Limits on P: *filling in holes* vs. *falling in holes*

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1. Different patterns in South and North

The starting point for this investigation is a parametric difference running between two groups of Germanic languages. German and Dutch, and as far as I can tell also Yiddish (exx. here from Talmy 1985) and Afrikaans (exx. from Donaldson 1993:228, 357), have separable prefix constructions of the types illustrated in (1-4) (the German exx. are from Zeller 2001a).

(1)   a.   Ix hob arayn-geschtoxn a dorn in ferd.   (Yiddish)
          I have R.in-stuck   a thorn in horse
          'I have stuck a thorn in a horse'

      b.   Ix hob ayn-geschtoxn dos ferd mit   a dorn.
          I   have in-stuck   the horse with a thorn
          'I have stuck a horse with a thorn'

(2)   a.   Er lädt   die Koffer ab.   (German)
          he loads the suitcases off
          'He loads off the suitcases'

      b.   Er lädt   den Gepäckwagen ab.
          he loads the baggage.cart off
          'He unloads the baggage cart'

(3)   a.   Ik paste een nieuwe jas   aan.   (Dutch)
          I fit   a   new   jacket on
          'I'm trying on a new jacket'

      b.   Jan kleedde zijn zoontje aan.
          Jan clothed his son   on
          'Jan dressed his son'

(4)   a.   ...die hef   van 'n mes uitsteek   (Afrikaans)
          the handle of   a knife out.stuck
          '...the handle of a knife stuck out'

      b.   Hy storm die huis   uit.
          he storms the house out
          'He storms out of the house'

Ignoring differences in word order, English and the Scandinavian languages generally have verb-particle constructions of the type

corresponding to the (a) examples above, but not the (b) type. This is illustrated in (5)–(8).

(5) a. Kan du ställa in mjölken i kylskåpet?   (Swedish)
         can you put   in the.milk in the.refrigerator
         'Could you put away the milk in the refrigerator?'

     b. * Kan du ställa in kylskåpet   (med mjölk)?
         can you put   in the.refrigerator with milk

(6) a. Han tog frakken   av.   (Danish)
         he   took the.coat off
         'He took his coat off'

     b. * Han tog barnet   av.
         he   took the.child off

(7) a. They tried a saddle on.

     b. * Mary saddled her horse on.

(8) a. Handtaket på en kniv stakk ut.   (Norwegian)
         the.handle on a knife stuck out
         'A knife handle stuck out'

     b. * Han stormet huset   ut.
         he   stormed the.house out

Thus, (5b) is ungrammatical on the intended reading that something be put in the refrigerator, (6b) is ungrammatical on the reading that something be taken off the child, (7b) is ungrammatical on the reading that a saddle be put on the horse, and (8b) is also ungrammatical, in contrast to (4b). Scattered examples of the (b) type can be found in these languages, but the overall pattern is that indicated.

For convenience, I will refer to German, Dutch, Yiddish, and Afrikaans as West Germanic (WG), and to Scandinavian and English as North Germanic (NG), despite the fact that English is a West Germanic language in the historical sense.

In this paper, I argue that this basic difference between WG and NG displayed above has to do with licensing possibilities for DPs inside the maximal projection of the prepositional particle.

2. Figure and Ground

A preposition typically relates two entities in a spatial configuration. I adopt from Talmy 1978 the terms Figure and Ground for the two entities: the Figure is the entity in motion or at rest which is located with respect to the Ground; the Figure is sometimes called the 'locatum.' The Ground is

typically a location with respect to which the Figure is located. The examples in (10) show both Figure (object) and Ground (complement of preposition).

(10) a. The helicopter flew the firefighters up the mountain.
      b. The cook twisted the lid off the jar.
      c. The police will fire tear gas in the window.

In the examples in (11), the Ground is left unexpressed, but the meaning is otherwise identical to that in (10).

(11) a. The helicopter flew the firefighters up.
      b. The cook twisted the lid off.
      c. The police will fire tear gas in.

Such examples allow particle shift in English (as in Norwegian and Icelandic).

(12) a. The helicopter flew up the firefighters.
      b. The cook twisted off the lid.
      c. The police will fire in tear gas.

