Grammatical dependencies are characteristically local. Even when they are not transparently local, it is possible to argue that the long-distance dependency is established via several local dependencies, long-distance \( \lambda \)-movement being the prime example. This development has led to several proposals which posit an all-inclusive locality axiom into the theory of grammar, Chomsky’s theory of phases being one example. This paper discusses locality in the light of Finnish long-distance case assignment phenomenon and argues that the strongest formulations of the phase theory cannot be correct.

1. INTRODUCTION

Locality constitutes a grammatical phenomenon that has been investigated, in one guise or another, ever since the generative biolinguistic approach emerged during the 1950s. Today, it constitutes a promising theoretical notion that has been used to unify grammatical phenomenon that at first seem to have nothing obvious in common. More importantly perhaps, several phenomena that at first look appear to be based on a long-distance relation have been argued convincingly to be based on several local relations instead. A striking illustration of this strategy concerns \( \lambda \)-dependencies, which on the other hand behave as if they would instantiate a long-distance relation, but which on closer inspection reduce to local dependencies, as suggested by morphosyntactic reflexes at the edge, reconstruction, and other evidence. The latter development has conspired to the novel proposal that all syntax is local. At present there exists a number of attempts to posit an all-inclusive syntactic locality axiom to the grammatical system from which the derivation of the observed locality phenomena is then attempted, Chomsky’s phase-based approach being the most influential (Chomsky, 2001, 2004, 2008). If this hypothesis survives the test of time, it would certainly constitute one of the most significant steps towards understanding the human linguistic-cognitive capacities and presumably much beyond—perhaps even towards a theory of a supramodal “third factor” (Chomsky, 2005).
Phase-theory’s main contribution can be expressed in the form of two propositions, one which says that the construction of a grammatical expression proceeds in small packages, called phases, and the second which says that the grammatical content of an earlier phase is invisible to subsequent computations. The latter condition is called the Phase Impenetrability Condition, or PIC for short. Exactly which phrases constitute phases is currently subject to considerable debate among linguists, but using Chomsky’s own remarks as a starting point the core phases are at least the CP (complementizer phrases) and vP (transitive verbs with their arguments, internal and external), perhaps along with the DP (determiner phrase). Let us assume therefore that CPs, vPs and DPs are phases.

After a phase is completed, most of its content becomes invisible for further syntactic computation. It is assumed that the phase is send off from the “grammatical working space” to other systems, notable to those which are responsible for spell out (PF) and those which are responsible for semantic interpretation (LF). This send off is called Transfer. After Transfer, derivation continues so that the transferred phase is effectively seen as one item. But small part of the phase, called its edge, remains for a while visible for further computations; that part is not transferred to the external systems along with its own phase. It is transferred only when the next phase is transferred. More formally, if H is the phase head (i.e., C, v, D), then H and its specifier constitute the edge of the phase, and the complement of H is transferred to the external systems.

The edge constitutes an escape hatch through which elements inside of the phase can escape their own phase, and iteratively for higher phases, and thus they can become subject to further syntactic operations. This escape hatch leaves (it is hoped) just enough wiggle room to explain the long-distance A-bar dependencies by relying on local steps. It is in this sense the system attempts to explain apparent long-distance relations by relying on a strictly local notion of cycle. But morphosyntactic computations are assumed to remain strictly confined to the boundaries of phases. In fact it is one of the key assumptions of this model that the phase heads themselves are responsible for the major morphosyntactic relations, such as structural case assignment and ϕ-agreement (person, number, gender). The finite C is related to the subject properties, nominative Case and subject-verb agreement, while v is related to object properties, accusative Case and object-verb agreement.

The phase-system sketched above is illustrated in (1). The part that appears below ‘transfer’ is send off to the external system when the phase head (e.g. C, v, D) is merged.
It is in the framework of this model that it is of some interest to examine Finnish case system which shows that case assignment, and not just A-movement, is based on a long-distance dependency. More specifically, it will be shown that the probe (controller) containing uninterpretable features assigns a case feature to the goal (target) over an unlimited number of TPs, vPs, and DPs but not over a strong extraction island (Brattico, 2008, 2009c,b; Vainikka & Brattico, 2009; Brattico, 2009a). As can be seen in (2), such case assignment relations (marked with the arrow) cross phase boundaries in Chomsky's sense:
It will be shown here that there is no limit on how many such boundaries the relation is able to penetrate. The data bears on the claim referred above that all syntax is local, since at least prima facie such long-distance case assignment is both genuinely syntactic and genuinely non-local, therefore it might be considered as a particularly difficult, hence interesting, phenomenon to describe in a system of grammar that implements all grammatical computations locally. Specifically, I will argue that the data suggest that phases cannot be sealed off before the matrix level is completed.

This data bears on one larger issue as well. I mention it briefly here and then return to it again at the end of this paper. As depicted by
the logician-philosopher W. V. O. Quine, scientific disciplines organize around a web of hypotheses some of which are more central to the enterprise than others. The central hypotheses are related to concrete empirical data only indirectly and can therefore attain an aprioristic flavor. Biolinguistics is of no exception. As time has passed, also the hypotheses at the core of the biolinguistics have evolved. With the emergence of minimalism in the early 1990s it was the notion of locality or optionality that came into focus.

