A phenomenon in natural language which poses an intriguing problem for approaches that seek to minimize the syntactic computation space are so-called global case splits (Silverstein 1976). As is well known, many languages show case marker alternation on arguments depending on properties of this very argument, yielding differential argument encoding. They are attested in, e.g., Hindi (cf. section 3.1.1), Dyirbal (Dixon 1972), Hebrew (Danon 2006), Swahili (Lyons 1999), Turkish (Enç 1991), Spanish (Torrego 1998), and many other languages. In the case of global case splits, the marker attached to one argument depends on the properties of another argument. Such constructions seem to enforce a non-local analysis: If the marker on, say, the subject depends on properties of the object, then—at first glance—both must be simultaneously present within the domain of syntactic computation, calling for a concept of computational locality that arguably comprises the whole clause. In this section I propose an analysis of these apparent non-local dependencies that makes crucial use of the free interaction of Agree and impoverishment. Specifically, as defined in section 2.4, I treat case assignment as an instance of feature copying and therefore as an instance of Agree. As already suggested for Hindi, Marathi/Punjabi, Basque, Itelmen and Icelandic in the preceding chapters, a case feature may be impoverished before it undergoes Agree. Following Keine and Müller (2008, 2009), I consider differential argument encoding as being brought about by impoverishment which in turn results from harmonic alignment of scales. The basic line of reasoning will be the following: Impoverishment applies to a feature \( \alpha^+ \) on head \( \Gamma \), triggered by features on \( \Gamma \). The result is the impoverished feature \( \alpha^- \). Agree then copies \( \alpha^- \) to a second head \( \Delta \) where vocabulary insertion takes place and is sensitive to the presence of \( \alpha^- \) or \( \alpha^+ \). This yields the impression that marker insertion into \( \Delta \) is sensitive to features on \( \Gamma \). Under the perspective taken here, however, this is an epiphenomenon. Strict head-locality of vocabulary insertion and impoverishment can be maintained if Agree, if applying after impoverishment, may spread the information that impoverishment has taken place to a second head. Globality of computation is thus only superficial.

In this section, I will propose analyses for three languages that exhibit a system of global case splits: Umatilla Sahaptin, Yurok, and Kolyma Yukaghir.²

---

¹ Previous treatments of global case splits are Aissen (1999b), de Hoop and Malchukov (2008), Béjar and Rezac (2009), and Georgi (2009).

² Other attested examples of global case splits are Tauya (MacDonald 1990), Awtuw (Feldman 1986), Fore (Scott 1977), Kashmiri (Wali and Koul 1997), and Arizona Tewa (Kroskrity 1978, 1985).
6.1 Umatilla Sahaptin

This section will outline the general properties of the global case split in Umatilla Sahaptin (Penutian; Washington, Oregon) and propose an analysis based on the free interaction of agreement and impoverishment.

The main subject of this section is the distribution of the subject case marker -nim (the so-called 'inverse ergative'), which appears if the subject is 3rd person singular and the object is 1st or 2nd person. In all other cases the subject is zero marked (Rigsby and Rude 1996, Rude 1997a, Zúñiga 2002). This marker distribution appears global at first glance since properties of the object have to be taken into account when determining case marking of the subject. (1) and (2) provide relevant data.

(1) a. ín=a q’ínu-ša payúwii-na lmáma-an
   I=1SG 3ABS-see-IMPV sick-JOBV old.woman-JOBV
   'I see the sick old woman.' (Rigsby and Rude 1996: 674)

b. i=q’ínu-ša=áš inínš-nim
   3NOM-see-IMPV=1SG man-INV
gér
   'The man sees me.' (Rude 1997a: 332)

c. inínš i-tuxnána yámaš-ná
   man 3NOM-shot mule.deer-JOBV
   'The man shot a mule deer.'

d. ín=a q’ínu-ša=yámaš-ná
   I=1SG 3ABS-shot mule.deer-JOBV
   'I shot a mule deer.' (Rigsby and Rude 1996: 676)

(2) xw’ísat-ním=náš i-ní-ya ináy k’úsi
   old.man-INV
gér=1SG 3NOM-give-PST me horse
   'The old man gave me a horse.' (ibid.: 674)

Out of (1) only in (1b) is the subject 3SG and the object 1st or 2nd person. As a consequence, the subject is marked with -nim in (1b) but zero marked in all other examples. (2) shows that in ditransitives it is only the indirect object that is relevant. It being 1st person in (2), the subject bears -nim. If, on the other hand, it was the direct object k’úsi ‘horse' that was relevant for the choice of the subject marker, the zero marker would be attached instead (this being a 3>3 configuration).

The contrasts in (1) might be plausibly analyzed as differential argument encoding. Based on Hale/Silverstein hierarchies, 3rd person subjects are more marked than non-3rd person subjects. Correspondingly, 1st or 2nd person objects are less canonical than 3rd person objects. Therefore, the appearance of the marker nim corresponds to hierarchical markedness: Morphological case marking occurs in highly untypical configurations, i.e. those comprising a 3rd person subject and a non-3rd person object.
The crucial difference to local case splits such as in Hindi is that the marker alternation is—at least partly—conditioned by a co-argument. The main claim of this chapter is that under the assumption that the marker alternation in differential argument encoding is brought about by impoverishment and impoverishment may apply before Agree, the contrast in (17) is straightforwardly accounted for.

The empirical generalization concerning the distribution of the subject case markers is summarized in (3).

(3) Conditions for subject case markers

a. \(-n\text{im} /\leftrightarrow [\text{SUBJ}=\text{SG}] \land [\text{OBJ}=1/2]\)

\[
\begin{align*}
\text{b. } -\emptyset /\leftrightarrow & \quad [\text{SUBJ}=1/2] \\
& \lor [\text{SUBJ}=\text{PL}]
\end{align*}
\]

The subject marker thus solely depends on person and number properties of subject and object. As will turn out to be crucial for the analysis of global case splits, the verb agrees with subject and object for \(\phi\)-features. There is hence independent morphological evidence that these features must be represented within the verbal domain. We might therefore entertain the possibility that it is not the \(\phi\)-features of the object itself that influence case marking of the subject. Rather, the object's \(\phi\)-agreement features on the verb may affect case marking of the subject. The basic intuition of the analysis proposed below will be that \(\phi\)-agreement of subject and object on the verb trigger impoverishment of the case feature subsequently assigned to the subject. This analysis crucially relies on the assumption that in Umatilla Sahaptin, \(\phi\)-Agree takes place before case assignment.