The examples in (13) show only a Ground argument (cf. (10)).

(13) a. The helicopter flew up the mountain.
      b. The cook twisted off the jar.
      c. The police will fire in the window.

In these examples, the meanings are slightly different from those in (10). In (13a), 'up the mountain' is understood as the path of the helicopter, not of its cargo as in (10a); in (13b), the jar is understood as coming off of something else, rather than the meaning in (10b); thus, the jar is the Figure rather than the Ground, in the only sensible interpretation of (13b). In (13c), the meaning is similar to that of (10c), with the Figure left unexpressed.

(14) a. * The helicopter flew the mountain up.
      b. The cook twisted the jar off.
      c. * The police will fire the window in.

Only (14b), where the jar can easily get a Figure reading, is acceptable. In the sentences where the DP is interpreted as the Ground, the DP–P order is impossible, as P is a preposition rather than a particle.

The data illustrated in (10)–(14) is consistent with the generalizations in (15) (discussed at greater length in Svenonius 1994b).

(15) a. The complement to P is a Ground.
   b. The specifier of P is a Figure.
   c. P with a Figure only (and no Ground) is a particle.
   d. P with a Ground is a preposition.
   e. A particle may undergo Particle Shift, a preposition may not.

Consider also the fact that a P element places selectional restrictions on its Ground, but not on its Figure. Thus, *on* takes a Ground which is construed as a surface, while *in* takes a Ground which is construed as a container. No such restrictions apply to the Figure.

(16) a.   There was a fly on the wall.
   b. ?? There was a fly on my soup.
   c. ?? There was a fly in the wall.
   d.   There was a fly in my soup.

See Talmy 2000 for additional discussion. Another fact about prepositions is that they may be lexically specified as obligatorily taking a DP complement, as with *of*, optionally taking a DP complement, as with *in*, optionally taking a PP complement, as with *out*, or taking no complement, as with *upstairs* (cf. Emonds 1985 for discussion).

(17) a. The flies were of *(one mind).
   b. Dazzling shirts were in (fashion).
   c. We ran out (of chocolate sauce).
   d. We ran upstairs (*of the house).

The selectional restrictions illustrated in (17) do not apply to the Figure argument. If there is a Figure in a verb-particle construction, it is a DP, or possibly a clause, as in (18c); but the particle does not place selectional restrictions on the DP, for example *out* in (18) does not require *of*.

(18) a. We figured the riddle out.
   b. We figured out the riddle.
   c. We figured out that he was kidding.

In languages with morphological case, prepositions also determine the case of their complement. This is not true of the Figure. The case of the Figure is generally determined by the verb, as indicated in (19)–(20). In (19), the verb *bera* 'carry' takes accusative, whether combined with a particle or not;

and in (20) the verb *fylgja* 'follow' takes dative, regardless of the presence of the particle.

(19) a.   Við erum að bera blöð.   (Icelandic)
          we are   to carry newspapers.ACC
          'We are carrying newspapers'

      b.   Við erum að bera blöð   út.
          we are   to carry newspapers.ACC out
          'We are delivering newspapers'

      c.   Við erum að bera út blöð.
          we are   to carry out newspapers.ACC

(20) a.   Hann fylgdi   mér   á stoppistöðina.   (Icelandic)
          he   followed me.DAT to the.bus.stop
          'He accompanied me to the bus stop'

      b.   Hann fylgdi   málinu   fram.
          he   followed the.goal.DAT forth
          'He pursued the goal'

      c.   Hann fylgdi   fram málinu.
          he   followed forth the.goal.DAT

In some cases the verb plus particle combination assigns a different case from that of the verb alone, but even then the case is dependent on the combination, not on the particle alone. Thus, for example, *loka* 'shut' assigns dative ordinarily, and *inni* 'inside' is not case-assigning; but the combination *loka inni* 'shut inside' assigns accusative.

(21) a.   Ég lokaði dyrunum.   (Icelandic)
          I shut   the.doors.DAT
          'I shut the door'

      b.   Ég lokaði hundinn   inni.
          I shut   the.dog.ACC inside
          'I shut the dog inside'

The data illustrated in (16)–(21) is consistent with the generalizations in (22) (cf. Svenonius 1994a and references there on c-selection).