Yet since we are dealing with an empirical hypothesis and not an apriori stipulation we must be prepared to consider the possibility that the locality hypothesis is wrong. This is, however, by no means an easy task. The problem is that it is very hard to imagine a possible human grammar which does not obey locality restrictions of any kind. What in effect would be a genuinely nonlocal grammar? A further problem is that a cursory look at how the existing human languages work reveals that they do involve locality in a pretheoretical sense: there are grammatical relations which are based on local relations, a matter that can hardly be doubted. I am therefore inclined to think that only a strongly formulation of the locality hypothesis, such as the phase-theory by Chomsky, will be of any real interest. The point is that as I argue here against any strong notion of locality on the basis of long-distance case assignment, it is still possible to entertain a “relativized locality hypothesis” which weakens the locality hypothesis enough to account for the phenomenon. But I do not myself think that such a move would be in our best interest. Either the locality hypothesis is made strong enough to have genuine falsifiable empirical content, or we should seek another framework to avoid the risk of ending up with an aprioristic system. The bottom line is that although I present my case against the theory of phases, specifically, I think that it is the whole notion of locality that is at issue.

2. Long-distance case assignment in Finnish: the data

Finnish is a case-marking nominative-accusative language with fifteen case suffixes. The default subject case is the nominative. The genitive is associated with several prehead positions such as Spec,PP, Spec,TP and Spec,DP (Vainikka, 1989). In addition, there are four object case suffixes which I will call the t-accusative ACC(t), n-accusative ACC(n), zero-accusative ACC(0) and the partitive PRT. The first labels are based on the morphological form of the accusative suffix (-t, -n, -0, respectively), while PRT designates the partitive case. These are all object cases in the sense that a DP that bears any of these suffixes satisfies the syntactic
'object tests' in Finnish (Vainikka, 2003; Vainikka & Brattico, 2009). The rest of the Finnish case suffixes are semantic or inherent, and will not be discussed here (see Nelson 1998 for a summary of the Finnish case system as a whole and Nikanne 1993 for a useful discussion of the Finnish semantic case). From the above it follows that there are four case suffixes which are associated with the syntactic position of the object. It has been observed that the zero-accusative emerges if there is no nominative subject in the same finite clause; n-accusative otherwise (Reime, 1993; Nelson, 1998; Kiparsky, 2001). We can say that the n-accusative of the object encodes the presence of the c-commanding nominative subject. Vainikka & Brattico (2009) pointed out that the zero-accusative is not always possible in adverbial adjunct phrases even though these phrases lack the nominative subject. They argue that what matters instead is whether the predicate bears full $\varphi$-features (number, person; there is no nominal gender in Finnish). Either way, we can say that the nominative DP and/or the $\varphi$-agreement associated with finite verbs or other predicates controls the choice between n-accusative and 0-accusative object case. Few examples of this pattern are provided in (3a–c), but the fact is well-known and needs no elaboration in this context.

\[
(3) \quad \begin{align*}
\text{a. } & +\text{Agreement, n-accusative} \\
\text{Pekka } & \text{söi } \text{leivä-n/ } \text{*leipä} \\
\text{Pekka.NOM ate.3SG bread-ACC(n)/ bread.ACC(0)} \\
\text{‘Pekka ate the bread.’} \\
\text{b. } & -\text{Agreement, 0-accusative} \\
\text{Pekan } & \text{täytyy syödä } \text{*leivä-n/ leipä} \\
\text{Pekka.GEN must./ eat.A bread-ACC(n)/ bread.ACC(0)} \\
\text{‘Pekka must eat the bread.’} \\
\text{c. } & -\text{Agreement, 0-accusative} \\
\text{Löydettiin } & \text{talo-n/ talo} \\
\text{found.PASS.Ø house-ACC(n)/ house.ACC(0)} \\
\text{‘A house was found.’}
\end{align*}
\]

In the examples above, the modal verb täytyy ‘must’ (3b) and the impersonal passive löydettiin ‘was found’ (3c) do not agree with a DP in the clause. Consequently, the 0-accusative is triggered. When the finite verb agrees with the nominative subject, n-accusative is used. We can omit the details of the t-accusative for the time being, as it is not relevant to the matter at hand. Roughly, the t-accusative, which substitutes for both the n-accusative and 0-accusative, is used for all pronouns and plural DPs.
The alteration between the partitive and accusative (accusative understood as being one of the tree alterations -n, -0 and -t), in turn, is subject to several factors, the most important for present concerns being the fact that the presence of sentential negation necessitates the presence of the partitive case. Thus observe the following contrast:

(4)  a. Pekka löysi *avaimen-n / avain-ta
    Pekka found key-ACC(n) / key-PRT
        'Pekka found the key.'

    b. Pekka ei löytänyt *avaimen-n / avain-ta
        Pekka not found key-ACC(n) / key-PRT
        'Pekka did not find the key.'

The presence of sentential negation constitutes a sufficient condition for the appearance of the partitive case or, in other words, the presence of negation makes any of the accusative forms (-n, -0, -t) impossible. We can say that the n-accusative and 0-accusative are 'positive polarity items' or that the partitive is a 'negative polarity item', while keeping in mind that what we are seeing are not polarity items in the normal sense but regular object case features. I return to the relation between the object case and polarity towards the end of this article.

The case assignment relations reviewed above are genuinely syntactic. The case assigner (ϕ-feature package and/or nominative DP, presence of sentential negation) and the case assignee with its case suffix must be undergoing some type of formal, morphosyntactic relation. That relation is not phonological or semantic or otherwise syntactically inert. To borrow terminology from Chomsky (2008), let us say that the case assigner is the probe (P) and the case assignee is the goal (G). Case assignment is therefore based on a probe-goal relation. In the present case, predicates with full ϕ-features and the sentential negation function as probes, while the object DPs function as goals. In all the data we are going to examine in this paper, the probe must always c-command the goal; the c-command condition will therefore be assumed to hold unless otherwise said. It is so assumed also in Chomsky (2008).