As for the exponence of verbal \(\phi\)-agreement, 3\(^{rd}\) person subject and object agreement is instantiated as a verbal prefix and 1\(^{st}\)/2\(^{nd}\) person agreement as a second-position enclitic. Take (1a) as an example: 3\(^{rd}\) person object agreement is coded by the verbal prefix \(á\)-. The marker for 1\(^{st}\) person subject agreement is the enclitic \(-a\š\), which is attached to the subject pronoun in '1sg'. I assume that both pieces of agreement information are local enough to trigger case feature impoverishment on the verb as both are arguably present within the verbal domain. In other words, I assume that syntactically the relevant agreement features are present on T (see below). Displacement of these \(\phi\)-features to the second position takes places by means of a morphological dislocation operation. It is hence irrelevant as far as narrow syntax is concerned.\(^3\)

---

\(^3\) Note that within Distributed Morphology there is no difference concerning the theoretical status of clitics on the one hand and affixes on the other. Clitics, like affixes, are treated as syntactic heads. The only difference between the two is that clitics undergo morphological merger (Marantz 1988, Halle and Marantz 1993, 1994, Embick and Noyer 2001).
of the relevant morphemes is given in table 6.1. It is obvious that the verbal agreement markers are sensitive for person and number features of subject and object, which thus must be represented on the verb.

Note the asymmetry between direct and indirect objects observed on the basis of (2): Only the indirect object is relevant for determination of subject marking. Strikingly, this correlates with object agreement: only the indirect object triggers object agreement (naš in the case at hand). The present proposal treats the case marker alternation as not being directly determined by the arguments themselves but indirectly by their agreeing \( \phi \)-features. On this view, the different behavior of direct and indirect objects follows immediately: Since the direct object evidently does not agree (quite plausibly due to an intervention effect of the indirect object), its \( \phi \)-features are not present within the verbal domain. Therefore, it cannot have any effect on the subject case marker. This constitutes further evidence for one of the central claims pursued here, namely, that impoverishment is a strictly local operation.

Having established that the verbal domain contains the relevant \( \phi \)-features of subject and object, I now turn to the derivation of the context of impoverishment. Because of the meta-principle of Iconicity the overt marker -nim has to be treated as the default subject case marker. Impoverishment may then lead to insertion of the zero marker. Note, however, that the configurations where the zero marker appears do not form a natural class: if either the object is 3\(^{rd}\) person or the subject is non-3\(^{rd}\) person or the subject is plural (see (3)). If the context of impoverishment is explicitly stated, disjunction or negation would have to be employed. An approach in terms of harmonic alignment of scales, on the other hand, can capture such seemingly inhomogeneous applications of impoverishment. There is independent evidence that such an approach is on the right track, since 3\(^{rd}\) person subjects and 1\(^{st}/2\(^{nd}\) person objects are hierarchically

---

4 This is only a subset of the possible verbal prefixes in Sahaptin. See Rigsby and Rude (1996: 675f.) and Zuñiga (2002: 155ff.) for further discussion.

---

Table 6.1 Agreement markers in Umatilla Sahaptin

<table>
<thead>
<tr>
<th>AGREEMENT ENCLITICS</th>
<th></th>
<th>AGREEMENT PREFIXES(^4)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>naš</td>
<td>1SG</td>
<td>pam</td>
<td>2PL</td>
</tr>
<tr>
<td>na</td>
<td>1PL.INCL</td>
<td>maš</td>
<td>1SG&gt;2SG</td>
</tr>
<tr>
<td>nataš</td>
<td>1PL.EXCL</td>
<td>mataš</td>
<td>1&gt;2 (one or both PLURAL)</td>
</tr>
<tr>
<td>nam</td>
<td>2SG</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\( i-\) 3.NOM  \( pa-\) 3PL.NOM

\( á(w)-\) 3.ABS

based on Rigsby and Rude (1996: 675)
marked. Harmonic alignment of scales can straightforwardly capture the fact that overt markedness (presence or absence of a marker) correlates with hierarchical markedness. It is only crucial that the relevant contexts are less marked than a certain cut-off point established by the insertion of a markedness constraint. No resort to natural classes is thus necessary.

There is, however, one inconsistency—the number condition. Assuming that the number scale is ‘singular > plural’, plural subjects are more marked than singular subjects, as subjects align with the upper end of the hierarchy. It is therefore unclear why 3sg subjects can be marked with \(-n\)im but (more marked) 3pl subjects cannot. In order to handle this fact I assume that the number property is not derived by scales but that the marker \(-n\)im is idiosyncratically specified for [number: sg] and can thus never be attached to plural subjects. Thus, the number scale does not enter into harmonic alignment. It is only brought about by marker specification. Since \(-n\)im is attached to subjects, this claim furthermore derives the fact that only the number feature of the subject but not the object is relevant (as can be verified by (3)). This is because a subject marker cannot be sensitive to number features on the object.⁵

The scale effects are derived by means of harmonic alignment and local conjunction in the following way: Having excluded number, the relevant scales for Umatilla Sahaptin are the ones in (4).⁶

(4) Scales

\[
a. \quad \textbf{Person Scale} \\
\begin{array}{ccc}
\text{Local} & \text{Non-local} \\
1^{\text{st}} & 2^{\text{nd}} & 3^{\text{rd}}
\end{array}
\]

⁵ With that in mind, one might wonder whether a further specification of \(-n\)im for 3rd person subjects is also tenable. This specification would void the argument made above that a rule-based conception of impoverishment would need to resort to a disjunction. Impoverishment would then only apply if the object is 3rd person. Non-appearance of the marker in ‘1/2>1/2’ combinations would instead be implemented by the morpho-syntactic specification of \(-n\)im (I am grateful to Gereon Müller for pointing this possibility out to me). While tenable in principle, such a move would leave unaccounted for the fact that \(-n\)im is attached only in the most marked person combinations, a fact that immediately falls into place if impoverishment is conditioned by both subject and object properties. Under the marker specification approach, furnishing \(-n\)im with, e.g., a /first person feature would be equally possible, making the clear prediction that the distribution of these case markers does not in any relevant way correlate with markedness. This, however, is not what the evidence suggests. As will be discussed in more detail in section 6.4.2, there exists a striking correlation between morphological markedness and hierarchical markedness in both local and global case splits. Given that impoverishment may derive this correlation from a principled basis but mere marker specification may not, an impoverishment approach is to be preferred. Consequently, the person feature of the subject seems best treated as a conditioning factor for impoverishment.

⁶ For the sake of convenience, I will work with the simplified person scale ‘Local > Non-local’ here. The following derivation can however equally well be carried out with the more complex version of the person scale.
b. Grammatical Function Scale
   Subject > Object

For the sake of exposition, I will go through the derivation of the constraint ranking step by step. First, harmonical alignment yields (5).

(5) Harmony Scales
   a. Subj/Loc > Subj/NLoc
   b. Obj/NLoc > Obj/Loc

These harmony scales are then transformed into constraint rankings with the reversed order, cf. (6).

