Gaelic.

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