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Asymmetries between verbal arguments not involving the subject, especially with respect to idiom formation

Personal Introduction

As undergraduate students, some of us had difficulty understanding the intricate sort of writing that, initiated by Chomsky (1981), was fashionable in the eighties among hard-core generativists. We were baffled by the articles which we read in Eric's class. These seemed to allow of several interpretations, and their scientific interpretation and esthetic appreciation depended on covert hierarchies of plausible or pleasing assumptions, which were unknown to us. Small wonder then that we were attracted to well-written, or at least understandable, articles composed by generative dissenters presenting a theory of grammar in which the role of tree structures was seriously downplayed. They backed this up empirically with facts from exotic languages which didn't seem to exhibit subject-object asymmetries. So why bother to have a VP, if you could hang all verbal dependents and sentential modifiers directly below S? Nowadays a category more or less doesn't frighten us anymore (IP … AgrP … CP … ForceP … WhateverP?).

Thus, we had several discussions with Eric in class on the nature of the evidence in favour of subject-object asymmetries, especially since the *that-trace* effect, being absent in Dutch, seemed to us no more than the overrated quirk of that exotic language English. One of the arguments Eric came up with in favour of distinguishing a VP in other languages than English, was the subject-object asymmetry in idioms, and he referred me to Marantz' (1980) dissertation about this subject, which I avidly read for my master thesis.

For my master thesis, I attempted to fit the VSO word order of Jacaltec, a Mayan language described by Craig (1977), into the framework of Government & Binding. After experimenting with some of the easy going but relatively uninsightful anti-structural accounts, I finally chose the hard formalism of Zubizareta & Vergnaud (1982) in order to explain how a syntactic category could locally display a mix of asymmetrical and symmetrical properties.

I had abandoned soft anti-structural linguistics, but Eric didn't know it yet. He still had me tacked down as a soft linguist who was toying with uninteresting grammatical theories. The draft of my thesis (Hoekstra 1985) was a pleasant surprise to him. Not only was it well written and argued (I'm just being modest here), but the formalism of Zubizareta & Vergnaud appealed to Eric's mathematical turn of mind. For you must know, that he had studied mathematics for a year, before becoming a linguist. As a residue of that side-interest of his, he regularly gave a class on the subject of algebraic linguistics, in which indolent students of mathematics mixed with horrified uncomprehending students of linguistics like myself.

Anyway, Eric was enthusiastic about the draft of my master's thesis, For the first time, I got compliments from him. I was immensely proud of that. My rite of passage was completed: I had become a hardcore, hard-boiled generativist grammarian.

In my dissertation, I investigated several subjects, one of which was the hierarchical structure inside VP. Knowing that idioms provided a clue about D-structure (thematic structure, semantic relations), I superficially charted the facts of idiom formation involving VP-internal arguments in the form of DPs (NPs) and PPs. Since almost all attention went to subject-object asymmetries, scant attention was paid at that time to what was going on inside the VP with respect to idiom formation, though some attention had been paid to facts involving subextraction and binding

I choose to reproduce the part of my dissertation dealing with this subject, since it reminded me of my early, somewhat hesitant career as a linguist, in which Eric Reuland was the principal influence on my linguistic thinking. Through his classes and teaching, I got to understand the two strong points of generative grammar.

The first strong point of generative grammar is its immense empirical success. Take an arbitrary generative article: it usually contains a wealth of example sentences, of weird phenomena, of unheard-of generalizations. Generative grammar has opened up new worlds of facts of language. Eric often tried out sentences on us, thus teaching us to marvel at the mystery of language. The first thing I remember from him is that he tested for the perfect participle of *zullen* 'shall', *gezuld*, which for some reason is hardly ever used in Dutch. Its Frisian counterpart is used more often in Frisian, and I think Eric became aware of this after he had learned some Frisian from his wife.

The second strong point of generative grammar is its undaunted imagination when it comes to exploring possible theories describing / explaining linguistic facts. This imagination is bridled only by a strong adherence to Chomsky's work.

Like an octopus, I have many turns of mind, one of which is philosophical. As a philosopher I think that a sense of wonder is an essential part of a scientist's psychological mindset, and that it gives one an indispensable openness and unconventional frankness when it comes to evaluating new theories presenting new insights into (linguistic or otherwise) reality. In my opinion, this is what objectivity primarily amounts to: not only a methodological requirement, but first and foremost a psychological one. It is a pleasure having experienced and learned all this as a student participating in Eric's inspiring classes.