(22) a.   P c-selects the Ground.

      b.   P does not c-select the Figure.

The close relationship between P and the Ground on the one hand, and the more distant relationship between P and the Figure on the other, is reminiscent of the asymmetric relationship a verb has with its two canonical arguments, the Agent and Patient, or Actor and Undergoer (cf.

Marantz 1984). In other words, the Figure is the 'external' argument of the preposition.

3. The Split P hypothesis

Kratzer (1996) and others have argued, based on the indirect relationship between V and the Agent, that the Agent be introduced by a distinct head, usually known as v in recent literature. The transitive head v takes the lexical VP as its complement. In an unaccusative verb, v is absent or inert. The same logic motivates a splitting up of the prepositional projection: p takes PP as its complement. Various people have argued for a functional head dominating PP for a variety of reasons (Riemsdijk 1990, Rooryck 1996, Koopman 2000, Zeller 2001a).

Thus, the full structure of the 'transitive' PP in (23) is minimally as in (24) (though there might be more structure).

(23) a. We loaded hay on the wagon.

 b. Vi lastet høy på vognen.   (Norwegian)
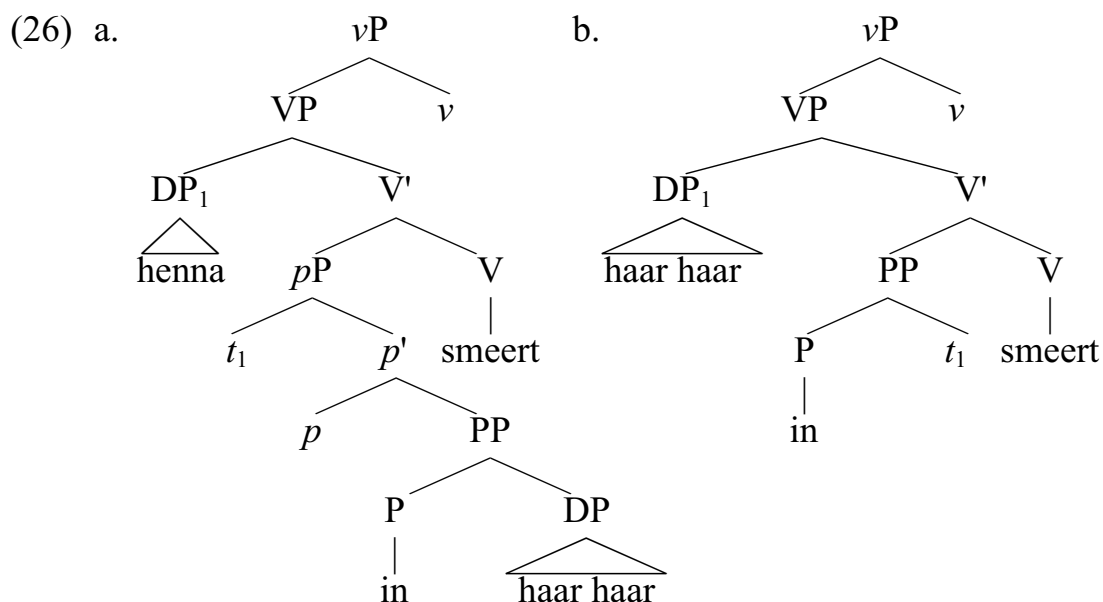 *we loaded hay on the.wagon*