The second point worth of notice is that the negation in Finnish inflects for full ϕ-features, therefore making it possible to say without special reference to the negation that the probes are grammatical elements, or more specifically functional elements, with full ϕ-features. This observation is hardly surprising, but it shows that the system under investigation falls under a regular and cross-linguistically valid pattern which says that uninterpretable ϕ-features (henceforth designated by uϕ) located at verbs, auxiliaries or in the negation constitute probes for elements which have the interpretable versions of the same features,
namely DPs. At least since Chomsky (1995) this system or something very close to it is assumed in recent systems of grammar to such an extent that it needs no further comment at this point.

For reference, the relations are illustrated again in (5) which shows explicitly the probe-goal relations established between functional elements bearing $u\varphi$ and goals bearing $\varphi$.

(5) a. Pekka ei syönyt leipä-ää
    Pekka not.\text{eat}^{P}$ bread.\text{φ}$

b. Pekka söi leivä-n
    Pekka \text{eat}^{P}$ bread.\text{φ}$

This representation needs one additional comment. Even though the $u\varphi$ at the negation or at the verb constitute the probes for the object goal, there is no $\varphi$-agreement between the probe and the object; rather, the probes agree with the subject. There is no object agreement in Finnish. In examples such as (5) we therefore have a probe-goal relation between the negation/verb and the object without $\varphi$-agreement and negation/verb and the subject with $\varphi$-agreement. At this point this is a notational issue, however, and it only touches on the proper usage of the term ‘probe-goal relation.’ In a system where this term is reserved for cases that involve both case assignment and $\varphi$-agreement, one could use a term such as ‘morphosyntactic feature covariation’ for the present data. What matters for present concerns is the fact that the relation, whatever nomenclature we use in describing it, must be part of syntax. This is not to say that the fact that the object case assignment in Finnish is dissociated from $\varphi$-agreement would be irrelevant to the grammatical theory. Quite the contrary is the case, but it is irrelevant to the argument I will make here against the phase theory.

At this point it should perhaps be noted that the n-accusative, 0-accusative and the partitive belong to the core case system of Finnish, and they are in no way peripheral, exceptional, marginal or part of some other grammatical system than case assignment. The distribution of the partitive is much more broad, as it has been argued convincingly that the partitive constitutes a general complement case in Finnish (Vainikka, 1989, 2003). The n-accusative and 0-accusative are usually regarded as morphological forms of the accusative case (Hakulinen & Karlsson, 1975), but nothing hinges on this assumption. For a good general overview of the Finnish case system, see Nelson (1998).

There is much more to say about the Finnish case system, but let us turn to the long-distance case assignment phenomenon—the topic of the present essay. Finnish has several non-finite verbs, glossed as VA, MA and A in the examples that follow (Koskinen, 1998; Vainikka, 1989). The
two probe-goal relations discussed above can be established over these
non-finite complements; see the data in (6a–b) and (7a–b).

(6)  a. Pekka uskoo haluavansa olla syömässä
    Pekka believes want.VA be.A eat.MA
    leivä-n/ leipä-ä
    bread-ACC/bread-PRT
    'Pekka believes that he wants to be eating bread.'

    b. Pekka ei usko haluavansa olla syömässä
    Pekka not believe want.VA be.A eat.MA
    *leivä-n/ leipä-ä
    bread-ACC/bread-PRT
    'Pekka did not want to be eating bread.'

(7)  a. Pekan täytyy haluta syödä *leipä
    Pekka must.∅ want.A eat.MA bread.ACC(0)/bread-ACC(n)
    'Pekka must want to be eating the bread.'

    b. Pekka haluaa syödä *leipä/ leivä-n
    Pekka want.3SG eat.A bread.ACC(0)/bread-ACC(n)
    Pekka wants to eat the bread.'

I will often use the following simplified P-G notation without repeating
the minimal pairs:

(8) Pekka ei usko haluavansa olla syömässä leipää
    Pekka not believe want.VA be.A eat.MA bread
    'Pekka did not want to be eating bread.'

This notation comes with the understanding that there is a syntactic
case assignment relation between P and G so that if P were not there, or if
the feature content at P were changed, a morphosyntactic change would
be observed at G. All the examples we are going to look in this paper
involve object case shifts, so that the probe is controlling the object case
features at the goal.

The status of the evidence in (6–8) hinges on the syntactic properties
of the non-finite complements over which the P-G relation obtains. Before
looking at these properties more closely, it is nonetheless impor-
tant already at this point to show that the long-distance case assignment
relation observed in (6–8) is not restricted to verbal non-finite comple-
ments and therefore does not depend on the specific properties of this
particular construction class. In addition to non-finite complements,
the long-distance case assignment relation penetrates inside of DPs.
Consider the minimal pair in (9).
(9) a. Yhtiö purki tekemänsä sopimuksen rakentaa
talon/taloa
Company cancelled made agreement build
house.ACC(n)/house.PRT
‘The company cancelled an agreement it had made to build a house.’

b. Yhtiö ei purkanut tekemäänsä sopimusta rakentaa
Company not cancelled made agreement build
*talon/taloa
house.ACC(n)/house.PRT
‘The company cancelled the agreement it had made to build a house.’

Here the matrix verb *purki ‘cancelled’ is complemented with a DP itself containing the noun head sopimuksen ‘agreement’, non-finite complement rakentaa ‘find’, and an object DP complemented to the non-finite verb. As shown by (9a–b), the matrix negation affects the case realization at the lowest DP, so that when the negation is present, accusative case is not possible. Again ignoring a precise syntactic analysis of the factors that control the case suffixes here we are nonetheless looking at the following syntactic probe-goal relation:

(10) Yhtiö ei purkanut [DP sopimusta rakentaa taloa ]
Company not cancelled agreement build.A house
‘The company cancelled the agreement to build a house.’

