Object Agreement and Incorporation in Iaai

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1. Introduction[1]

Some 22 transitive verbs in Iaai (Oceanic[2]) have a three-way distinction in their morphological form dependent on the class of the direct object.[3] In this paper I propose that: (i) the three kinds of direct objects are syntactically distinct in terms of their constituent make-up; and (ii) the three construction types are distinguished as involving: (a) syntactic incorporation of N, (b) syntactic incorporation of D and (c) absence of incorporation.

2. Three classes of construction

2.1 Verb form and direct object characterization

In the description of Ozanne-Rivierre (1976: 134-137) the three transitive verb constructions in Iaai are distinguished as follows:

			Direct object
(1)	I	Determinate:	common noun phrase or zero 3rd person
	II	Personal:	proper name or pronoun
	III	Indeterminate	non-specific noun

The examples in (2) - (4) illustrate the distinctions with the verb <u>kot</u> 'hit'[4].

Class I

(2)a. *A-me   <u>kot</u>.*
    3SG-PROCESS hit
    'He is hitting something/him/her/it.'

  b. *A-me   <u>kot</u> tep.*
    3SG-PROCESS hit   rat
    'He is killing the rat.'

  c. *A-me   <u>kot</u> jee   tep.*
    3SG-PROCESS hit   PAUC   rat
    'He is killing the rats.'

[2]Iaai is spoken on Ouvéa in the Loyalty Islands. It is most closely related to other Remote Oceanic languages of the Loyalty Islands and New Caledonia (Ross 1995:90). The most comphehensive description of Iaai is to be found in Ozanne-Rivierre (1976). See also Tryon (1968) and Lynch et al (forthcoming).

[3]Other transitive verbs have a two-way distinction in which the Class I form contrasts with the Class II/Class III form, or do not present evidence for a Class II/Class III distinction. A smaller number of transitive verbs have base forms which are unaffected by the phonological processes giving rise to the Class I versus Class II(/Class III) contrast.

[4]I use the orthography detailed in Ozanne-Rivierre (1976, 1984), Lynch et al (forthcoming). Non IPA vowel symbols are: 'û '= /y/, 'ö '= /ə/, 'â' = /ɔ/. Among the consonants, 'tr'/'dr 'are retroflex.

<u>Class II</u>
(3)a. *A-me   kuc   u*
     3SG-PROCESS hit   2SG
     'He is hitting you.'

  b. *A-me   kuc Poou.*
     3SG-PROCESS hit   Poou
     'He is hitting Poou.'

<u>Class III</u>
(4) *A-me   xuc   tep.*
     3SG-PROCESS hit   rat
     'He is killing rats.' / 'He is rat killing.'

In (2) - (4) the verb *kot* 'hit' has three distinct forms: *kot*, *kuc*, *xuc*. Except for the cases of (2b) and (4), the objects are uniquely identifiable for their class through their distinct surface forms following the descriptions in (1). The (2b) versus (4) contrast gives rise to distinct semantic interpretations: in (2b) the object is specific and in (4) the object is non-specific/generic.

Although clear and intriguing phonological patterns in the morphological alternations have been detailed in Ozanne-Rivierre (1976, 1986), it is not clear whether these patterns reflect synchronically transparent morpho-syntactic processes. It is possible that further systematic work on the phonology could bring such effects to the fore, but I leave this issue aside here as my purpose is to focus on the syntactic interpretation.