(24) a.
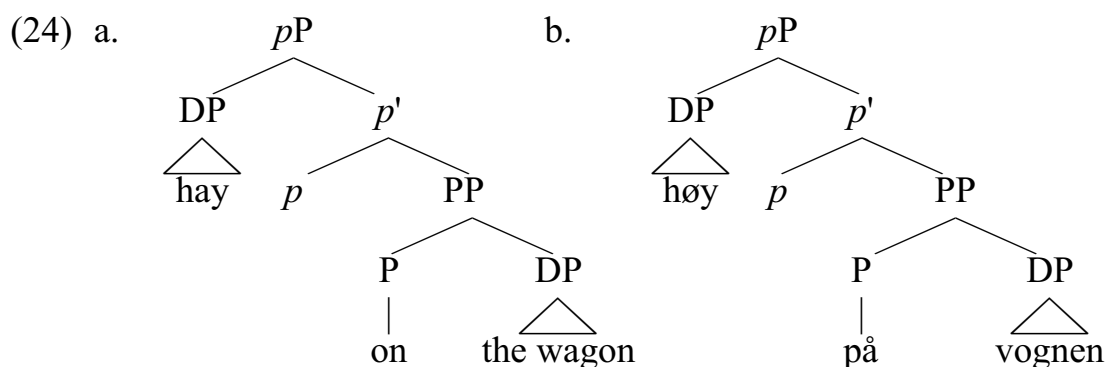
Overt manifestations of p which could be inserted in these structures may be *to* in English (with P incorporated in *into*) and *opp* in Norwegian (without movement: *opp på vognen* 'up on the wagon'). However, these might also represent higher heads, e.g. Koopman's (2000) *Path*.

It has been argued (e.g. Travis 1992) that v in the verb phrase is responsible for the assignment of case to the object; this captures Burzio's Generalization that there is a connection between the external argument and accusative case. I have argued (Svenonius 2001, Svenonius 2002a, Svenonius 2002c) that case is not assigned by v per se, but by the combination of v and V. On either conception, the idea is that unaccusatives do not have v, or have a defective one. Note that the DP which gets case from v (or v–V) in (23)–(24) will be the Figure, 'the hay.'

By the same token, it can be assumed that if the *p* projection is missing, then the preposition will be unable to assign case, although P may introduce a Ground argument. The argument will be reliant on the verbal projection for case. I suggest that this is what is going on in the WG (b) examples in (1)–(4). In each of those examples, if the Figure is expressed, it is expressed in a PP adjunct. Thus, these examples are consistent with the complete absence of a *p* projection, as sketched in (25)–(26).

(25) a. Ingrid smeert henna in haar haar.   (Dutch; van Hout 1998:48)
          Ingrid smears henna in her hair
          'Ingrid smears henna in her hair'

    b. Ingrid smeert haar haar in (met henna)
        Ingrid smears her hair in with henna
        'Ingrid greases her hair (with henna)'

(26) a.

```
                vP
              /    \
           VP        v
          /  \
       DP₁     V'
       /\      /  \
    henna    pP    V
            /  \    |
          t₁    p'  smeert
               /  \
              p    PP
                  /  \
                 P    DP
                 |    /\
                 in  haar haar
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b.

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                vP
              /    \
           VP        v
          /  \
       DP₁     V'
       /\      /  \
  haar haar  PP    V
            /  \    |
           P    t₁  smeert
           |
           in
```

In the trees in (26) I depict the DP argument requiring case from the verbal domain as overtly raising to SpecVP. Depending on other assumptions about WG clause structure, this might be unnecessary, as the DP may move into a higher licensing position independently of the case requirements. Given the P–DP word order in the PP, the Ground in (26a) cannot be assumed to move to a Spec position, unless it pied-pipes PP when it does so, as in Koopman 2000.

Zeller (2001b) similarly argues that particles lack a layer of functional structure which enables prepositions to assign case, providing examples like those in (27).

(27) a. Peter hat sein Bier aus der Flasche   getrunken.   (German)
          Peter has his beer out the bottle.DAT drunk
          'Peter drank his beer from the bottle'
      b. Peter hat (*sein Bier) die Flasche   ausgetrunken.
          Peter has his   beer the bottle.ACC out.drunk

The structure of (27a–b) is identical to that of (25a–b) respectively, in important respects. However, I must deviate from Zeller's specifics regarding a layer above P present in the (a) examples in (1–4); I assume that in WG as in NG, the functional *p* layer is present in particles which project Figure arguments; these arguments are simply projected too high to get case from the preposition, much as unergative subjects are projected too high to get accusative case from the verbal projection. Thus Zeller's arguments for a layer of functional structure in PP suggest a layer distinct from the *p* layer countenanced here. See Zeller 2001a for further discussion, Svenonius 2002b and den Dikken 2002 for review.