Not only does the negation affect object DPs, but it also affects the embedded object DPs inside of object DPs. I therefore conclude that the long-distance case assignment relation does not depend on the nature of the non-finite complements in (6–8).

The probe-goal relations of the above type (9) are subject to a bewildering array of conditions. Despite of these complexities, it remains uncontested that the matrix negation does affect the case realization at the goal. In particular, the data provided in (9) has been verified in three native speaker experiments containing more than one hundred speakers of Finnish (Brattico, 2009b).

Putting this point aside, the non-finite complements examined earlier do not have any extraordinary properties either. On two obvious grounds they are ordinary transitive verbs: all these verbs allow the appearance of external subjects and transitive objects:

(11) a. VA-infinitival
Pekka ei halua Merjan syövän leipää
Pekka not want Merja.GEN eat.VA bread

Pekka notP want Merja.GEN eat.VA breadG
In addition of being transitive, the VA-infinitival shows tense alteration between the past and present tense, and should therefore be analyzed as constituting a TP. Since each of the non-finite verbs can have their own thematic subject argument (12), it is not surprising to find that they all allow their own adverbial modification (13).

(12) Minä käskin Ainon uskoa Merjan käskevän
I ordered Aino.GEN believe.A Merja.GEN order.VA
Pekkaa pyytämään Jukkaa syömäänsä leipää
Pekka.PRT ask.MA Jukka.PRT eat.MA bread.G
'I ordered Aino to believe Merja to ask Pekka to ask Jukka to eat bread.'

(13) Minä uskoin eilen Pekan halunneen maanantaina
I believed yesterday Pekka want.VA.PAST monday
olla syömäään tänään leipää
be.A eat.MA today bread
'I believed yesterday that Pekka would want in Monday to be eating bread today.'

These facts are pertinent here because they suggest that the sequence of non-finite complements does constitute a construction with several clauses (at least TPs and vPs) rather than a monoclausal serial verb construction, or a single clause obtained via reconstruction or other type of structure compression.

Another point worth of notice is the fact that the probe-goal relation is preserved even if the thematic subject, typically in genitive case, intervenes between the probe and the goal (11). There are, in other words, no intervention effects. Exactly the opposite is the case here: if there are two or more object DPs, they are all affected by the probe-goal relation:
(14) a. Pekka ei nänyt *Merja syömässä *leivän
   Pekka not see Merja.ACC(n) eat.MA bread.ACC(n)
   'Pekka did not see Merja eating bread.'
   b. Pekka näki Merja-n syömässä leivän-n
   Pekka saw Merja-ACC(n) eat.MA bread.ACC(n)
   'Pekka saw Merja eating the bread.'

Accusative object DPs are possible only if there is no sentential negation (14b). On the other hand, if there is no negation and no full $\varphi$-agreement at the matrix level, then the zero-accusative is possible for both arguments:

(15) Nähtiin $^P$ Merja$^G$ syömässä leipä$^G$
    Saw.PASS Merja.ACC(0) eating bread.ACC(0)
    'Merja was seen eating the bread.'

In conclusion, if we look at the data as such the probe is able to sweep over several goals, TPs, vPs, the left branch of the DP and the noun head. The next step is to ask if there is anything over which these probes are not capable of penetrating.

Consider the following evidence containing negated clauses. In the first sentence (a) of each pair, the relevant phrase contains an accusative object, demonstrating that the negation does not govern partitive case inside of that phrase. Hence there is no probe-goal relation from the matrix clause to the embedded phrase. The second sentence (b) shows what happens if that object is extracted from the phrase to the left periphery of the matrix sentence to craft an interrogative.

(16) MA-adjunct
    a. Pekka ei läpäissyt tenttiä [lukemalla kirja-n]
       Pekka not pass exam read.MA book-ACC(n)
       'Pekka did not pass the examination by reading one book.'
    b. *Minkä Pekka ei läpäissyt tenttiä [lukemalla t]
       What.ACC(n) Pekka not pass exam read.MA

(17) KSE-adjunct
    a. Pekka ei läpäissyt tenttiä [saadakseen tutkinno-n]
       Pekka not pass exam get.KSE degree-ACC(n)
       'Pekka did not pass the examination in order to get a degree.'
    b. *Minkä Pekka ei läpäissyt tenttiä [saadakseen t]
       What.ACC(n) Pekka not pass exam get.KSE t

(18) TUA-adjunct
a. Pekka ei läpäissyt tenttiä [saatuaan tutkinno-n]
   Pekka not pass exam get.TUA degree-ACC(n)
   'Pekka did not pass the examination in order to get a degree.'

b. *Minkä Pekka ei läpäissyt tenttiä [saatuaan t]
   What.ACC Pekka not pass exam get.TUA t

(19) Adjective phrase

a. Pekka ei nähnyt [luu-n syöntä ] koiraa
   Pekka not saw bone-ACC eaten dog
   'Pekka did not see the dog who ate the bone.'

b. *Minkä Pekka ei nähnyt [ t syöntä ] koiraa
   What Pekka not saw t eaten dog

As first noted by Huhmarniemi (this volume) for Finnish, instead of extracting the constituent out of the relevant phrase, these questions can be formed so that the interrogative word is first moved to the left periphery of its own island phrase, after which the whole phrase is pied-piped to the left periphery of the matrix clause. This type of grammatical rolling is called snowball movement. This strategy is illustrated in the following affirmative sentences, corresponding with the MA-adjunct, KSE-adjunct and TU A-adjunct:

(20) a. [ Minkä kirjan, lukemalla t_i ]_j Pekka läpäisi tentin t_j
    Which book, read.MA t_i Pekka pass examination
    'By reading which book Pekka passed the examination?'

b. [ Minkä, saadakseen t_i ]_j Pekka läpäisi tentin t_j
    what get.KSE Pekka pass examination
    'In order to get what did Pekka pass the examination?'

c. [ Minkä, saatuaan t_i ]_j Pekka läpäisi tentin t_j
    what get.TUA Pekka pass examination
    'In order to get what did Pekka pass the examination?'