Selections dealing with idioms and related matters from *Licensing Conditions on Phrase Structure* (85-94, 102-118, diss, U. of Groningen, 1991)

4.4.2. Idioms and the D-structure of double objects

Marantz (1980:49) notes that "just about every simple transitive English verb expresses a wide range of predicates depending on the choice of direct objects". To illustrate, consider examples like the following:

(42) a. NP throw a party/throw a fit
      b. NP take a nap/take a bus
      c. NP kill a conversation/kill an audience

The above examples may be considered to a greater or lesser extent idiomatic. No such variation exists in the opposite direction; there is not a wide range of predicates depending on the choice of subject. To illustrate, consider cases like the following:

(43) a. the policemen threw NP
      b. cars killed NP

Here the meaning of the predicate is not affected by the choice of subject. This is a clear case of a subject-object asymmetry. Marantz' view is formulated here as follows:

(44) Idiom formation applies compositionally to theta-positions

The object is involved in compositional theta-role assignment to the subject. Hence, if idiom formation fixes one of the two arguments, then it must fix the object and not the subject.
        Consider now the following idioms involving double objects:

(45) a. Mary gave John a kiss / a bath / the creeps
      b. Mary showed John the door
(46) a. Marie gaf Jan een kus / een bad / de kriebels
          Mary gave John a kiss / a bath / the creeps
      b. Marie wees Jan de deur
          Mary showed John the door

As noted by Green (1974), Oehrle (1976) and others, double object idioms are of the following format:

(47) V   IO   *DO*

The italics indicate idiomatic formation. There is an important generalisation to be made:

(48) If one of the two object NPs is idiomatically fixed then it will be the direct object NP.

This generalisation holds for Dutch and English. To my knowledge, no language has ever been reported in the literature for which it does not hold. Conversely, we do not find cases in which the indirect object is idiomatically fixed while the direct object is free. As in Marantz' examples, the choice of direct objects yields a wide range of predicates: *give a kiss, give a bath,* etc. In

some cases the combination *V + DO* may even alternate with a simplex *V: give NP a kiss - to kiss NP, give NP a bath - to bathe NP*. On the other hand, no idiomatic examples are found like *give children NP, show people NP,* etc.

These examples fit in directly with the structure we are proposing. If idiom formation applies compositionally to arguments then the direct object will be fixed before the indirect object, because it is c-commanded by the indirect object. Given Marantz' idea that idiomatic fixation is sensitive to relative theta-position, we correctly predict that the direct object rather than the indirect object is lexically fixed. Those who hold the idea that the direct object is thematically higher than the indirect object face the problem of how to generalise over the subject-object asymmetry and the IO-DO-asymmetry.[9]

To conclude, the idiom argument disconfirms an approach in which the indirect object is lower in the tree than the direct object. Idiom facts tell us that the D-structure proposed by Den Dikken (1990b) is not the right structure for the dative alternation. However, there is evidence that the structure proposed by Den Dikken (in a simplified version) provides the right structure for locatives.

4.4.3. Idioms and the D-structure of locative and adjunct PPs

It is proposed, following Den Dikken (1990a,b), that the theta-position of locative PPs IS lower than that of the direct object (or the indirect object). Hence the prediction is that idioms in which the PP is fixed will be built on locative prepositions. The theta-position of adjunct PPs is higher than that of the direct object. Hence the direct object will be idiomatically fixed before a PP that is built on non-locative adjunct prepositions like *met* ("with"), *voor* ("for") and the like. To sum up, the following predictions are made:

(49) a. In NP PP idioms, either NP or PP may be fixed.
   b. If NP is fixed, the PP will be built on an adjunct P.
   c. If PP is fixed, the PP will be built on a locative P.

Below some examples of NP-PP idioms are presented in which the PP is fixed:

(50) NP – *PP* idioms
   a. iets aan de grote klok hangen
     something to the big clock hang
     "noise something abroad"
   b. iemand bij de neus nemen
     somebody at the nose take
     "pull somebody's leg"
   c. iemands naam door het slijk halen
     somebody's name through the mud take
     "defile somebody's name"
   d. iets in de groep gooien
     something in the group throw
     "talk to others about something"

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[9] I am not claiming that idiomatic elements must occur in their D-structure position. For instance, an idiomatic WH-element like "what the hell" must go to COMP, being a WH-element. However, this is independent of the fact that it is the D-structure position that is relevant for idiom formation. Thus it would not be an adequate counterargument to point out that certain idioms must obligatorily undergo movement rules (cf. Coopmans & Everaert 1988, Den Dikken 1990b).