4. Postpositions
Van Riemsdijk (1978, 1990) has shown that the constituent structure of circumpositions is as in (27a), and that postpositions such as that in (27b) may be analyzed as prepositional elements which have moved to the structurally superior postpositional position.

(27) a. [[auf mich] zu]   (German)
            on me.ACC to
          'towards me'
      b. meiner Meinung   nach
          my   opinion.DAT after
          'according to my opinion'

Van Riemsdijk uses the label *p* for the functional projection which dominates prepositional phrases; thus, in (27a) *auf* is P but *zu* is *p*. This is generally compatible with my assumptions here although if (27a–b) are to be derived by movement to a specifier position, as developed in detail by Koopman (2000), then there will have to be an additional projection as I am assuming that the specifier of *p* is a position for the Figure.

Van Riemsdijk has shown that postpositions are very much like particles. In particular, they may remain close to the verb in Verb Raising phenomena, and they are not subject to the Dutch constraints on prepositions for PP extraction. Verb Raising phenomena are illustrated in (28) (from van Riemsdijk 1978:97–98): the particle may appear with its associated verb, as in (28a), or separated from it by restructuring verbs like 'try,' as in (28b). The same is true for a postposition, as shown in (28c-d).

(28) a.   omdat hij de tandarts probeerde op te bellen   (Dutch)
           because he the dentist tried   up to ring
           'because he tried to call up the dentist'

    b.   omdat hij de   tandarts op probeerde te bellen
           because he the dentist up tried   to call

    c.   omdat   hij de boom in probeert te klimmen
           because he the tree   in tries   to climb
           'because he tries to climb into the tree'

    d.   omdat   hij de boom probeert in te klimmen
           because he the tree   tries   in to climb

The possibility of separating a DP from its particle is illustrated in (29b), where the object of the particle verb has moved to the left of the PP 'with care.' The same possibility is illustrated for a postpositional object in (29c–d) (exx. from van Riemsdijk 1978:100).

(29) a.   omdat hij   met zorg het kadootje in pakte   (Dutch)
           because he with care the present   in packed
           'because he wrapped the present with care'

    b.   omdat hij het kadootje met zorg in pakte
           because he the present with care in packed

    c.   omdat   zij   na   een grote ruzie het huis   uit ging
           because they after a   big   row   the house out went
           'because they went out of the house after a big row'

    d.   omdat   zij het huis   na   een grote ruzie uit   ging
           because they the house after a   big   row   out went

Thus there is very little syntactic evidence to distinguish the preverbal Ps in (28a–b) and (29a–b) ('particles') from the ones in (28c–d) and (29c–d) ('postpositions'). Van Riemsdijk seems to be relying on the idiomaticity of their combined meaning with the verb; in the terms of the present analysis, idiomaticity does not bear directly on structures. What does have a bearing is whether an argument is essentially a Figure or essentially a Ground. In (29a–b) the internal argument is fairly clearly a Figure (cf. *pack the present in giftwrapping*), whereas (28a–b) is less clear; since it has parallels in NG (e.g. English *call up*), I assume the argument is a Figure there as well. Case-assigning postpositions have Ground arguments, but in the absence of *p*, their syntactic properties will often be similar to the Figure-assigning particle, thus will be an 'unaccusative' sort of particle, the (b) examples in (1–4).

    Van Riemsdijk argues that postpositions are not structurally identical to particles, mainly based on the occasional possibility of moving a

DP–Postposition constituent, never available for DP–Particle, and the possibility of postpositions with nouns, not available for particles, as illustrated in (30) (from van Riemsdijk 1978:96).

(30) a. Die tippel de berg op was erg vermoeiend. (Dutch)
    that hike the mountain up was very tiring

  b. * Dat gebel mij op moet nu maar eens afgelopen zijn.
    that calling me up must now just once finished be

I take the data in (30a) to indicate that a path-denoting N can combine with a P to license case on a DP with a path or directional meaning. A nominalized verb, on the other hand, does not license case in Dutch, as suggested by (30b). As for the displacement examples, I follow van Riemsdijk in assuming that they involve *p*Ps, just like circumpositions but with no overt P. Consider van Riemsdijk's pair in (31).