2.2 Linear sequencing

Aside from the differences in the morphological forms of the verbs in the three classes and the differences in the object type in each of these classes, there is also a two-way syntactic distinction: in Class I the verb and the direct object do not make up a constituent, whereas in both Classes II and III the direct object forms a unit with the verb. Thus, for example, an aspectual particle as the final element of the verbal group follows a Class II or III object, but precedes a Class I object:

<u>Class I</u>
(5)a. *A-me   an   dö   jee   wââ.*
     3SG-PROCESS eat   PUNCT PAUC   fish
     'He ate the fish.'

  b. *Dââ   but   wââ!*
     prick   COMPL fish
     'Prick the fish!'   [Gram 147]

  c. *ke   ödra ka   hom thidhö wanakat*
     but 3PL SIMUL   take PUNCT   child
     'but they took the child'   [Ciau 86]

<u>Class II</u>
(6)a. *me   tubwii ödrin   but*
     and cover   3PAUC   COMPL
     'and (it) covers them up'   [Joël Mau 12]

  b. *Kuc   ödrin   dö!*
     strike   3PAUC   PUNCT
     'Strike them!'   [Gram 147]

  c. *a-me   ka   kuc   Pou <u>thibut</u>*
     3SG-PROCESS SIMUL hit   Pou COMPL
     'and he hit Pou'   [Moju 97]

     <u>Class III</u>
(7)a. *A-me   han wââ <u>dhö</u>*.
     3SG-PROCESS eat   fish PUNCT
     'He ate fish.'

  b. *mw-ödrin   sitr eet <u>tö</u>   kâu*
     and-3PAUC   make net PUNCT INSTR
     'and they made nets with it'   [Moju 93]

  c. *me   hwenyii ien   <u>thidhö</u> me "Oûang"*
     COMP   give   name   PUNCT with Oûang
     'that (they) called "Oûang"'   [Moju 25]

Because of the positioning contrast for Class I versus Classes II and III, along with Ozanne-Rivierre (1976: 135), we take the view that Classes II and III incorporate the direct object, whereas Class I does not.

How and why are the objects in Classes II and III syntactically distinct from the Class I objects?

3. Constituent structures of direct objects

3.1 Noun Incorporation (N-Incorporation)
Although N-incorporation may apply from different argument positions in different languages, the most accessible noun for incorporation with the verb is a bare noun in the complement role (Baker 1988).

According to Baker's (1988) interpretation N-Incorporation is a syntactic process which may apply in configurations of the type in (8).

(8)

               V'
             ╱   ╲
       V   NP
       ↑ |
                N
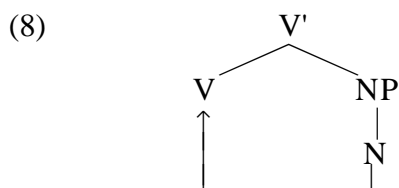
The surface ordering of the V+N sequence, such as in (7a), is then derived through raising of this sequence out of the VP:

(9)   [$_{IP}$ *a-me* [*han wââ*$_i$]$_j$ *dhö* [$_{VP}$ **t**$_j$ **t**$_i$]]   [= (7a)]
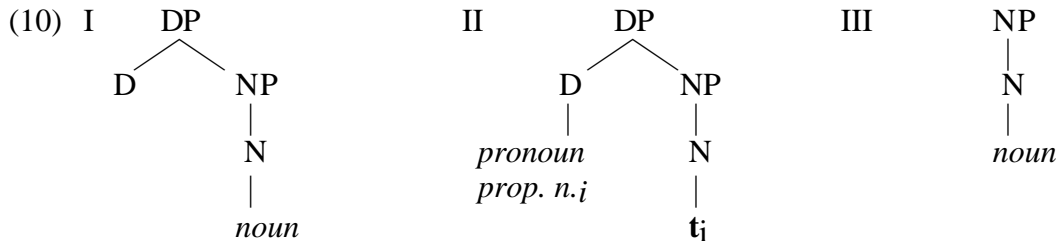
3.2 Direct object constituents
If we now suppose that the object in Class III is a bare NP, we obtain the contrast between Class III objects and Class I objects under the assumption that the Class I object is a standard DP constituent. What of Class II?

Kikusawa (2000: 196) notes:
    From a cross-linguistic point of view, pronouns and proper nouns having a
    syntactic distribution distinct from common nouns is not commonly found. This is

reflected in the fact that in Lexicase there is no feature that unites pronouns and proper names together.