e. iemand in slaap sussen
    somebody to sleep soothe
    "lull a person's suspicions"
f. iets naar de barre biesjes helpen
    something to the barren rushes help
    "spoil something"
g. to send someone to Coverntry / to the showers

The idioms above all involve locative prepositions (Coopmans & Everaert 1988).[10] The locative PP is thematically lower than the direct object. Hence idiom formation applies to the locative before it applies to the direct object (bottom-up), as predicted. Let us turn now to examples involving NP-PP idioms in which the direct object is fixed:

(51) *NP* – PP idioms
    a. de draak met iemand steken
        the dragon with somebody prick
        "make somebody ridiculous"
    b. gehakt van iemand maken
        mincemeat of somebody make
        "tear somebody to pieces"
    c. de hand voor iemand in het vuur steken
        put the hand for somebody in the fire
        "guarantee somebody's integrity"
    d. de kachel met iemand aanmaken
        the stove with somebody light
        "tear somebody to pieces"
    e. het hoofd met/over iets breken
        the head with/about something break
        "think hard about something"
    f. het hoofd aan iets bieden
        the head to something offer
        "put up resistance against something"
    g. een open oor voor iets hebben
        an open ear for something have
        "give a ready ear for something"
    h. de ogen voor iets sluiten
        the eyes for something close
        "shut one's eyes to something"
    i. zich de ogen aan iets uitkijken
        oneself the eyes at something out-look

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[10] Examples (50g) were used by Larson (1988a) as a counterexample to the claim that the direct object is idiomatically fixed before the indirect object. The fallacy here is due to the assumption that *to* is a dative preposition in (g). *To* is obviously locative here; hence these idioms support our analysis. This claim is substantiated by glosses in Dutch, which nicely disambiguate the two *to's*. Locative *to* translates as "naar" whereas dative *to* translates as "aan":
(i)   I give a book to John
      Ik geef een boek aan Jan
(ii) I send John to Coventry
      Ik stuur Jan naar Coventry

           "stare one's eyes out at something"
j.   oog voor iets hebben
           eye for something have
           "have an eye for"
k.   de kastanjes voor iemand uit het vuur halen
           the chestnuts for somebody from the fire pull
           "pull the chestnuts for somebody out of the fire"

These examples all involve an idiomatic direct object. Interestingly, these examples involve non-locative adjunct prepositions, of the type we expected. The (k)-example is particularly significant. Here a direct object, an adjunct and a locative co-occur. Two of the three arguments are lexically fixed. Logically speaking there are three possibilities for idiomatic fixation. The one that is attested is exactly the one we would predict: the two lowest arguments (locative and direct object) are fixed, the highest (the adjunct PP) is free.

        In addition, we make another prediction. As we saw, it is possible that an indirect object and a locative co-occur. If idioms of this type are found, then the locative is predicted to be the first argument that is fixed, being thematically lowest in the tree. The existence of the following examples bears out this prediction:

(52)   a.   iemand iets naar het hoofd werpen
              somebody something to the head throw
              "reproach somebody with something"
       b.   iemand iets door de neus boren
              somebody something through the nose drill
              "diddle a person out of something"
       c.   iemand iets in het oor bijten
              somebody something in the ear bite
              "snarl in a sneering voice"
       d.   iemand iets voor de voeten werpen
              somebody something for the feet throw
              "cast something in somebody's teeth"

The PP is a locative in all these examples. Idioms provide support for the proposed analysis. The proposed thematic structures explain what regularity underlies NP-PP idioms in which one of the arguments is fixed.

4.4.4. Locatives and indirect objects

Locatives and indirect objects occupy the same D-structure position in Den Dikken's analysis. This position, as has been shown above, is too strong. However, it is true that there are two similarities between locatives and indirect objects which our analysis fails to capture. The first similarity concerns locative inversion (Hoekstra & Mulder 1989):[11]

(53)   a.   Down the hill rolled a baby carriage
       b.   To John was given a book

Inversion is triggered by locative PPs and indirect object PPs. Den Dikken generalises over both types of PPs by generating them in the same structural position. This generalisation cannot be

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[11] As Marcel den Dikken pointed out to me.

made here. However, Coopmans (1989:735) generalises over these two cases by supposing that both are lexically governed, seeing that they are subcategorised. If Coopmans' idea is correct then there is no need to generate indirect object PPs and locatives in the same structural position.