(6) Constraint ranking
   a. *Subj/NLoc >> *Subj/Loc
   b. *Obj/Loc >> *Obj/NLoc

As both subject and object properties are relevant for triggering impoverishment, the rankings in (6) have to be combined. This is achieved by local conjunction in (7). Recall that the local conjunction of two constraints A and B is violated if both constraints A and B are violated within a given domain (by assumption the syntactic head).

(7) Local conjunction of (7)
   b. *Subj/Loc & *Obj/Loc >> *Subj/Loc & *Obj/NLoc
   c. *Obj/Loc & *Subj/NLoc >> *Obj/Loc & *Subj/Loc
   d. *Obj/NLoc & *Subj/NLoc >> *Obj/NLoc & *Subj/Loc

To exemplify, the first constraint in (7a) is violated if a certain domain (the syntactic head, under present assumptions) comprises both a 3rd person subject specification and a 1st or 2nd person object specification. This is fulfilled if a 3rd person subject and a local person object trigger agreement on the same verbal head. Notice that the rankings in (7) correspond to markedness in terms of Hale/Silverstein hierarchies. Thus *Subj/NLoc & *Obj/Loc is ranked higher than *Subj/NLoc & *Obj/NLoc because non-local objects are more canonical than local objects. Correspondingly, they are associated with a lower-ranked constraint.

In order to relativize the constraints in (7) for case features, they are locally conjoined with the faithfulness constraint max-case, which penalizes case feature deletion from input to output, cf. (8). Notice that the ranking relations inherited from (7) are unaffected.
As an example, the first constraint of (8a) is violated if there is (i) a 3rd person subject specification, (ii) a local person object specification, and (iii) a case (sub)feature has been deleted. The constraint rankings in (8) can be represented as the lattice in figure 6.1.

The markedness constraint (9), which penalizes the presence of the case feature [+subj], is then inserted into the ranking in figure 6.1 in a language-specific position, yielding the final ranking in (10).

(8) *Local conjunction with MAX-CASE*

b. *Subj/Loc & *Obj/Loc & MAX-CASE ≫ *Subj/Loc & *Obj/NLoc & MAX-CASE
c. *Obj/Loc & *Subj/NLoc & MAX-CASE ≫ *Obj/Loc & *Subj/Loc & MAX-CASE

As an example, the first constraint of (8a) is violated if there is (i) a 3rd person subject specification, (ii) a local person object specification, and (iii) a case (sub)feature has been deleted. The constraint rankings in (8) can be represented as the lattice in figure 6.1.

The markedness constraint (9), which penalizes the presence of the case feature [+subj], is then inserted into the ranking in figure 6.1 in a language-specific position, yielding the final ranking in (10).

(9) *Markedness constraint*

*[[+subj]]*

(10) *Final ranking for Umatilla Sahaptin*

*Subj/NLoc & *Obj/Loc & MAX-CASE

≫ *[[+subj]]*

≫ { *

*Subj/NLoc & *Obj/NLoc & MAX-CASE*

}{ *

*Subj/Loc & *Obj/Loc & MAX-CASE*

≫ *Subj/Loc & *Obj/NLoc & MAX-CASE*

}
The ranking in (10) has the effect that for all combinations except the most marked one (having a non-local subject and a local object) the markedness constraint $^* [+\text{subj}]$ outranks the faithfulness constraint, resulting in deletion of $[+\text{subj}]$. Only in the case of a non-local subject combined with a local object is $[+\text{subj}]$ retained. This captures the correlation between morphological markedness and hierarchical markedness. Note furthermore that no disjunction is necessary under this approach. What the contexts of the zero marker—and, hence, impoverishment—in (3) have in common is that they form a homogeneous area on the ranking in 6.1.

In addition to the ranking in (10) the system that I am going to propose for Umatilla Sahaptin comprises the case features in (11a) and the vocabulary items in (11b). The object marker -na never enters into competition for insertion into the subject and is only included for the sake of completeness. For concreteness let us assume that the relevant case features and $\phi$-probes are contained on $T$, cf. (11c). Under this perspective, then, it is exactly the tight connection between several case and $\phi$-features, all appearing on one head, that allows the interaction witnessed in Umatilla Sahaptin and other languages with global case splits.

(11) a. Case subfeatures

- **Ergative:** $\begin{bmatrix} -\text{obl} \\ +\text{subj} \end{bmatrix}$
- **Objective:** $\begin{bmatrix} -\text{obl} \\ -\text{subj} \end{bmatrix}$

b. Markers

- -nim/ $\leftrightarrow \begin{bmatrix} -\text{obl} \\ +\text{subj} \\ \text{NUM: SG} \end{bmatrix}$
- -na/ $\leftrightarrow \begin{bmatrix} -\text{obl} \\ -\text{subj} \end{bmatrix}$
- -Ø/ $\leftrightarrow \begin{bmatrix} \end{bmatrix}$

---

7 Of course, in order for the ranking in (10) to apply correctly, subject and object $\phi$-specifications have to be distinguishable on the verb. As it turns out, there is independent morphological evidence that this is the case. In a ‘$3$>1$’ configuration such as (1b) agreement with the $3^{rd}$ person subject is encoded by the prefix $i$- ‘$\text{nòm}$’. In contrast, agreement with a $3^{rd}$ person object in a ‘$3>3$’ combination is marked morphologically by the marker $\text{$\`\mathrm{á}$}$- ‘$\text{$\á$bs}$’ (cf. (1d)). Morphological evidence thus makes it unambiguously clear that subject and object $\phi$-specifications can be distinguished on $T$. It is only natural, then, to assume that impoverishment is sensitive to this distinction as well.

8 This reasoning is reminiscent to some extent to the analysis of the Chukchi spurious antipassive proposed in Bobaljik and Branigan (2006) and Bobaljik (2007). Here as well $T$ enters into agreement with both subject and object. This tight connection leads to the emergence of certain language-specific filters against particular $\phi$-combinations. In the present approach, the $\phi$-features of subject and object plus the relevant case features are present on $T$, allowing them to be accessed simultaneously. The result is deletion of the subfeature $[+\text{subj}]$ in certain configurations, according to (10). Hence in both approaches appearance on the same head is a necessary condition for mutual influence.
As a consequence, the general derivation looks like follows. The relevant Agree operations are depicted in (12). By assumption, $\phi$-Agree takes priority over $\kappa$-Agree in Umatilla Sahaptin. Thus the situation is the mirror image of the Hindi, Marathi/Punjabi, Basque, and Icelandic analyses above. While there case influenced $\phi$-agreement, here it is $\phi$-agreement that influences case (cf. section 6.4.1 for a formalization of this difference). First, the object DP merges with V. Secondly, $v$ is brought into the structure. As $v$ does not bear any features relevant for the present analysis, the subject is merged in Spec,vP next. After merging T with vP, both $\kappa$- and $\phi$-Agree may in principle take place. $\phi$-Agree taking priority, the subject’s and object’s $\phi$-features appear on T (cf. steps (1) and (2)). Depending on the values of these features impoverishment takes place or not, affecting the ergative case feature not yet assigned. Lastly, ergative and objective are assigned to subject and object, respectively (3 and 4). Here vocabulary insertion takes place, depending on whether impoverishment has applied on T or not.