However, within current generative views of noun phrase structure, there are good reasons to suppose that pronouns and proper names, as distinct from common nouns, may be positioned in the D head of their DP.[5] I therefore propose that the three types of direct object are distinguished structurally in terms of the schemas in (10).

(10)
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   I        DP                    II        DP                III      NP
          /    \                          /    \                        |
        D        NP                     D        NP                     N
                 |                      |        |                      |
                 N                   pronoun     N                    noun
                 |                   prop. n.i   |
               noun                            t_i
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In (10), the Class III object is distinct from the objects in both Classes I and II in that it is housed in a simple NP. Both Classes I and II are DPs rather than NPs, but Class I and Class II differ from each other for the content of their D heads.

What is the basis for the placement of both pronouns and proper names in D in (10II)?

In the case of the pronouns, I rely on previous work, dating from Postal (1966) and extending to Longobardi (1994) and Uriagereka (1995) among others, which supports the interpretation that the pronoun is a D, rather than an N.

In the case of the proper names, Longobardi (1994) has shown that in some languages proper names, but not common nouns, may raise in the syntax to the D head position of their DP. For example, in dialects of Italian which allow for a definite article with a proper name, the surface forms indicate raising of the proper name to the D head position when the article is not present.

(11)   <u>Italian</u>
    a.   *il   mio   Gianni*
          the   my   Gianni
          'my Gianni'

    b.   *Gianni mio*

    c.   **mio Gianni*   [Longobardi 1994]

In (11), if the article is not present the proper noun must precede the possessive. The raising of the proper name is thus obligatory in the absence of the article. Longobardi (1994) further shows that such raising does not apply to ordinary common nouns.

The kind of positional evidence shown in (11) is not available in Iaai because the proper name in Iaai may not be accompanied by pre-N articles, modifiers or possessives (Ozanne-Rivierre 1976: 155).[6] I take it, however, that the cross-linguistic evidence indicates that it is

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[5]From a type-theoretic perspective, Alderete (1998) identifies comparable pronoun and proper name Class II objects in Fijian as entities of type <e>, contrasting with Class I objects which, as quantifying expressions, denote sets of sets and are of type <<e,t>,t>.

[6]A reviewer raises the issue of post-head dependents, in particular, the question of effects with respect to coordination. Iaai uses a form *me* 'and'/'with' in additive coordination. It is possible that *me* constituents following proper names are comitative prepositional adjuncts (whose precise syntactic location is yet to be identified). The following example includes a proper name in a Class II construction with a post-particle stranded *me* constituent:

possible that Iaai is one of those languages which has raising of the proper name to D. Since pronouns and proper nouns are syntactically comparable in other respects in Iaai, it would seem that the proposed (10II) structure provides an elegant way to syntactically assimilate both of these kinds of elements, whilst at the same time, providing the means for differentiating between the Class II and Class I structures: (10II) versus (10I).

The (10II) interpretation also provides a way for understanding the apparent shared syntactic behaviour of the object in Classes II and III. Whereas the N head of the NP constituent incorporates in Class III, in Class II it is the D head of the DP constituent that incorporates. That is, in both classes it is the highest head of the object constituent that incorporates to the verb. Can this generalization be extended further to Class I?

4. Incorporation

4.1 Head-incorporation
An across-the-board treatment of the syntactic processes associated with all three types of direct object might suppose that all three classes of construction involve the incorporation of their highest head. In extending the incorporation analysis to the Class I construction, we would have to say that the D incorporates to the verb leaving remnant content of the DP behind. This form of incorporation would be invisible and would imply that the D head is empty in the Class I case. The generalization for the three classes would then be stated as:

(12) <u>Head-incorporation: verb and direct object</u>
      Class I: empty D incorporates
      Class II: overt D incorporates
      Class III: N of NP incorporates.

In order to investigate this possibility as it applies to Class I, we need to examine the structure of common noun phrases.