The second similarity concerns a restricted alternation involving locative PPs. Consider the following facts from Dutch (PTC or Ptc stands for "particle"):

(54)   a.   Ik gooi de bal naar Jan toe
               I throw the ball to John PTC
        b.   Ik gooi Jan de bal toe
               I throw John the ball Ptc

This alternation is found only with a handful of verbs, all verbs of motion. The existence of this alternation suggests a generalisation across locatives and indirect object PPs.

However, it seems to me that it is a priori wrong to treat indirect objects as locatives. The reason is that the indirect object does not itself denote a location. Instead, the indirect object is rather the possessor of a location. This insight is supported by the fact that the alternation above obeys an animacy restriction:

(55)   a.   Hij gooit de bal naar het doel toe
               he throws the ball to the goal PTC
        b. *   Hij gooit het doel de bal toe
               he throws the goal the ball PTC

This animacy restriction supports the view that the indirect object is the possessor of a location, rather than the location itself. The question is how to express in the structure that the indirect object is the possessor of a location, rather than the location itself.

The representation of locatives is rather complex. On the one hand, the direct object (or unaccusative subject) must be theta-governed. This would seem to imply that it is the lowest argument at D-structure. On the other hand, the D-structure position of locatives must be lower than that of the direct object. Both requirements are met if the following structure is adopted:

(56)   a.   Jan loopt naar Rotterdam toe
               John walks to Rotterdam PTC
        b.

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                                        VP
                                       /    \
                              PtcP           V_v
                             /                 \
                  VP2                           PtcP
                 /    \                        /      \
              NP      e_v            PP              Ptc
              Jan                   /    \            toe
                              P            NP
                            naar         Rotterdam
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In this structure, the locative argument is theta-governed by the particle. VP2 is the subject of the projection of the particle. The unaccusative subject is the theta-governed argument of this VP. There is some evidence in favour of this analysis. In the first place, VP2 stands in a predication relation to the projection of the particle containing the locative PP, as shown below:

(57) a.   Jan loopt naar Rotterdam toe
          Jan walks to Rotterdam PTC
     b. ?   Jans lopen is naar Rotterdam toe
          Jan's walking is to Rotterdam PTC

Secondly, if both the direct object and the locative are theta-governed then both should be accessible for subextraction. This prediction is correct:

(58) a.   Een zaak waar [de voorstanders van t] naar Rotterdam toe gelopen zijn
          A cause where supporters of to Rotterdam PTC walked are
     b.   De stad waar de jongens [naar het hart van t] toe gelopen zijn
          the town where the boys to the heart of PTC walked are

Furthermore, we can now also account for the fact that the past participle of *dansen* can be used prenominally in the presence of a directional locative. Following Hoekstra (1984), we assume that a directional PP turns an unergative verb into an unaccusative verb. Hence unaccusative dance is assigned structure (56b). Consider the following facts:

(59) a.   de de kamer in gedanste jongen
          the the room PTC danced boy
     b.   de naar Rotterdam toe gelopen jongen
          the to Rotterdam PTC walked boy

N binds the theta-role that otherwise belongs to the surface subject. This is predicted since this theta-role is assigned under theta-government in structure (56b).

      To conclude, the basic facts of locatives (subextraction, prenominal usage of past participles) are easily accommodated within our analysis. The proposed structure conforms to TULIP. A further examination of locatives falls outside the scope of this book.

4.5. Conclusion

The direct object is theta-governed, and not the indirect object. This claim has been proved to be true on the basis of a body of apparently unrelated facts involving subextraction, incorporation, participial modification and heavy NP-shift. The complementary claim, the indirect object is not theta-governed, has similarly been supported. Independent evidence for the proposed D-structure has been supplied on the basis of idiom formation. The next chapter deals with the S-structure of the double object construction, and discusses particle constructions in more detail.