For illustration, consider (1c), repeated as (13).

(13)  iwūs i-tuñána  yámaš-na
       man  3NOM-shot mule.deer-OBJV
       'The man shot a mule deer.'

As soon as T has been merged, $\phi$-Agree takes place, furnishing T with both the $\phi$-features of subject and object and the (still unassigned) subject case matrix. Since
in (13) both the subject and the object are 3rd person (non-local), the markedness constraint *[+subj] in (10) outranks the relativized faithfulness constraint MAX-CASE (cf. the tableau in (14)). Consequently, the optimal candidate has an impoverished case feature \([-obl,+subj]\) that is assigned to the subject. Because of the subset principle, the marker -nim is thus bled from insertion, yielding zero marking of the subject. This is depicted in figure 6.2.

(14) Tableau for (13)

|---|-----------------------------------|-----------------------------------|-----------------------------------|
| O₁: \([-obl,+subj]\) | *! * | * | *
| O₂: \([+subj]\) | *! | * | *
| 𝔄₇ O₃: \([-obl]\) | * | * | *
| O₄: \([\ ]\) | *! | | |

In contrast, recall (1b)=(15).

(15) i-q’ínu-ša=aš iwinś-nim
3NOM-see-IMPV=1SG man-INV.ERG
‘The man sees me.’

The derivation proceeds as seen in the last example with one crucial difference: Since in (15) the subject is non-local and the object local (this being the most marked configuration), the relativized faithfulness constraint MAX-CASE outranks the markedness constraint. Therefore, the optimal candidate has an unaltered case feature (see the
Sample derivation for (13): świnš i-tuxnána yáamaš-na. 'The man shot a mule deer.'
To verb is agreement rather than the pronoun itself). This derivation is illustrated in figure 6.3.

(16) Tableau for (15)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>O₁: [ - obl  ]</strong></td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>**O₂: [ +subj ]</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>**O₃: [ - obl ]</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>**O₄: [ ]</td>
<td>*!</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>

To summarize, the present section proposed an analysis of the global case split in Umatilla Sahaptin that crucially relies on impoverishment interacting with Agree. Under this analysis, it is verbal ϕ-agreement that affects a case feature not yet assigned. Upon case assignment, the effects of local impoverishment show up on a verbal argument, yielding the false impression of global computation. The next two sections illustrate how the present account can be straightforwardly extended to Yurok and Kolyma Yukaghir as well.
6.2 Yurok

In Yurok (Algic), the object is marked with -ac if there is a 3rd person subject and the object itself is 1st or 2nd person singular. Otherwise the object is zero marked (Robins 1958, Bickel in press). This is shown in (17).

(17) a. keʔ nek ki newoh-pa?
    2SG.NOM 1SG.NOM FUT see-2>1SG
    'You will see me.'

    b. yoʔ nek-ac ki newoh-peʔn
    3SG.NOM 1SG-OBJV FUT see-3SG>1SG
    'He will see me.'

(Robins 1958: 21)

* Thanks to Juliette Blevins for confirming this fact to me.
In (17a) the subject is 2\textsuperscript{nd} person and, correspondingly, the object is not overtly marked. In (17b), on the other hand, the subject is 3\textsuperscript{rd} person. In this and only this case the object bears the case marker -ac. The crucial difference to the Umatilla Sahaptin data in the previous section is that the case marker appears on the object instead of the subject.

Because of the verbal agreement in (17) it must be the case that the verb agrees with both arguments for $\phi$-features. In this respect Yurok behaves exactly like Umatilla Sahaptin. As in Sahaptin, I conclude from this observation that the person feature of the subject is represented within the verbal domain and can hence trigger case feature impoverishment there. To achieve this, I assume that in Yurok, just as in Umatilla Sahaptin, $\phi$-agreement takes place prior to case assignment. The effect of this ordering is that there is a stage in the derivation where the verbal domain comprises both case and $\phi$-features. Case impoverishment triggered by $\phi$-features can then apply head-locally.

The basic derivation in Yurok is identical to the one in Umatilla Sahaptin: $\phi$-agreement between verb and subject copies the subject’s person (and number) feature onto T. Here, it may trigger object case feature impoverishment in the context of certain person features, just as in the case of ‘local’ differential argument encoding. The resulting case feature is then assigned to the object, where the case marker is inserted. The ranking is exactly the same as for Umatilla Sahaptin with the only difference that the inserted markedness constraint is *[-subj] rather than *[+subj]. Thus, in contrast to Sahaptin, it is the object rather than the subject that gets impoverished. Consequently, the marker alternation appears on the object. The ranking is given in (18). As in Umatilla Sahaptin, (18) leads to impoverishment in all configurations except the one with highly untypical subject and object (i.e. a 3\textsuperscript{rd} person subject and a local person object).

(18) \textit{Ranking for Yurok}

\begin{align*}
\text{*Subj/NLoc & *Obj/Loc & max-case} & \gg *[-subj] \\
\gg \left\{ \begin{array}{l}
*\text{Subj/NLoc & *Obj/NLoc & max-case} \\
*\text{Subj/Loc & *Obj/Loc & max-case}
\end{array} \right. \\
\gg *\text{Subj/Loc & *Obj/NLoc & max-case}
\end{align*}

The specification for the relevant cases and markers is provided in (19). That -ac only appears on singular objects can be straightforwardly implemented in the same way as for Umatilla above—the case marker is specific for a singular feature.
To illustrate, I will outline the derivation for both cases in (17). Consider first (17a). After T has been merged both unvalued ϕ- and case features may trigger Agree. In Yurok, ϕ-agreement by assumption takes place first. As a result, the subject’s 2nd person feature is represented on T, allowing optimization to apply, and thus yielding impoverishment of the objective case from [–obl +subj] to [–obl]. At the next step, κ-Agree applies, furnishing the object with [–obl]. Since the case marker -ac does not fulfill the subset principle, the object is zero marked. This derivation is depicted in figure 6.4.

In contrast, recall (17b). Again, ϕ-agreement copies the subject’s person feature onto T. But since in this case it is 3rd rather than 2nd person, the context of impoverishment is not met. This yields assignment of the full case feature [–obl +subj] to the object, where the marker -ac is inserted. This is illustrated in figure 6.5.