4.2 Common noun phrases
If the D position can be non-overt in Iaai DPs, then there is the possibility that such an empty D in a direct object could incorporate to the verb. The table in (13) sets out the range of articles in Iaai, candidates for filling the D position.

(13)   <u>Articles</u>

	SG	DU	PAUC	PL
Definite	-	*li*	*jee*	*ta, ta jee*
Indefinite	*ke*	*ke li*	*ke jee*	*ke ta jee*

[Ozanne-Rivierre 1976: 182]

The contrast between the definite and indefinite forms in (13) suggests that, if D is the location for the [+/-def] characteristic, then D is overt <u>ke</u> when the phrase is indefinite, but non-overt when the interpretation is definite.[7]

(i) *ödree*   *hum*   <u>*Ciau*</u> *thidhö*   <u>*me*   *nokon*   *daa*</u>   *hootai*
      3DU.COMPL   carry   Ciau   PUNCT   with   child.3SG   boy   land.to
      'they carried Ciau and her son on to the land'   [Moju 58]
(See also example (7c) in the text.) Following Ozanne-Rivierre (1976: 156), apart from a vocative *löö*, the only post-head dependent occurring with proper names is *mëëny* = collective: *Pâl mëëny* 'Pâl and the others'. I lack the data on the behaviour of such expressions as direct objects, as I do also for the case of disjunctive coordination of DP objects.

[7]The interpretation that *ke* is in D is supported by the conclusions of a detailed investigation of Iaai DP-internal structure carried out in Ford (1999).

But if *ke* is in D, then the empty D-incorporation hypothesis cannot be correct, given (14) in which the *ke* article is separated from the verb by the particle *thidhö*.

(14) *ke   ka   lölö   thidhö ke   venyâ   a   e   hlitr*
      but   then pull up PUNCT   INDEF   eel   which   3SG   black
      hnalimen ke   e   ûhnyikong
      colour   but   3SG little
      'but pulled up an eel which was black but little'   [CLO 64]

We therefore conclude that D does not incorporate in Class I and that we have to distinguish the content of the D in Class I from the D of Class II.

In Class I D may have a determiner function or it may be a non-overt pronoun. In fact, however, there are two further constituent types that can be direct objects in the Class I construction: clausal complements and the *wh*-pronoun with non-human reference:

(15)a. *sumatâ [me   eme   he   ka   hna   but   li   gugumelan]*
        ask   that 3SG.PROC   go   to   abandon   COMPL   DU   Gugumelan
        '(and) ask that he abandon the two Gugumelan'   [Gugu 22]

    b. *a   me   sumatöö   nya*
        3SG   PROC   ask   1SG
        'he asks me'   [Dict]

(16)a. *Ieû   u   mwe   wâ?*
        what   2SG   PROC   see
        'What do you see?'

    b. *U   mwe oo   iaa?*
        2SG   PROC see   who
        'Who do you see?'   [Gram 145]

In (15a) with the clause complement, *sumatâ* 'ask' has the Class I form. The example (15b) shows the corresponding Class II form *sumatöö* with the pronoun object. The examples in (16) show contrasting behaviour for *wh*-pronoun objects. In (16a), the verb 'see' has the Class I form *wâ* and the non-human object is fronted. In (16b) the verb has the Class II form *oo* and the [+human] *wh*-pronoun must immediately follow the verb.

Class I objects can therefore be defined as follows:

(17) Class I Direct objects   a. common noun phrases
                                b. non-overt pronouns
                                c. nonhuman *wh*-pronoun
                                d. clauses

4.3 Pronouns and animacy: [+/-human]

The *wh*-pronoun in the Class I construction has non-human reference, contrasting with the human referring *wh*-pronoun in the Class II construction. This [+/-human] distinction carries across to overt 3rd person objects generally. The pronouns occurring in the Class II construction only have human reference (Ozanne-Rivierre 1976: 136, 150-1). For the 3rd person pronouns, the schema is as follows:

(18)   Direct object (3rd person)

	SG	DU	PAUC	PL	WH
+human	-	*ödra*	*ödrin*	*ödra*	*iaa*
- human	-	-	-	-	*ieû*

The [+/-human] division does not exactly correspond to the Class II/Class I distinction since Class I includes 3SG non-overt objects with human reference. The relevant class distinctions for the Ds may be defined in terms of the characteristics for the Class II object:

(19)   The D of a Class II construction must be overt and must have semantic content.