Chapter 5
Case-licensing in object and particle constructions

5.1. The S-structure of the double object construction
...

5.2. Evidence involving particles and idioms
5.2.1. The distribution of particles
...

5.2.2. Discontinuous idioms

English idioms are frequently discontinuous (Emonds 1972, Coopmans & Everaert 1988, Koster 1988). The following examples of V-PP idioms are assigned the structure presented in (14):

(13)   a.   They take John to task
        b.   They throw John to the wolves
        c.   They take something into consideration
        d.   They carry that behaviour to extremes
(14)   a.   They [VP1 take$_v$[VP2 John$_i$ [[e$_v$ to task] t$_i$]]

The idiom *take to task* is treated as a string at D-structure, which is broken up by V and NP-movement.[5] The following sentences provide independent evidence in favour of our approach:

(15)   a.   The taking to task of John
        b. *   The taking of John to task
(16)   a.   The throwing to the wolves of John
        b. *   The throwing of John to the wolves
(17)   a.   The taking into consideration of this proposal
        b. *   The taking of this proposal into consideration
(18)   a.   The carrying to extremes of such behaviour
        b. *   The carrying of such behaviour to extremes

The (a)-sentences are significantly better than the (b)-sentences. The difference in relative grammaticality follows from our analysis. A PP cannot break up the adjacency between V and the idiomatic PP because it is not licensed in that position, as I will explain in the next section. The nominalisation therefore reflects the D-structure position of the idiomatic combination.

5.2.3. Why left-adjunction to VP is disallowed

Only one NP may appear between V and PTC. No PP ever appears between V and PTC:

(19)   a. *   I called on a Monday up John
        b. *   I called on a Monday John up

The NP is Case-marked in the position between V and PTC. In other words, only licensed adjunction is allowed. This raises the question what excludes unlicensed left adjunction to VP2 or to PtcP. Unlicensed left-adjunction to VP1 is also disallowed:

(20)   a. *   I (will) John call up
        b. *   I (will) without hesitation call John up

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[5] I assume that idiomatic PPs are directly dominated by V, unlike non-idiomatic PPs. This has the consequence that the direct object is theta-governed. Correspondingly, an idiomatic combination can be used prenominally, and does not block subextraction out of the direct object:
(i)   a.   Ik neem deze foto's ter hand
               I take these photographs in hand
       b.   de ter hand genomen foto's
               the in hand taken photographs
       c.   Waar heeft hij [foto's van t] ter hand genomen
              What has he photographs of in hand taken

Slightly adapting Koster (1988), 1 will suppose that directionality of branching must be preserved under unlicensed adjunction. Thus this requirement is obviated if the landing site is licensed. This accounts for the fact that only one NP can appear on a left branch inside the English VP, as there is only one licensed position.

5.2.4. The inaccessibility of the pre-particle position
... (Summary: Subextraction is ungrammatical.)

5.3. The treatment of particles
5.3.1. Kayne's (1985) analysis of the particle construction

It has been made clear that the pre-particle position is not a theta-position. Consider again the original alternation:

(25) a.   I phoned up John
      b.   I phoned John up

In our view, the (a) sentence is basic and the (b)-sentence derived. Kayne (1985), however, proposes that the (b)-sentence reflects the basic order and that the (a)-sentence is derived. Let us therefore examine Kayne's account. He argues that the (b)-variant is derived by a rule of NP-shift that is sensitive to stylistic factors. Kayne explicitly makes the following two assumptions:

(26)   A sister of X' must be thematically autonomous
(27)   Partic1es are not thematically autonomous

This implies that particles may not be sisters of V', cf. Groos (1989) and others. Consider the structure proposed by Kayne:

(28)   V   [NP   PTC   ]

In this structure the particle is neither a sister of V nor of V'. Only the projection containing PTC and NP is a sister of V. The structure proposed here is equally compatible with Kayne's assumptions:

(29) V   [PTC   NP   ]

Here the internal structure of the small clause is mirrored. This is a normal type of variation: prepositional complements may appear before or after the prepositional (postpositional) head. Similarly, the small clause subject can occur both preceding the small clause predicate and following it. However, this structure is left undiscussed by Kayne.
    Evidence from nominalisations of verb-particle combinations provides us with an argument against the structure proposed by Kayne. Kayne notes that small clauses have no derived nominal counterpart (Fraser 1965). The following facts make this clear:

(30)   a. *   John's considering of Bill honest
        b. *   John's consideration of Bill honest
(31)   a. *   the looking of the information up
        b. *   the taking of privileges away

Small clauses cannot be part of a nominalisation, according to Kayne. If this is so then derived nominals of the form *N PRT of NP* should also be ungrammatical, since these too are derived from small clauses. This is not the case, as the following phrases indicate:

(32) a.   the looking t_i up [of the information] $_i$
      b.   the taking t_i away [of privileges] $_i$

Kayne is aware of these facts (1985:130). He claims that there must have been rightward movement of PP out of the subject position of the small clause, as indicated by the traces. This contradicts his earlier claim that PPs are barred from the subject position of small clauses. To avoid a violation of the Projection Principle, Kayne suggests that the trace position is not a theta-position: "...a-percolation allows *up* not to assign any theta-role to its subject position, i.e. no theta-role need be assigned to the chain headed by *of Bill*. Rather, theta-assignment (from V' (or perhaps N'), as a result of percolation) can go directly to *Bill* ...". So, in order to account for these nominalisations, Kayne must suppose the existence of movement from a non-theta position to a theta-position.