In summary, I have proposed a local account for an apparently global case alternation in Yurok. Under this analysis, impoverishment applies strictly head-locally and the only operation involving more than one head is Agree which is independently needed.

---

10 Just as in Umatilla Sahaptin (recall footnote 7) the ϕ-features of subject and object need to be distinguishable on T. This is an uncontroversial claim for Yurok as well, given that marker insertion is sensitive to this distinction as well: ‘1sg>3sg’ is realized differently from ‘3sg>1sg’. As seen in (17b), the marker for ‘3sg>1sg’ is -pe’n. According to Robins (1958:70), the configuration ‘1sg>3sg’ is expressed by -sek’.

As the reader may have noticed, the subject case in Umatilla Sahaptin is termed ‘ergative’ here, while in Yurok it is called ‘nominative’. This terminological distinction does not have any theoretical significance. I merely follow the nomenclature in the descriptive literature.
Figure 6.4
Sample derivation for (17a): keʔ-O nek-O ki newoh-paʔ. 'You will see me.'
6.3 Kolyma Yukaghir

The global case splits in Umatilla Sahaptin and Yurok discussed in the last two sections both instantiate a zero/non-zero alternation. Therefore, these patterns could also be accounted for by completely deleting the syntactic case feature instead of just deleting the respective subfeature [+/-subj], leaving [-obl] intact. Under the analyses of global case splits put forward here, the fact that impoverishment leads to insertion of a phonological zero marker is the consequence of idiosyncratic marker specifications (there does not exist a marker realizing only [-obl]). We might thus wonder whether there exist global case splits with alternations between two (or even more) overt markers, as the present account leads one to expect. In this section I will argue that Kolyma...
Yukaghir instantiates precisely such a system. It thus provides additional empirical evidence for the claim that impoverishment is at stake here.

Kolyma Yukaghir is an Uralic language spoken in Siberia by approximately 50 speakers (Maslova 2003). The main thrust of this section will be to develop an account for object case marking in Kolyma Yukaghir based on impoverishment. In Kolyma Yukaghir, the object bears one of four case markers, only one of which is zero. The other markers are -gele, -le, and -ul. The zero marker appears if the subject is 1st or 2nd person and the object is 3rd. If the object is 1st or 2nd person as well, it receives ‘pronominal accusative’ marking (-ul). If the subject is 3rd person and the object is 3rd person non-definite, -le appears on the object. Lastly, if the object is 1st, 2nd or 3rd person definite and the subject is 3rd, -gele is attached. This distribution is summarized in table 6.2; relevant examples are provided in (20)–(25). As for verbal agreement, only the subject controls person and number on the verb.12

(20) 3>3.def: /-gele/
   a. met es’ie tet pulut-kele kudede-m
      my    father your husband-ACC kill-TR:3SG
      ‘My father has killed your husband.’ (Maslova 2003: 89)
   b. titte čul-gele min-njä
      their meat-ACC take-3PL:TR
      ‘They took their meat.’ (ibid.: 93)

(21) 3>1: /-gele/
   tet kimni met-kele kudede-m
   your whip me-ACC kill-TR:3SG
   ‘Your whip has killed me.’ (ibid.: 93)

---

11 I am indebted to Lennart Bierkandt for bringing Kolyma Yukaghir to my attention.
12 Glosses are from Maslova (2003). ‘o’ designates a sub-morphemic unit.
The first thing to notice is that there is a globally conditioned case alternation between two overt markers: If both the subject and the object are 1st or 2nd person, the marker -ul appears on the object. If object properties are left unchanged and the subject is replaced by a 3rd person element, object marking takes the form of -gele. This alternation is instantiated in (22) and (21), respectively.

A striking fact that I take to be revealing about the nature of case splits is that despite the multitude of markers that enter into the alternation, there is a clear correspondence between morphological and hierarchical markedness. Transitive configurations that count as highly canonical in terms of Hale/Silverstein hierarchies (i.e. having a local person subject and a 3rd person object) are not marked morphologically. If either the subject or the object is non-canonical, the overt markers -ul or -le show up. Finally, if both the subject and the object are hierarchically marked, the object receives most morphological marking (-gele). This correlation, which, in a less striking form, also holds for all other global case splits, needs to be derived. As I will illustrate in the remainder of this section, deriving global case splits by scale-driven impoverishment achieves exactly this.

Recall that in the accounts for Yurok and Umatilla Sahaptin the \( \Phi \)-features of both subject and object were present on T, thus triggering case feature impoverishment. While tenable in principle, there seems to be little to warrant such an analysis in
Kolyma Yukaghir. The reason is that, in contrast to Yurok and Umatilla, there is no overt morphological evidence for verbal $\phi$-agreement with the object. Furthermore, as evident from table 6.2 as well as the contrast between (20) and (24), definiteness of the object enters into the computation of case marking. If this computation exclusively took place in the verbal domain, the object's definiteness properties would have to be represented here. As there is no independent evidence for this assumption, I suggest that the data are to be taken at face value: Only the $\phi$-features of the subject are represented within the verbal domain. This makes necessary a two-step impoverishment procedure. Generally speaking, the derivation proceeds as follows: First, $\phi$-agreement with the subject for person and number takes place. Secondly, the subject’s $\phi$-features on T influence via impoverishment the case to be assigned to the object. After subsequent case assignment, a second impoverishment operation affects the case feature on the object. In a nutshell, then, Kolyma Yukaghir combines a local and a global case split. The relevant ingredients of the analysis are given (26). As for the derivational steps, everything proceeds as in the derivation for Umatilla Sahaptin, (12), with the only difference being that step $\odot$ does not apply as T only contains one $\phi$-probe (cf. (26d)).

(26) System for Kolyma Yukaghir

a. Markers

/-gele/ ↔ $\begin{bmatrix} +\text{gov} \\ -\text{obl} \end{bmatrix}$

/-ul/ ↔ $\begin{bmatrix} -\text{subj} \end{bmatrix}$

/-le/ ↔ $\begin{bmatrix} +\text{gov} \end{bmatrix}$

/-Ø/ ↔ $\begin{bmatrix} \end{bmatrix}$

b. Case decomposition

Nominative: $\begin{bmatrix} +\text{subj} \\ -\text{gov} \\ -\text{obl} \end{bmatrix}$

Accusative: $\begin{bmatrix} -\text{subj} \\ +\text{gov} \\ -\text{obl} \end{bmatrix}$

c. Impoverishment rules$^{13}$

(i) $[+\text{gov}] \rightarrow \emptyset / \begin{bmatrix} 1/2 \land \text{Subj} \end{bmatrix}$

(ii) $[-\text{subj}] \rightarrow \emptyset / \begin{bmatrix} 3 \land \text{Obj} \end{bmatrix}$

(iii) $[-\text{obl}] \rightarrow \emptyset / \begin{bmatrix} 3.\text{Ndef} \land \text{Obj} \end{bmatrix}$

d. Feature content

$T: \begin{bmatrix} \text{NOMINATIVE} \\ \text{ACCUSATIVE} \\ u\phi \end{bmatrix}$

$^{13}$ The impoverishment rule in (26ci) can be straightforwardly recast as an OT-ranking, as in (i):
Let me illustrate the workings of this system on the basis of some of the examples above. First, consider (23), repeated as (27) below.