(31) a. ? omdat hij absoluut de berg af mee wilde rijden (Dutch)
    because he absolutely the mountain off with wanted ride
    'because he absolutely wanted to drive along down the mountain'

  b. omdat hij absoluut mee wilde rijden de berg af
    because he absolutely with would ride the mountain off

If such examples involve *p*P, on my analysis, in contrast to (28d) or (29d), which must involve 'unaccusative' P, then (31b) must have an external argument for *p*. This could be either a PRO subject of 'ride,' in (31b), or the entire *v*P, depending on other assumptions.

Concluding, particles and postpositions in Dutch (and judging from Donaldson 1993 and Zeller 2001a, also Afrikaans and German) are essentially distinguished by the identity of the head introducing a single argument: if P, the resulting configuration is called a postposition; and if *p*, a particle. Whether the lexical head (e.g. *in*) originates in P or *p* is open to question.

5. Non-projection of *p* in NG

The badness of the (b) examples in (5)–(8) in §1 suggests that the structure in (26b) is not generally available in NG; in other words, P necessarily projects pP. This is not necessarily obvious. Consider examples like those in (32).

(32) a. The professor thought about philosophy.

  b. She stabbed at the meat.

  c. The conquistadors followed the river into the jungle.

The question in such cases is what the external argument of the preposition might be. I will not attempt to answer such hard questions here, but will simply focus on directional-type cases (assuming locatives to be predicated of the event, perhaps with a syntax similar to that in Barbiers 1995). Consider the impossibility of projecting PP without a Figure in the examples in (33).

(33) a. Would you put *(the groceries) in the refrigerator?
     b. They poured *(beer) in the glass.
     c. We set *(silverware) on the table.
     d. We loaded *(suitcases) off the baggage cart.

These examples contrast minimally with those in (34).

(34) a. They stole (money) from the rich.
     b. He drank (beer) out of the glass.
     c. She unpacked (the clothes) from the bag.
     d. We parked (the car) in the garage.

The examples in (34) are all independently object-drop verbs. I assume that the PPs in these cases are predicated of the event, perhaps in one of the ways sketched by Gawron 1986a, 1986b). Norwegian, in contrast to English, allows structures corresponding to all of the examples in (33).

(35) a. Kan du sette (varene) i kjøleskapet?   (Norwegian)
        can you put   the.goods in the.refrigerator
     b. De hellte (øl) i glasset.
        they poured beer in the.glass
     c. Vi dekket (bestikk) på bordet.
        we covered silverware on the.table
     d. Vi lastet (kofferter) av bagasjetrallen.
        we loaded suitcases off the.baggage.cart

Particle shift is not possible here (*...*sette kjøleskapet i*).

     The missing objects in these cases are understood contextually, subject to restrictions very much like those on conventional object-drop verbs like the ones in (35) (e.g. *eat* without an overt object cannot mean 'eat medicine,' and *dekke på bordet* in (35c) cannot mean 'cover the table with a sheet'). However, unlike the situation in (34), the verbs in (35) are not object-drop, and are ungrammatical without any complement. A plausible initial assumption would be that Norwegian licenses object *pro* in these cases; but that would fail to account for the fact, illustrated in (36), that the constructions in (35) which lack overt Figures contrast with those which

have them. This can be seen when, as in (36), the P used is not a case-assigner (in traditional terms).

(36) a. De pakket klærne   ut *(av) sekken.   (Norwegian)
          they packed the.clothes out of   the.bag

      b. De pakket ut (av) sekken.
          they packed out of   the.bag

      c. Hun tømte   vin ut *(av) glasset.
          she   emptied wine out   of   the.glass

      d. Hun tømte   ut (av) glasset.
          she   emptied out of   the.glass

What (36) shows is that the case-assigning properties of *ut* change when the external argument is suppressed, exactly as expected on the account here, as *p* is implicated both in the thematic presence of the Figure and the case of the Ground. The difference is masked in (35) because overt differences in case assignment are few in Norwegian.