We have adopted in this chapter the idea that the basic order is *V-PTC-NP*. This is in agreement with the nominalisation facts, assuming that nominalisation applies to D-structures. The question is how to account for the order *V-NP-PTC*. We have claimed that there is a landing site for NP-movement between V and the PTC. This landing site is licensed by structural Case-assignment. There is no structural Case-assignment within NP. Hence there is no landing site between N and PTC. This accounts for the ungrammaticality of the order *N-of-NP-PTC*. Similarly, we have accounted for the fact that only NPs may appear between V and PTC.

Nominalisations thus support the claim that the pre-particle position is a derived position in English. In addition, idioms (next section) also provide evidence against Kayne's position.

5.3.2. Idioms and the head-initiality of particles

The pre-particle position is not a theta-position in English. This accounts for the impossibility of subextraction and NP-raising from this position. Idiom formation provides further evidence for the claim that particles are head-initial in their projection. Idiom formation is a D-structure phenomenon. Hence it can be used as a test for discovering theta-positions. This leads to the following prediction for particle constructions. Idioms should be of the form V-PTC-NP rather than of the form V-NP-PTC. Interestingly, this prediction is confirmed (Cowie, Mackin & McCaig 1983):

(33) a.   John will bring up the rear
      b. *   John will bring the rear up
(34) a.   The search party has given up all hope (of ...)
      b. *   The search party has given all hope (of ...) up
(35) a.   Jeremy put in a brief appearance
      b. *   Jeremy put a brief appearance in
(36) a.   The hedgerows put forth new buds
      b. *   The hedgerows put new buds forth
(37) a.   Many households take in lodgers
      b. *   Many households take lodgers in

(38) a.   The authorities trumped up a case (against X)

b. *   The authorities trumped a case (against X) up

These idioms all freeze the particle and the head noun. In the case of *bring up the rear*, the whole VP is frozen. Interestingly, the NP must appear after the particle in these cases. Idiom formation thus supports the idea that the theta-position of the direct object follows the particle.[9]

It must be noticed that the object is idiomatic in all cases of obligatory placement of the NP to the right of the particle. No cases are reported where the object is not idiomatic but where placement to the right is obligatory. In other words, if the object is not idiomatic, there will not be obligatory placement to the right. Apart from idioms, the position to the left is generally available. These facts provide us with an argument in favour of the idea that the theta-position of the small clause subject is after the particle.

5.3.3. Category and Case of particles

There exists a group of particles that only allows NPs to the left. Consider the following examples:

(39)   a.   I'll knock X's block/head off
       b. *   I'll knock off X's block/head (= "strike X, for punishment or retaliation")
(40)   a.   The government will see the crisis through
       b. *   The government will see through the crisis
(41)   a.   The police moved spectators along
       b. *   The police moved along spectators
(42)   a.   The comedian does not get his jokes across
       b. *   The comedian does not get across his jokes

These examples are not completely idiomatic. The first example is of an idiom that merely freezes the head noun. The possessor is free. The other examples do not involve a fixed head noun. Admittedly, these sentences illustrate cases in which the direct object must precede the particle. Characteristically, all such examples involve directional particles (*off, through, along, across*). In addition, leftward placement of the object is typically found with adjectives:

(43)   a.   I consider Mary intelligent
       b. *   I consider intelligent Mary

It is reasonable to suppose that particles only allowing NPs to the left have a property in common with adjectives. The more important question is therefore: what property determines whether NPs can appear to the right or to the left of particles and adjectives?

My claim is that left or right placement correlates with the ability of the small clause head to assign structural Case. Placement to the right of the small clause head indicates that the small clause head is capable of Case-licensing the argument. If it does not Case-license an argument then the argument must left-adjoin to the small clause so as to be directly Case-marked under adjacency by V. The particle acquires this ability from the verb, following Kayne's account of how an empty preposition assigns Case. The verb assigns Case to PtcP. Case percolates down onto the head, the Ptc. The Ptc, in turn, assigns Case to the DP argument, which therefore does not have to move (see section 5.1.).