(27) met tet-ul kude-de-t
     I   you-ACC kill-fut(tr:1sg)
     'I will kill you.'

The derivation starts with subject and object containing unvalued case probes. By assumption, T comprises two corresponding case features and one ϕ-probe, which finds the subject first. As ϕ-Agree applies first, the subject's ϕ-features percolate to T. Here, the structural description of the impoverishment operation (26ci) is fulfilled, thus deleting [+gov]. As the next step, case is assigned to subject and object, respectively. The object's case feature comprises [–subj]. Therefore, -ul is the most specific marker that fulfills the subset principle and is hence inserted. This derivation is depicted in figure 6.6.

As a second example, consider (25a)=(28).

(28) met mêmê inji
     I   bear be.afraid(tr:1sg)
     'I am afraid of the bear.'

The derivation of (28) is similar to the one for (27) above. The only relevant difference is that, in addition, the context for impoverishment (26cii) is fulfilled on the object, leading to further case impoverishment in a second step. Consequently, only the
elsewhere marker -Ø fulfills the subset principle. The relevant derivational steps are summarized in Figure 6.7.

A third example to be discussed is (29) = (20a).

(29) met es'ie tet pulut-kele kudede-m
my father your husband-ACC kill-TR:3SG
‘My father has killed your husband.’
Figure 6.7
Sample derivation for (28): "Met mêmê iṣṣi. I am afraid of the bear."
Figure 6.8
Sample derivation for (29): *Met es’ie tet pulut-kele kude-de-m.* ‘My father has killed your husband.’

In (29), no impoverishment takes place on T, as the subject’s Φ-features (3SG) do not fulfill the context of (26ci). Consequently, the whole case feature matrix is assigned to the object. Here, the context of (26cii) is given, leading to deletion of [–subj]. (26ciii) does not apply. The resulting case specification is [ +gov –obl ]. -gele is the most specific marker that forms a subset for this specification. Hence, the object bears -gele. Figure 6.8 schematizes this derivation.

The last derivation to be exemplified here is the one for a le-marked object. (30) (= (24)) provides an example.
Figure 6.9
Sample derivation for (30): N’umd’-le mid’-u-m. 'He took an ax.'

(30) n’umud’-le mid’-u-m
ax-INSTR  take-O-TR:3SG
'He took an ax.'

The derivation of (30) is similar to the one for (29). The only relevant difference is that the object is non-definite. Thus, both impoverishment rules (26cii) and (26ciii) apply, deleting [-subj] and [-obl]. Consequently, only [+gov] remains available for insertion, yielding attachment of -le. See figure 6.9.

To summarize this section, I have proposed an account for object case marking in Kolyma Yukaghir that rests on early impoverishment. Empirically, Kolyma Yukaghir
was used to demonstrate that global case splits need not be restricted to presence vs. absence of a case marker. Rather, they may involve several non-zero markers. Nevertheless, their distribution is far from arbitrary. The striking cross-linguistic pattern of differential object marking is found in this seemingly ‘exotic’ system as well: Morphological markedness correlates with hierarchical markedness. Theoretically, I have argued that the present system for global case splits is powerful enough to capture the Kolyma Yukaghir patterns while still maintaining the position that impoverishment only applies in canonical configurations and yields insertion of a smaller marker.

6.4 The Ordering of Operations

6.4.1 The Order of Agree

In Hindi, Marathi/Punjabi, Icelandic, Basque and Itelmen a DP’s ability to trigger verbal agreement was tied to its case specification (recall the notion of φ-opaqueness). Consequently, κ-Agree took place before φ-Agree in the analyses of these languages. In contrast, the treatment of Yurok, Umatilla Sahaptin, and Kolyma Yukaghir made it necessary for φ-Agree to take place before κ-Agree, as the assigned case feature depends on verbal φ-agreement. The ordering between κ- and φ-Agree thus cannot be fixed and universal. Rather, languages must be subject to variation in this respect.

Recall from the discussion in section 2.3 that I presuppose a derivational approach to optimization, i.e. a system with an intertwined application of structure-building and structure optimization. So far, the main purpose for adopting this framework was to model formally the claim that impoverishment (conceived of as the result of optimization with a sufficiently high-ranked markedness constraints) applies syntax-internally, thus affecting other syntactic (Agree) operations. As it turns out, this conception immediately provides a solution to the puzzle that different languages involve a different order of elementary operations. In a nutshell, if Agree operations (as arguably all operations) are triggered by OT constraints, ranking differences between languages may lead to variation with respect to which agree operation takes priority in a given syntactic environment.

Conceptually, I suggest, following the lines of Müller (2004a, 2009b), that given a stage in the derivation with both unvalued case and φ-features, there is no inherent ordering between κ- and φ-Agree because neither of them logically presuppose the other. Instead, languages may vary regarding which type of features must be valued first. In an OT-style grammar, this is straightforwardly modelled by variations in

---

14 The analyses in Müller (2004a, 2009b) are only concerned with the relative ordering between Agree and Merge operations, but the line of argumentation is identical.
constraint rankings. Assuming that feature valuation is triggered by markedness constraints against unvalued features, the zero assumption is that there exist both a markedness constraint against unvalued \( \phi \)-features and another one against unvalued case. Under the assumption that every single syntactic step undergoes optimization (recall the notion of extremely local optimization from section 2.3), case and \( \phi \)-features cannot be valued simultaneously, as this would involve two steps in the derivation. Depending on the ranking between both markedness constraints either case or \( \phi \)-features take priority. Thus, the markedness constraints in (31) can be ranked with respect to each other either way, resulting in a different order of valuation operations (cf. (32)).