Some phrases do not let their constituents to escape; instead, when the constituent is required to move to the left periphery of the matrix sentence in order to form an interrogative sentence, the interrogative first moves to the left periphery of the phrase, and then the whole phrase moves. Such closed phrases are called strong islands.

Now take another look at the evidence above and notice that within each of these phrases, the object DP is able to appear in accusative case despite the negation in the matrix sentence. The probe-goal relation does not penetrate into these constituents. On the other hand, when the probe-goal relation does obtain, we find that the island effects are absent:
(21) Wh-extraction out of the A-infinitive:
   a. He yrittivät [löytää Hiljan pihalta]
      They attempted [find.A Hilja yard]
      ‘They attempted to find Hilja from the yard.’
   b. Kenet he yrittivät [löytää t pihalta]?
      who they attempt [find t yard]
      ‘Who they attempted to find from the yard.’

(22) Wh-extraction out of the MA-infinitive:
   a. Lähdimme [hakemaan hänet koulusta]
      went [pick.up.MA him school]
      ‘We went to pick him up from the school.’
   b. Kenet lähditte [hakemaan t koulusta]?
      who went [pick.up t school]
      ‘Who did you went to pick up from the school?’

(23) Wh-extraction out of the VA-infinitive:
   a. Halusimme Hiljan lähtevän kotiin
      want Hilja go.VA home
      ‘We wanted Hilja to leave home.’
   b. Kenen halusimme t lähtevän kotiin
      who want t go.VA home
      ‘Who did we want to leave home?’

(24) Wh-extraction across several non-finite clauses:
   a. Minun täytyy uskoa pystyvän syömään
      I must believe.A capable.VA-Px/1SG eat.MA
      tuo-n leivä-n / tuo leipä
      that-ACC bread-ACC / that-ACC(0) bread-ACC(0)
      ‘I believe that I am capable of eating that bread.’
   b. Mikä / Minkä minun täytyy uskoa
      what-ACC(0) / what-ACC I GEN must believe.A
      pystyvän syömään t
      capable.VA-Px/1SG eat.MA t
      ‘What I believe that I am capable of eating t?’

This data suggests the following generalization that, as far as I know, holds universally in Finnish:

(25) Long-distance case assignment
Long-distance case assignment is impossible over a strong island.
That the probe-goal relation and A-bar movement are aligned in this way is perhaps somewhat expected, since it is well-known that strong islands constitute barriers for several types of grammatical relations. The present data allows us to generalize this notion from the domain of grammatical movement to the domain of case assignment. Many details of (25) remain to be spelled out, most importantly the exact definition of which element of a phrase XP constitutes the strong island, but (25) suffices for the present concerns. Weak islands behave differently in this respect, and the facts are puzzling. CPs and DPs are both weak islands in that Wh-extraction is sometimes and in some contexts possible. The conditions are anything but clear at present (see Huhmarniemi, this volume). Characteristically, embedded objects may escape both the CP and the DP yet CPs never allow the long-distance probe-goal relation to cross while DPs have exactly the opposite profile. For the present purposes, I will therefore keep within (25) and leave the relation between long-distance case assignment and weak islands for future work.

Let us consider next what happens when the object DP is EPP-moved out of the c-command domain of the probe. Example (27a) illustrates a raising construction in Finnish which involves object raising: the patient of the embedded verb syödyn 'have been eaten' raises to the subject position of the raising verb and takes nominative case:

(26) Kakku näyttää syödyn t jo eilen
    Cake.NOM seem eaten t already yesterday
    'The bread seems to have been eaten already yesterday.'

A negated raising construction is likewise possible, and the interest is on what happens to the object in such case. The logic of this experiment is in the fact that the object now occurs in two positions, once in a position in which the negation would affect its case features, and once in a position higher in the structure where this is not the case. We find that both the nominative and the partitive are possible, but the accusative is illicit:

(27) a. Kakku ei vielä näytä syödyn t kokonaan
    Cake.NOM not yet seem eaten whole
    'The whole cake does not yet seem to have been eaten.'

b. Kakku-a ei vielä näytä syödyn t kokonaan
    Cake-PRT not yet seem eaten whole
    'The cake does not yet seem to have been eaten.'

c. *Kaku-n ei vielä näytä syödyn t kokonaan
    Cake-ACC not yet seem eaten whole
    'The cake does not yet seem to have been eaten.'
Recall that there are two forms of the accusative case, the zero-derived from and the n-form. We must therefore examine whether the nominative-looking subject DP in (27a) is an instance of the zero-accusative or nominative. We make use of the fact that pronouns are always unambiguous between the nominative and the accusative. This test reveals that the subject is true nominative, not the zero-accusative (28a–b). But the test also reveals why both the partitive and nominative are possible in (27). The partitive first person singular pronoun is ungrammatical with negation that has been inflected in first person; the partitive is only grammatical with the default third person singular agreement (28c–d):

(28) a. Minä en vielä näytä ylennetyn t, vai näytänkö?
   I.NOM not.1SG yet seem promoted
b. *Minu-t ei vielä näytä ylennetyn t, vai näytänkö?
   I-ACC not yet seem promoted
c. *Minu-a en vielä näytä ylennetyn t, vai näytänkö?
   I-PRT not.1SG yet seem promoted
d. Minu-a ei vielä näytä ylennetyn t, vai näyttääkö?
   I-PRT not.3SG yet seem promoted

This shows that the nominative/partitive alteration in (27) corresponds with whether the subject DP agrees with the negation. This fact is expected, since it is the nominative DPs which agree with their heads in $\phi$-features.