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[9] It is unclear why the idiomatic object is not allowed to leave its theta-position and appear to the left of the particle. One explanation is that the pre-particle position is associated with semantic focus (Koster 1988). Idiomatic NPs naturally resist focus. Pronouns, on the other hand, must appear in focus position.

Why should the verb be able to turn only particles into Case-assigners and not directional particles or adjectives? Adjectives are of a different category than verbs. Directional particles can plausibly be analysed as intransitive prepositions (Emonds 1976), hence also of a different category. Van Riemsdijk (1978:51-57) provides a range of differences between directional particles and normal particles.

Normal particles do not seem to have any clear categorial status. I will suppose that particles are categorially underspecified, as follows (cf. Reuland 1979, 1985):

(44)   Particles are [-N].

The underspecification is such that particles are categorially non-distinct from verbs ([-N, +V]) and prepositions ([-N,-Vl). This is intuitively the right result. Particles share many similarities with verbs and with prepositions (Guéron 1990), but not with nouns and adjectives. We are now in a position to set up a hypothesis about the ability of small clause heads to license arguments:

(45)   V can turn a theta-governed head H into a Case-licenser iff H is categorially compatible with V

This hypothesis picks out underspecified particles as Case-assigners while excluding adjectives ([+V, +N]) and directional particles ([-V,-N)).[10] There is independent evidence for this view. If particles are verbal elements, then it is not surprising that they are easily incorporated into V. In addition, it also makes sense that particles are often reanalysed as verbal prefixes in the course of the history of a language. A verbal prefix takes a V to produce a V. This makes sense if prefixes are categorially compatible with the category V.[11]

Particles are a marked phenomenon. This fits in with our treatment of particles as an underspecified category. In Romance languages there are no particles (of the category [-N]). The tree structure of a ditransitive particle verb like *hand over* in English is the same as the tree structure of its Spanish equivalent *entregar*. The difference is that the lowest head position is an empty verb in Romance, whereas it is a particle in English. Regardless of whether a language has particles or not, the tree structures will look the same. This is an important asset of an analysis that links up the lexical content of a verb with more than one head position.

Verbs turn categorially compatible small clause heads into Case-assigners. Adjectives are not categorially compatible with V. Hence they cannot be turned into Case-assigners by V. Correspondingly, an adjective cannot Case-license an argument to its right, as shown above. As a result, the object must adjoin to AP so as to be Case-licensed by V. Categorial compatibility with verbs is what distinguishes non-directional particles from directional particles and

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[10] Pollock (1989b) proposes that prepositions in English may be underspecified. In such cases, reanalysis is possible. Thus categorial underspecification allows us to generalise over reanalysis effects involving particles and prepositions. For example, particles and prepositions pattern the same with respect to participial modification and passive, as shown below:

(i)	a.	The book	was	written	(*yesterday)	down
	b.	The book	was	talked	(*yesterday)	about
(ii)	a.	A hastily written-up	book
	b.	A much talked-about	subject

[11] Emonds (1972) claims that particles are intransitive prepositions. This does not explain the marked character of particles cross-linguistically. Emonds shows that particles are often homophonous to prepositions. However, what behaves as a particle may also be homophonous to an adjective, as in *cut open*, or to a noun as in *piano spelen* ("play the piano"), see Van Riemsdijk (1978) and others. These facts support the idea that particles are underspecified.

adjectives. Given our hypothesis about Case-licensing by small clause heads, it also follows that only non-directional particles allow arguments to the right.

5.3.4. Incorporation of particles

Incorporation facts provide independent evidence for the relevance of categorial compatibility. My claim is given below:

(46)   A small clause head may incorporate into V if it is categorially compatible with V

If this claim is correct then we have independent evidence for the relevance of categorial compatibility. Such evidence comes from Dutch. Particles can be incorporated into the verb, as we saw. Adjectives cannot be incorporated:

(47)   a.   Jan zou Piet niet aardig willen vinden
                Jan would Piet not nice want consider
        b. *   Jan zou Piet niet willen aardig vinden
                Jan would Piet not want nice consider

The (b)-sentence shows that the adjective cannot be incorporated. Facts from Dutch provide independent evidence for the claim that only categorially compatible heads incorporate.
        Conversely, we now expect that those "adjectives" which Case-license arguments in English incorporate in Dutch (of course, these adjectives are analysed as [-N] particles). This prediction is correct:

(48)   a.   I cut open the mailbag
        b.   I let loose the dogs
        c. ?   I wanted to paint green the door
(49)   a.   Omdat ik de postzak zou willen opensnijden
                because I the mailbag would want open-cut
        b.   Omdat ik de honden zou willen loslaten
                because I the dogs would want loose-let
        c. ?   Omdat hij de deur wou groenverven
                because he the door wanted green-paint

Again we observe the predicted correlation between Case-licensing and incorporation. These "adjectives" are categorially underspecified; hence they are more appropriately referred to as particles.
        A close connection between Case-licensing and incorporation is predicted. Those small clause heads that determine a Case position to the right are also the small clause heads that can be incorporated into V. This makes sense if we suppose that incorporation, like Case-licensing, depends on the categorial non-distinctness of particles from verbs. Conversely, it is correctly predicted that small clause heads which do not incorporate do not determine a Case-position to the right.

5.3.5. Nominalisations

Nominalisation of a V-PTC combination requires that the small clause head is incorporated into the verb. Hence we predict the following correlation. Nominalisation is possible only if the

small clause head Case-licenses NPs (to its right), since Case-licensing by a small clause head makes incorporation possible.

This prediction is correct. The correlation between placement of the NP and the possibility of nominalisation is noted in Kayne (1985). For Kayne these facts are problematic: this is ultimately due to his assumption that the order *V-PTC-NP* is derived. Consider first some particles which Case-license NPs to the right:

(50) a.   He cut open the mailbag
     b.   The cutting open of the mailbag
(51) a.   They let loose the dogs
     b.   The letting loose of the dogs

Interestingly, these adjectives allow nominalisation. This is as expected, given the hypothesis that the small clause head must incorporate into V for nominalisation and Case-marking to be possible.

Conversely, it is expected that adjectives (which only allow NPs to the left) will not allow nominalisation. Consider the following sentences:

(52) a.   John considered Bill foolish
     b. * John considered foolish Bill
     c. * John's considering foolish of Bill
(53) a.   John called Bill dumb
     b. * John called dumb Bill
     c. * John's calling dumb of Bill

This is exactly the correlation we expect. These adjectives do not Case-license NPs, nor do they incorporate. Correspondingly, nominalisation is barred. This trinity of negative correlations follows from the hypothesis that adjectives are categorially incompatible with verbs.

Of course, the prediction is not restricted to adjectives. Directional particles only take NPs to the left. These particles have been analysed as intransitive prepositions ([-N,-V]). Hence they are not categorially compatible with verbs. Nominalisation is correspondingly barred by the presence of directional particles:

(54) a. * John took along Bill
     b. * John's taking along of Bill
(55) a. * He got across his jokes
     b. * The getting across of his jokes

These facts testify to the predicted correlation between nominalisation, incorporation and Case-licensing. All three depend on categorial compatibility of the small clause head with V.

5.3.6. Adding a modifier

Our account predicts that incorporation is barred as soon as a head-modifier is added. A modifier is not categorially compatible with V. Consequent1y, an intervening modifier will act as an intervening head. Case-licensing, incorporation and nominalisation should become impossible. The following examples (cf. Den Dikken 1990a,b) bear out his prediction:

(56)   a.   I cut open the bag
           b. *   I cut quite open the bag
(57)   a.   the cutting open of the bag
           b. *   the cutting quite open of the bag
(58)   a.   Omdat Jan de deur wil opendoen
                   because Jan the door wants open-do
           b. *   Omdat Jan de deur wil wijd-open-doen
                   because Jan de deur wants wide-open-do

Adding a modifier has the observed effect. Nominalisation and Case-licensing fail. Incorporation under V-raising is blocked.
      Den Dikken (1990a,b) presents some facts involving the modifier *right*. To illustrate, consider the following:

(59)   a.   I call Bob right up
           b. *   I call right up Bob

The modifier is allowed in the (a)-sentence. The particle cannot assign Case because of the intervening modifier. This is no problem because NP can move to a position where it is Case-marked. The modifier is disallowed in the (b)-sentence because it prevents the particle from Case-licensing the argument following the particle. Consider next the following sentences:

(60)   a.   I send the book right off to Bob
           b. *   I send Bob right off the book

The post-particle DP cannot get Case in either sentence. Movement (adjunction to VP2) saves the (a)-sentence. The (b)-sentence cannot be thus saved because there are two DPs needing Case. TULIP forbids that the verb Case-licenses two DPs. This accounts for the observed facts.

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