The 'semantic' content in (19) may be individual specific, as in the proper name case, and/or it may be the 'human' designation, as with the pronoun.[8] Quantifying elements such as determiners and *wh*-features do not count as 'semantic' in these terms. I propose that the 'semantic'/'nonsemantic' divide identified here corresponds to a lexical/functional divide for specific types of heads and their features.[9]

The Class II elements that incorporate to the verb therefore in some sense have lexical content, but the elements in Class I, which do not incorporate, although they have specific reference or quantificational content, do not manifest such lexical content. The common characteristic of Classes II and III is that in both of these classes the incorporating heads have lexical content, whether they are in Ds or simply in Ns.

The interpretation that Class I is characterized as having pronoun objects with heads lacking lexical features is parallelled in an interesting way in comparable Class I/Class II constructions in Fijian (Churchward 1941, Pawley 1986).

5. Fijian Class I/Class II
Whilst the Iaai interrogatives giving the Class I/Class II contrast in (16a)/(16b) do not appear as distinct types of constituents by their overt form, such a distinction becomes overt in Fijian which has contrasting common and personal articles.

In the Bouma Fijian examples in (20) and (21), *cava* 'what' is preceded by the common article *a*, whereas *cei* 'who' occurs with the personal article *o*.

Boumaa Fijian

(20)a. *O   aa   rai-ca   a   cava   i   waa'olo levu?*
        2SG   PST   see-TR   ART   what   P   road   big
        'What did you see on the main road?'

  b.   *A   cava o   aa   rai-ca   i   waa'olo levu?*
        ART   what 2SG   PST   see-TR   P   road   big
        'What did you see on the main road?'

(21)a. *O aa   rai-ci   cei*   'Who did you see?'

  b.   *O cei o   aa   rai-ca*   'Who did you see?'

                                                          [Dixon 1988: 170-1]

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[8]I do not have data on how or if toponymic proper nouns would occur as objects of transitive verbs. In other contexts they occur as locative expressions.

[9]Chomsky (1995: 277) proposes distinctions between four classes of features: categorial features, φ-features, Case features and F (Formal) features. The particular division that concerns us here is that between (lexical) categorial features versus (grammatical) φ-features.

When the personal article is not present, as in (21a), the construction is Class II, as indicated by the verb form *rai-ci*. On the supposition that *cei* raises to the empty D position and is then incorporated to the verb in (21a), the contrast with the preposed *o cei* in (21b) suggests that the construction in (21b) is a Class I construction because the overt article is a D lacking the necessary lexical content for incorporation to take place. If the interpretations arising out of (21a) and (21b) are identical, then we would want to assume that the D function is present in both cases, rather than to infer that the D might be lacking in (21a) but present in (21b).

6. Conclusion

The analysis that I have presented proposes that the three-way distinction in constructions with transitive verbs in Iaai is a function of the content of the highest head in the direct object constituent, the distinctions being:

		Direct object heads
(22)	Class I:	D (or C for clauses) functional head
	Class II:	D head including lexical features
	Class III:	N head.

Since [+/-human] animacy can be the crucial determinant of lexical content for a D pronoun, it would appear that, in Iaai, and in other languages like Iaai, animacy may count as a lexical categorial feature distinct from more strictly grammatical φ-features (see fn. 9). It would clearly be of interest to further investigate syntactic manifestations of the animacy distinctions as they apply both in the transitivity alternations that we have seen in Iaai (and Fijian) and in the syntactic roles of personal versus common articles in languages which have these.

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