Overall, the object DP can be moved to the subject position of the clause, therefore outside of the government domain of the negation-probe. This movement prevents the probe-goal relation to obtain, in which case the moved DP takes nominative case and it agrees in $\phi$-features with the negation. But movement can also take place after the probe-goal relation is established, in which case the DP is valued partitive case (not accusative, as predicted) and it does not agree with the negation. I conclude that movement allows phrases to escape government by a c-commanding probe.

Previously it was observed that a matrix negation is able to partitivize an object DP inside of another object DP. Now recall that DPs with semantic or genitive case were not partitivized by the negation; only DPs with object case were. These two observations led us to ask whether the embedded DP is partitivized if the host DP is assigned either of these case features. Thus, we will be looking at the following type of structures with the aim of experimenting whether the embedded DP can then appear in accusative case or whether the negation establishes a probe-goal relation and prevents the accusative case:
We begin with an object DP (the upper DP-layer) in the genitive case. The result of this test is shown in (30a–c), all constructions in which the host DP is now in genitive case. In an affirmative sentence, the object DP inside of another DP marked with genitive case may take accusative case (30a). In a negated sentence, the accusative case is slightly odd or ungrammatical (30b) but the partitive is grammatical (30c).
Let us examine whether these results are replicable. Here we make use of the fact that in many circumstances an object DP may take either accusative or partitive case, and that the choice comes with a change in the aspectual properties of the sentence (Kiparsky, 1998). A sentence with partitive object denotes an event that is not completed. When the object DP is partitivized in the affirmative clause (30a), then, the resulting meaning changes exactly as predicted. The sentence says, roughly, that Pekka let seller's recommendations to buy that bad car to mislead, but the buying was not necessarily completed (31a). When the object DP is partitivized in a sentence in which the matrix clause is also negated, this shift in interpretation disappears as if the partitive case would now be governed by negation (31b):

(31) a. ??Pekka antoi [DP myyjän suosituksen ostaa Pekka let seller.GEN recommendation.GEN buy.A si-tä huono-a auto-a ] hämätä itseään that-PRT bad-PRT car-PRT mislead himself 'Pekka let the seller’s recommendations to buy that bad car to mislead him.'
Pekka did not let the seller’s recommendations to buy that bad car to mislead him.

A third way to investigate this matter is to use a verb which does not normally select for the partitive object and then examine if the partitive can be licensed by the matrix negation. A verb löytää ‘to find’ can serve as a test case. Data in (32a–b) show that the partitive object is odd when combined with this verb. However, example (32c) shows that the partitive is grammatical if the matrix sentence is negated.

(32) a. Pekka antoi pyynnön löytää avain / avaine-n
   Pekka let request.GEN find.A key-ACC(0) / key-ACC(n)
   hermostuttaa itsensä
   anger himself
   ‘Pekka let the request to find the key to make him angry.’

b. *?Pekka antoi pyynnön löytää avain-ta hermostuttaa
   Pekka let request.GEN find.A key-PRT anger
   itsensä
   himself
   ‘Pekka let the request to find the key to make him angry.’

c. Pekka ei antanut pyynnön löytää avain / avaine-n
   Pekka not let request.GEN find.A key-ACC(0) / 
   avain-n / avain-ta hermostuttaa itsään
   key-ACC(n) / key-PRT anger himself
   ‘Pekka did not let the request to find the key to make him angry.’

Surprisingly, in (32c) both the accusative and partitive seem to be possible, although the intuitions are less clear than in the previous examples. I nevertheless conclude that the negation can govern inside of genitive DPs.

Let us apply the above test to a DP with semantic (inherent) case. Compare (33a–b). These sentences contain an object DP with semantic case (adessive), a noun head complemented with a transitive infinitival taking another DP as its object. The infinitival verb löytää ‘to find’ is compatible with a DP taking the accusative case (33a), but not with a DP taking the partitive (33b). However, if the matrix clause is negated, a DP can take the partitive case. This shows that the negation governs the partitive case into a DP that has been marked with semantic case.

(33) a. Pekka hermoistui jatkuvi-sta pyynnöi-stä
   Pekka become.nervous continuous-ADE requests-ADE
   löytää avain
   find.A key-ACC(0)
‘Pekka got nervous because of the continuous requests to find the key.’

b. ‘Pekka hermoistui jatkuvi-sta pyynnöi-stä
Pekka become.nervous continuous-ADE requests-ADE
löytää avain-ta
find.A key-PRT
‘Pekka got nervous because of the continuous requests to find the key.’

c. Pekka ei hermostunut jatkuvi-sta pyynnöi-stä
Pekka not become.nervous continuous-ADE requests-ADE
löytää avain / avain-ta
find.A key-ACC(0) / key-PRT
‘Pekka did not get nervous because of the continuous requests to find the key.’