(31) a. \(*[\phi: \_\_] \)
   ‘penalizes the presence of unvalued \( \phi \)-features’

b. \(*[\text{CASE: } \_\_] \)
   ‘penalizes the presence of unvalued case features’

(32) a. \(*[\text{CASE: } \_\_] \gg *[\phi: \_\_] \)
   Hindi, Marathi, Punjabi, Icelandic, Itelmen, Basque

b. \(*[\phi: \_\_] \gg *[\text{CASE: } \_\_] \)
   Yurok, Umatilla Sahaptin, Kolyma Yukaghir

To illustrate, assume that in, e.g., Basque, \( \nu \) has been merged with VP. By assumption, \( \nu \) in Basque comprises both case features and \( \phi \)-probes (recall the system in (7) on page 75). Thus the structure built at this point contains both unvalued case features (on the object) and unvalued \( \phi \)-features (on \( \nu \)). This structure forms the input, on the basis of which several output representations \( (O_1, O_2, \ldots, O_n) \) are formed by applying a single application of exactly one syntactic operation (move, merge, Agree, impoverishment). For present purposes I will ignore all possible operations except for Agree. By assumption the ranking in Basque is (32a). Three relevant candidates can be distinguished: One is formed by applying \( \kappa \)-Agree, thus valuing the unvalued case feature \( (O_i) \); a second one is formed by \( \phi \)-Agree, thereby getting rid of the unvalued \( \phi \)-feature \( (O_i) \); a third candidate \( O_j \) involves some other operation, the relevant constraint for which by assumption is ranked lower than the Agree constraint, and hence irrelevant. The fourth logical possibility, a candidate invoking both \( \phi \)- and \( \kappa \)-Agree, does not enter the computation as it cannot be formed by applying a single instance of a single syntactic operation to the input. It is hence not part of the candidate set. As can be verified by means of the tableau in (33), the candidate involving case assignment fares better than all its competitors. Consequently, then, it is chosen as the winner and constitutes the input for the next cycle of structure-building and optimization. This accounts for the observation that, if both case assignment and \( \phi \)-Agree are possible in Basque, case assignment takes priority. If the ranking is reversed (as in (34)), the opposite result is
reached. Thus, the observed variation with respect to the order of Agree operations is straightforwardly implemented by extremely local optimization.

\[ (33) \textbf{Sample optimization: } \kappa\text{-AGREE} > \phi\text{-AGREE} \]

<table>
<thead>
<tr>
<th>Input:</th>
<th>( v[ _u \phi \text{CASE} ] )</th>
<th>DP[ _u \text{CASE} ]</th>
<th>*[CASE: ___ ]</th>
<th>*[\phi: ___ ]</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \overrightarrow{O_1}: v[ _u \phi \text{CASE} ] )</td>
<td>DP[ _u \text{CASE} ]</td>
<td>*!</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( O_2: v[ _u \phi \text{CASE} ] )</td>
<td>DP[ _u \text{CASE} ]</td>
<td>*!</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( O_3: v[ _u \phi \text{CASE} ] )</td>
<td>DP[ _u \text{CASE} ]</td>
<td>*!</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[ (34) \textbf{Sample optimization: } \phi\text{-AGREE} > \kappa\text{-AGREE} \]

<table>
<thead>
<tr>
<th>Input:</th>
<th>( v[ _u \phi \text{CASE} ] )</th>
<th>DP[ _u \text{CASE} ]</th>
<th>*[\phi: ___ ]</th>
<th>*[CASE: ___ ]</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \overrightarrow{O_1}: v[ _u \phi \text{CASE} ] )</td>
<td>DP[ _u \text{CASE} ]</td>
<td>*!</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( O_2: v[ _u \phi \text{CASE} ] )</td>
<td>DP[ _u \text{CASE} ]</td>
<td>*!</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( O_3: v[ _u \phi \text{CASE} ] )</td>
<td>DP[ _u \text{CASE} ]</td>
<td>*!</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If this conception of Agree as an instance of optimization is adopted, its relation to impoverishment—conceived of as optimization as well—deserves some remarks. First notice that under the present perspective both Agree and impoverishment are the result of markedness constraints. One may now entertain the possibility that the relation between the two operations boils down to a constraint ranking relation. Recall that so far an explicit ordering between impoverishment and Agree was presupposed: If both operations are possible, impoverishment takes priority. This ordering might now be reduced to a constraint ranking: The relevant markedness constraints leading to impoverishment are ranked higher than the constraints against unvalued features. While I claim this ordering to hold for all the languages discussed in the present study, this need not necessarily be the case. In other languages, Agree might apply before impoverishment. In such languages impoverishment does not of course affect Agree. As seems obvious, impoverishment applying sufficiently late in the derivation might be simply indistinguishable from impoverishment applying early in morphology. The ranking perspective thus offers up a tenable candidate for accommodating ‘well-behaved’ patterns of argument encoding with the cases of eccentric agreement discussed
here. I will not pursue this matter any further, merely noting that the perspective appears to have some prospect.\(^{15}\)

6.4.2 The Relation between Local and Global Case Splits: Globality Reduces to Earliness

The present theory makes a strong claim concerning the relation between local and global case splits: They instantiate the same phenomenon (scale-driven impoverishment), albeit active at a different stage of the derivation. I will argue that this is a desired result, as both types of splits have identical properties, thus warranting a unified approach.

Local case splits as exemplified by Hindi object marking (cf. section 3.1.1) refer to case marker alternations depending on features of Hale/Silverstein scales. What makes them ‘local’ is that the conditioning scale property and the marker alternation show up on the same argument. Thus, in Hindi, object case marking depends solely on object properties. The empirical hallmarks of these splits are that (i) morphological markedness and hierarchical markedness are correlated (i.e. the more canonical an argument is, the less it is marked morphologically), and (ii) the alternation may exist between two or more overt markers.\(^{16}\) These two properties follow systematically if case splits result from scale-driven impoverishment.

As I have laid out in the present chapter, global case splits exhibit the same properties: (i) The marker alternation is not arbitrary but strongly correlates with markedness hierarchies; (ii) the alternation may in principle involve several overt markers. Global splits only differ from local splits in that the scale feature and the marker alternation do not show up on the same argument.

The present system captures this relationship between local and global case splits in the following way: Both types of splits involve the same operation—impoverishment—, hence their identical properties (i) and (ii) follow. However, they differ with respect

\(^{15}\) Of course, if both Agree and impoverishment operations are brought about by markedness constraints, some readjustments within the system are called for. The most pressing problem is how to implement the requirement that both types of operations apply within domains of different sizes. Recall that Agree takes place within a phase, while impoverishment is restricted to single heads. This distinction is crucially necessary for Agree to feed impoverishment. Several solutions might be pursued, one of them being that local conjunction takes syntactic heads as its domain. Under this view impoverishment applies to a domain of smaller size precisely because it involves local conjunction, thus systematically differing from Agree, to which no such additional restriction applies.

to the order of their operations. Consequently, they differ regarding the relationship between conditioning features and the locus of the alternation.