It should be noted that English has a few examples which superficially look like instances of Figure supression.

(37) a. We wiped (dust) off the table

      b. They rinsed (dirt) off the salad.

      c. We wiped the table off.

      d. They rinsed the salad off.

However, when the Figure is absent these constructions show particle shift, as indicated in (37c–d). I believe that *off* in these constructions takes a Figure in any case, but that the flexible meaning of *off* in the context of cleaning allows the Figure to be an affected surface. Contrast this with the Norwegian cases shown in (38) (not only do the Icelandic and Faroese counterparts of (38b, d) fail to undergo particle shift, but they also show the case expected of the preposition, as noted in Svenonius 1996).

(38) a. Vi tørket {av} støvet {av}.   (Norwegian)
          we dried   off the.dust off
          'We wiped off the dust'

      b. Vi tørket {av} bordet {*av}.
          we dried   off   the.table off
          'We wiped off the table'

      c. Hun drakk {ut} vinen {ut}.
          she   drank out the.wine out
          'She drank up the wine'

    d.   Hun drakk {ut} glasset {*ut}.
        she   drank out the.glass out
        'She emptied the glass'

Another case in point is (39).

(39) a.   I filled in the hole.
      b.   I filled the hole in.
      c. * I filled clay in the hole.

Semantically, it would seem that the postverbal noun phrase in (39a) is a Ground; after all, something goes into the hole. If it is a Ground, this is a direct counterexample to my claim that English lacks such structures, since (39a) undergoes particle shift, as shown in (39b). However, it resists an overt expression of Figure, as illustrated in (39c). Finally, note that other verbs do not allow this pattern (*I poured in the hole*, *I flung in the hole*). Of course, Ground arguments with *in* are licit, e.g. with object-drop verbs (cf. (34)) or unaccusatives (cf. (40a)), but only when *in* is a preposition, resisting particle shift (cf. (40b)).

(40) a.   I fell in the hole.
      b. * I fell the hole in.

I suggest that the collocation *fill in* has been idiomatized to the point where the postverbal noun phrase is actually a Figure, meaning that the particle in in this idiom means something like 'full.'

    Thus, I conclude that Norwegian, like WG but unlike English, allows p to be left out of certain V–P combinations; but that when it does so, a higher head is available to combine with P in order to license case on the Ground argument. This is quite likely to be related to the possibility, in Norwegian, of forming pseudopassives. In WG, when p is absent, there is no case available in the prepositional projection, and the Ground is completely dependent on the verbal projection (v–V) for case.

    Since Koopman 2000 has postulated a higher head in the WG prepositional phrase for the landing site of the PP in circumpositional and postpositional phrases, I conclude that additional structure is available in both WG and NG. The additional structure, call it Path (one of several that Koopman postulates), is relevant for case in structures like those in (35)–(36) and (38), but only when p is absent; in other words, p is the usual activator of P case in Norwegian. In English, p is obligatory, it seems, since constructions of the sort in (33) always require a Figure argument.

5. Conclusion

What I hope to have motivated here is both the existence of a point of parametric variation and an analysis of it. The parametric difference has to do with the presence in WG of particle constructions in which the single internal argument is the Ground rather than the Figure of the particle (§1).

The analysis starts with the observation that the category P shows an argument-structural asymmetry which lies at the heart of the adposition/particle distinction (§2), and the claim that this asymmetry can be seen in terms of a split pP (§3), in which the exceptional Ground-oriented particle verbs of WG can be understood as lacking the p projection. I suggested that this was not possible in English. In Norwegian, on the other hand, it seems that it is possible to omit p, but when p is omitted another licenser is available from the verbal domain to license case within PP.

I have not speculated about why this option is available to Norwegian and not to English. Possibly it has to do with the freer case licensing possibilities that Norwegian has (cf. e.g. Åfarli 1992 on passive not absorbing case in Norwegian; Åfarli takes this as a difference in the passive, but it might be seen as a difference in case assignment possibilities in general, given, e.g. the different possibilities for licensing associates in impersonal constructions in Norwegian).

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