This test confirms the earlier test with genitive DPs in the sense that again both the accusative and partitive are possible just in case the matrix sentence has been negated (33c). Although government by negation does not partitivize genitive or semantic case, the effect still sweeps into DPs which bear these case suffixes. The data examined above is somewhat complex to judge; see Brattico (2009b) for native speaker experiments which verify these data.

In summary, a probe-goal relationship in Finnish can reach over several phrase types, so far including TPs, vPs and DPs, but it can never cross a strong island boundary. One probe may affect several goals. The probes entering into such long-distance relations are grammatical heads with uninterpretable ϕ-features, while the goals are elements with interpretable ϕ-features. The result is an object case assignment to the goal.

Full description of the facts surrounding long-distance case assignment in Finnish would take us too far from the main topic, but it should be kept in mind here that the actual facts are more complex than what I have been able to present here. They have been discussed recently in (Vainikka & Brattico, 2009; Brattico, 2009b,a; Nelson, 1998; Kiparsky, 1998; Kaiser, 2003). A full description of object case assignment in Finnish must take several additional factors into consideration, such as verbal and nominal aspect, whether the DP itself contains a quantificational numeral, whether the DP is assigned semantic or inherent case, whether the construction under investigation is a copular construction or one with an ordinary verb, and others. A notable problem concerns the fact in the case of CPs and DPs the correlation between island-hood and long-distance probe-goal relation becomes obscure. I have
attempted to consider all these facts, and possible explanations of them, elsewhere (Brattico, 2009a).

3. LOCALITY AND THE LONG-DISTANCE CASE ASSIGNMENT

Let us return to the theory of phases (see section 1). Suppose that the grammatical derivation proceeds by composing a vP phase containing the object DP (OBJ), the verb, transitivizer v and the subject DP (SUBJ). After the phase head v is merged and its specifier(s) filled, the complement of v is sealed and transferred to the external systems. The complement contains at least the object DP, which gets accusative case feature from v and delivers its ϕ-features to the v as part of Transfer to the phonological systems. The problem is that, as shown here, at this point we do not know the case feature composition of the object. Recall that the case feature composition of the object is not known before the next strong island boundary or CP (a weak island boundary) is composed. It does not matter how many vP or TP boundaries are crossed: the object DP, or several object DPs, must be put on hold until the finite matrix CP or a strong island boundary is reached.

The same reasons prevent the DP to be handed over to the external systems, as the object embedded within a DP must wait until matrix CP or a strong island is reached. Only at that point the feature content at the object DP, its case feature(s), can be determined. So DPs cannot constitute phases if PIC is true. On the other hand, there is uncontroversial evidence that strong islands can constitute phases to which PIC applies unproblematically. This category includes at least finite CPs (among them relative clauses and complement CPs), complex adjective phrases and adverbial adjuncts.

It therefore seems to me that either the phase theory, as formulated by Chomsky (2001, 2008), is in some way incorrect, or there is something in my analysis and interpretation of the Finnish long-distance case assignment that is wanting. Let us consider the latter possibility first.

One possibility is to think that the non-finite verb sequence separating the probe (negation, matrix ϕ-features) constitutes one monoclausal structure rather than a sequence of clauses (TPs, vPs). If the non-finite complements constitute a monoclausal structure, then there would be much less reason to change the phase-theory. But I think this idea leads nowhere. First, the matter is irrelevant as the long-distance case assignment reaches inside of DPs and crosses everything in their left branches (demonstratives, numerals, quantifiers, adjectives, DP arguments/possessives). It is quite pointless to say that all these constructions
are compressed in some way structurally and, therefore, the probe-goal relations are 'local'. Second, the non-finite verbs have room for their own external arguments and their own adverbial modifiers, both properties unexpected if they constitute a monoclausal structure. Third, the ordering of the non-finite verbs is not strongly regulated, as would be the case if we would be seeing a sequence of functional heads inside of one clause. Fourth, if we assume that the MA, A and VA-infinitivals do not constitute their own clauses, then there simply are no non-finite complements in Finnish at all, as this list contains them all. Fifth, the VA-infinitival shows its own independent tense alteration.

Another possibility, one which comes with several variations, is to say that the case assignment relation is 'semantic' in some special sense that makes it irrelevant to syntax. This hypothesis would allow us to keep syntax local while handing the problematic data to the semanticians. Taken at its face value, this hypothesis must also be wrong and it makes sense to repeat the reasons. First, the partitive case is not a semantic case in Finnish; rather it is a general and clearly structural complement case (Vainikka, 1989, 1993, 2003). The same is even more true in the case of the 0-accusative and the n-accusative, an alteration that has to my knowledge always been regarded as purely formal (Hakulinen & Karlsson, 1975). Second, the probe-goal relation is regulated by narrow syntactic properties, such as strong islandhood, which puts it on par with the X-dependencies. Third, the goal can be EPP-moved out of the c-command domain of the probe that then leads into case shift, much like in raising constructions and personal passives. This is unexpected if the case features are semantic, but entirely expected if what we are seeing is a syntactic dependency. Fourth, semantic case features are typically local and in Finnish in particular I know of no case in which they would not be. Fifth, in both examples of long-distance case assignment the probes contain uninterpretable ϕ-features—a result that is completely expected in the light of previous evidence from other languages (Chomsky, 1995) if we assume that the probe-goal system is syntactic.

Another alternative is to assume that the long-distance relation is mediated by a chain of local features or local dependencies. In the case of the negation, a feature such as [neg] could be associated with each phase head, in this case v and D. The n-accusative/0-accusative alteration could be handled by a feature inheritance which spreads these features likewise to the phase heads, all the way down. If the phase heads contain such features, the long-distance case assignment would break down into a sequence of local, matching features or local probe-goal relations.