Local case splits involve the ordering ‘κ-Agree > ϕ-Agree’. As a consequence, impoverishment may apply only after the case feature has been assigned to the relevant argument. After impoverishment has taken place the case feature is not percolated further. Hence, the marker alternation appears on the same head that impoverishment has applied to, giving rise to a local case split. Hindi object marking as analyzed in section 3.3.2 provides an example of this derivation.

Global case splits, by contrast, involve the ordering ‘ϕ-Agree > κ-Agree’. The result of this order is that impoverishment may apply within the verbal domain. Subsequently, the impoverished case feature is percolated to another head, to which vocabulary insertion applies, systematically affected by whether impoverishment has taken place or not. It follows that the effects of impoverishment show up on a different head. It is this percolation that gives this type of split its global character.

A desirable consequence of the analysis laid out in this chapter is that it does not invoke global computation. Thus, ‘local’ and ‘global’ case splits are treated as equally local, the crucial difference between both being that apparently ‘global’ splits involve early local impoverishment. Put differently, the present theory reduces seemingly global computation to the early application of a local operation.

To summarize, I have argued that the impoverishment approach to case splits presented here is capable of capturing the striking similarities between local and global case splits because they are a result of the same operation. The differences between the two boil down to a difference in operation order, ultimately a difference between case assignment and ϕ-agreement.

6.4.3 Global Case Splits and Verbal Agreement

As it turns out, although attributing local and global case splits to the same operation (impoverishment), the present approach makes the prediction that both types of splits differ with regard to ϕ-agreement. To take a concrete example, in Hindi a subject marked with -ne never triggers verbal agreement. Zero marked subjects, on the other hand, always do. The same holds for objects: zero-marked objects may in principle trigger agreement, ko-marked ones never do. Logically speaking, nothing precludes such a system in a language with global case assignment. Such a language would be like, e.g., Umatilla Sahaptin with the crucial difference that zero marked subjects would trigger verbal agreement, whereas subjects marked with -nim would not. The present proposal makes the interesting prediction that such a system cannot exist. This is because in order for a system like Hindi to arise case has to be assigned to a DP first, which may then render it invisible for ϕ-probing, leading to the distinct agreement behavior. As argued above, the order in Umatilla Sahaptin is reversed: First, verbal
ϕ-probing takes place and only then is case assigned. It follows that at the point in the derivation when ϕ-features are valued in Umatilla Sahaptin, impoverishment has not yet applied. Hence, the two scenarios are indistinguishable, as the relevant distinction has not yet been introduced. Consequently, a ϕ-probe cannot discriminate between objects that will end up containing an impoverished case feature and those that will not be affected by impoverishment, resulting in identical behavior as far as agreement is concerned.

This prediction is borne out for Umatilla Sahaptin (compare the contrast in (1b) and (1c), repeated as (35a) and (35b), respectively). Subject agreement is in both cases instantiated by the prefix i-, regardless of whether the subject is marked with -nim or not.

(35) a. i-q’înu-ša=aš iwinš-nim
    3NOM-see-IMPV=1SG man-INV:ERG
    ‘The man sees me.’

b. iwinš i-tuxnána yáamaš-na
    man 3NOM-shot mule.deer-OBJV
    ‘The man shot a mule deer.’

Note that this prediction cannot be tested for Yurok due to independent reasons, as Yurok has portmanteau exponence for both arguments.

The prediction is also borne out for Kolyma Yukaghir. Here all objects, regardless of their morphological marking, do not trigger verbal agreement.

A third language that also exhibits a global case split, Tauya, also conforms to the above prediction (MacDonald 1990).

(36) a. ya-ni fanu Ø-yau-e-ʔa
    1SG-ERG man 3SG-see-1/2-IND
    ‘I saw the man.’

b. ya-Ø pai yau-e-ʔa
    1SG-ABS pig see-1/2-IND
    ‘I saw the pig.’ (MacDonald 1990: 316)

In Tauya, case marking of the subject depends on humanness of the object, in line with the prediction of Hale/Silverstein hierarchies: in (36a) the object is human, yielding overt marking of the subject ya-ni ‘1SG-ERG’. (36b), in contrast, has a non-human object, triggering zero marking of the subject ya ‘1SG’. As predicted, verbal agreement does not treat both types of subjects differently—in both cases the marker is -e.17

17 To extend the analysis given for Yurok and Umatilla Sahaptin to Tauya, animacy of the object must be represented within the verbal domain as it can only then trigger impoverishment. Since the morphological form of the verb does not vary depending on the object’s animacy, I will assume that the relevant agreement relation holds abstractly (also cf. Georgi 2009 for the same conclusion).
In this section I have proposed an analysis of seemingly global case splits that makes use of local impoverishment before Agree. The basic logic of the argumentation is the following: If impoverishment can take place prior to Agree the information that impoverishment has taken place (i.e. the impoverished feature matrix) can be percolated to another head. Here marker insertion is sensitive to the output of impoverishment, yielding the impression of a global rule (taking one head as context and another one as the locus). This accounts for the apparently global effects of impoverishment in Yurok, Umatilla Sahaptin, and Kolyma Yukaghir in a strictly local way. Global case splits can thus be derived if Agree and impoverishment interact in the fashion shown in figure 6.10. The present account thus offers a unified treatment of both local and global case splits: Both are the result of case feature impoverishment invoked by ϕ-features. The only difference is that in the former case impoverishment applies to a DP, whereas in the latter it affects the verb. This correlates well with the intuition that both phenomena are indeed two appearances of one general marking strategy—differential argument encoding. Furthermore, it is corroborated by the empirical observation that they exhibit identical properties. I take it to be a welcome result that the intuitive similarity is reflected in a uniform theoretical treatment.

Figure 6.10
The order of operations in Yurok, Umatilla Sahaptin, and Kolyma Yukaghir

6.5 Summary

In this section I have proposed an analysis of seemingly global case splits that makes use of local impoverishment before Agree. The basic logic of the argumentation is the following: If impoverishment can take place prior to Agree the information that impoverishment has taken place (i.e. the impoverished feature matrix) can be percolated to another head. Here marker insertion is sensitive to the output of impoverishment, yielding the impression of a global rule (taking one head as context and another one as the locus). This accounts for the apparently global effects of impoverishment in Yurok, Umatilla Sahaptin, and Kolyma Yukaghir in a strictly local way. Global case splits can thus be derived if Agree and impoverishment interact in the fashion shown in figure 6.10. The present account thus offers a unified treatment of both local and global case splits: Both are the result of case feature impoverishment invoked by ϕ-features. The only difference is that in the former case impoverishment applies to a DP, whereas in the latter it affects the verb. This correlates well with the intuition that both phenomena are indeed two appearances of one general marking strategy—differential argument encoding. Furthermore, it is corroborated by the empirical observation that they exhibit identical properties. I take it to be a welcome result that the intuitive similarity is reflected in a uniform theoretical treatment.