In order to assess this hypothesis, let’s make a three-way distinction between types of features. In the first category we have features whose
existence can be verified independently by looking at the data at hand. \( \phi \)-features as well as case features belong to this class, because there is no doubt that they exist. Let us call them \textit{observable features}. In the second class, we have \textit{stipulative features} which are abstract features that function like placeholders for a large set of empirical data. The EPP-feature functions like this. When a head has the EPP feature, it has the property that another element must be moved into its spec; but the EPP-feature has no empirical content beyond this property. There is nothing wrong with stipulative features as long as we keep in mind that they do not explain the data they describe.

Finally there are the \textit{ad hoc features}. An \textit{ad hoc} assumption or feature functions in the following way. Suppose we assume hypothesis H which predicts that some particular data/observation D should not occur. Suppose that D does in fact occur. We can then add to the theory something whose sole empirical content is to allow H to entail D, and in so doing we can maintain the original hypothesis H. This kind of \textit{ad hoc} assumptions are difficult to justify because they make the hypothesis H unfalsifiable.

In the present case, assume that the phase theory predicts that we should not see syntactic and/or morphosyntactic dependencies over phase boundaries, and suppose in addition that we interpret the present dataset so that this prediction is not true. The assumption that the long-distance features are mediated by a chain of local features constitutes an \textit{ad hoc} assumption in the sense that its sole empirical content is to preserve the original hypothesis that syntax must be local. There is no independent justification for the existence of such hypothesis/features, since the elements between the probe and the goal remain unchanged. The existence of such features must clearly be justified in some independent way. I submit this as one possible line of research, although my own examination of this possibility has so far produced only negative results in the sense that the elements between the probe and goal seem to be completely indifferent to the existence of the long-distance dependency.

Similar questions arise if one were to explain these data by saying that the Finnish object case assignment does not represent a form of ‘ordinary’ case assignment or case assignment in some predetermined sense which excludes long-distance case relations. Such thinking represents a symptom of the fact that the theory of locality has started to attain an \textit{a priori} status and should on this basis be regarded with suspicion.

The standard minimalist theory has at least one concept in its arsenal that could be applied to this data in order to maintain all-inclusive locality, namely, covert movement. While grammatical movement (or equivalent permutation) is an observable fact, covert movement is an invisible, shadow version of the former that is much harder to detect.
Nonetheless, good arguments exist that such operations are part of the human language system, and so even if the object DPs remain in situ even when their case feature composition is affected by several non-local probes, it is possible to suggest that these DPs move covertly—that is, secretly and invisibly—to the vicinity of these probes. The challenges facing us in this direction are, however, not encouraging.

The first difficulty concerns the fact that in order to explain long-distance case assignment by relying on covert movement, we need something to explain why such covert movement would affect the case feature composition of the phonological residuum left in situ. I do not know any such rationalization, and cannot myself imagine any. But suppose that some rationalization is found and that a link between case realization and covert movement is suggested; the next step would be to prevent it from overgeneralizing, as case realization in general does not seem to be associated with covert movement.

Independent evidence for such covert movement would certainly be required here. But again, such evidence looks particularly hard to come by: there are no ‘morphological reflexes’ of such movement between the probe and the goal, but neither are there scope shifts that one could cite in support of this hypothesis. If the object DP embedded deeply inside of complements or object DPs moves to the matrix level, for instance, it would certainly change the scope properties along the way. Nothing of the sort is observed.

One could also suspect that what we are seeing here is a negative polarity phenomenon, not regular case assignment. I must admit at the outset that what comes to the partitivization by negation, the system has so many properties associated with negative polarity phenomenon that it looks very likely to have something to do with it. But before discussing this proposal in any more detail, let me note that the alteration between the n-accusative and 0-accusative, although based on long-distance case assignment, is not a polarity phenomenon. So we could run the argument to the same conclusions but without a single reference to the partitivization by negation data. This proposal then has very little to do with defending the locality axiom, but more with the explanation of the partitivization by negation.

Putting this point aside, it is of great interest to observe that in Finnish object case, aside from other functions, indeed seems to be encoding polarity. After all, the negation, hence polarity, does regulate case feature composition at the goal (Kaiser, 2003). But what should we conclude from this? The problem is of course that there is no agreed upon theory of negative (or positive) polarity. The phenomenon looks partly semantic, partly syntactic, with an observable room for between language and
within language variation (Progovac, 1994). Some polarity items behave differently from others. If we assume that the Finnish partitive is part of this phenomenon, as I think we should, then this just complicates the issue rather than sheds any light on it. Only by saying that polarity is purely semantic phenomenon that has nothing to do with syntax one could factor the long-distance partitivization out of the local syntax, but that hypothesis looks plainly false (Progovac, 1994) and it does not apply to the present data which suggest that the phenomenon is sensitive to syntactic properties, such as A-movement and EPP, and part of a bigger syntactic and morphosyntactic problem of object case determination in Finnish. A second problem is that although long-distance partitivization has clearly something to do with polarity, it does not behave exactly like polarity items. For starters, only objects undergo partitivization by negation, yet polarity is not restricted to objects.

I would therefore like to suggest that the phase-theory must be wrong to the extent that it does not allow long-distance case assignment to occur. Moreover, the probe-goal relations involved in case assignment seem to me to be more complex than has been previously assumed. It is likely that these two facts are related to each other; perhaps it is precisely the fact that Finnish is a case marking language with so many case features that allows us to uncover a previously unnoticed layer of complexity involved in nominal case.

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