Modular architecture and uninterpretable phi-features[*]

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Abstract: The relationship of syntax to its adjacent components of realization and interpretation is examined from various phenomena referring to phi-features: agreement, syncretisms, gaps, synthetic-analytic alternations. A strongly modular architecture is indicated: (i) syntax is fully autonomous of morphophonology (realization); (ii) syntax and morphophonology differ partly in computational principles and information accessed; (iii) syntactic phi-specifications are partly independent of interpretation and sometimes uninterpretable. Superficially similar phenomena are distributed thereby between morphophonology and syntax, including clitic/affix syncretisms and alternations with pronouns. Among specific conclusions are: Syntax underlies some uninterpretable phi, including person hierarchy phenomena. Morphophonology is limited to the domain of the extended word / prosodic phrase, accesses a subset of syntactic properties beside purely morphophonological ones, and operates over less restricted feature combinations than syntax. Interpretation underdetermines some syntactically active phi-specifications and cannot see others (diachronic fossils, facultative features, fake indexicals).

1 Introduction

The *modularity hypothesis* proposes that some aspects of cognition are organized into modules, which differ partly in the computations they perform and the type of information they use, and which are partly encapsulated one from another.

(1)   Modularity hypothesis: cognition is organized into modules individuated by:
        a. (partly) different *computations* [e.g. constituent hierarchy vs. linearly adjacency]
        b. (partly) different *information types* [e.g. syntactic vs. phonological features]
        c. (partial) *encapsulation* from other modules [e.g. syntax does not see phonology]
            (Chomsky 1980, Pinker 1994, Jackendoff 2002, Coltheart 1999, Barrett and Kurzban 2006)

Modularity has been studied in many cognitive domains (Carruthers et al. 2005). On Pylyshyn's (1999) analysis, low-level vision mostly encapsulated from an agent's goals or knowledge. It does not dispel the illusions in (2) to know them for illusions, along with the mechanisms underlying them, not even when the percept is impossible in our world.
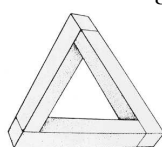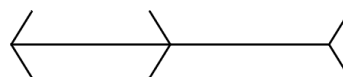
(2)   Autonomy of low-level vision

Kanisza Rectangle   *Penrose Triangle*   *Müller-Lyer*

no rectangle drawn   *impossible 3D object*   *segments of equal length*

Within the systems comprising language, one of the pillars of modular architecture and one of the foci of the present investigation is the autonomy of syntax from phonology and certain aspects of morphology (Zwicky 1969, 1992, 1996, Zwicky and Pullum 1983, 1986, Pullum and Zwicky 1986, 1988, Miller, Pullum, and Zwicky 1998, Halle and Marantz 1993, Embick 2000, Tseng 2005, Embick and Marantz 2008). The generalization need not be absolute for it to be significant, and modular architectures have been designed with well-delimited exceptions. Beside them exist nonmodular proposals, espousing interaction between the syntax and morphophonology (Bresnan 2001). On the interpretive side, the questions are harder to investigate and views more heterogeneous (Chomsky 1977, Brody 1995, Jackendoff 1997, 2002, Culicover and Jackendoff 2005, Fox 2000, Reinhart 2006, Hinzen 2005).

The existence and character modularity is at the heart inquiries into a syntax bared of that which obtains independently in interfacing systems, such as linear order imposed by realization and theta-assignment by interpretation (Chomsky 1995, 2000ab). On a maximally modular view of syntax, interpretation, and realization, each is a different computational system over an alphabet nonisomorphic to that of the others, and the only relationship between them is by mappings specifying for a given representation in a module M its correspondents in the other modules with no 'feed-back' of this information into M. Weakenings may introduce oneway or bidirectional communication between modules and shared alphabets and computations, yet remain modular. The basic Y/T-model of generative grammar has syntax (including the branches of the Y-model) provide input to realization and interpretation, whose operations may therefore be conditioned by syntax, but not syntax by theirs or each by the other's. The Distributed Morphology as developed in Embick and Noyer (2001, 2007) goes farther in envisaging a single computation for syntax and its morphophonological realization, where models such as Aronoff (1994) or Ackema and Neeleman (2003, 2007) have two wholly different systems, but it does not compromise the Y-model's autonomy of syntax and interpretation from morphophonology. Interpretation accesses the computation before morphophonological information is inserted, and because its insertion irrevocably changes the character of syntactic operations to turn, for example, constituent movement into linear reordering, the class of traditionally syntactic computations is partitionable from and blind to morphophonology.

Phi-features are a power tool for exploring the modular architecture of language, because they appear to be a primitive shared by interpretation, syntax, and morpho(phono)logy. They make for a fixed element with which to investigate the differences of character and the limits on the interaction of these modules, if any. In interpretation, phi-features enter for instance into constraints on linking between expressions, including cross-clausal anaphora beyond the pale of syntax. In morphophonology, they are referred to by allomorphy of various degrees of abstraction, including syncretisms. In syntax, diverse agreement phenomena distribute the phi-features of nominal controllers over potentially unbounded phrase-structural distances, subject to the usual conditions on syntactic dependencies.

Such is the traditional view, to which recent work submits three challenges. They bear on 'uninterpretable' phi-features: the form or position of an element α that obtains in virtue of the interpretable phi-features of a nominal β, for example the agreement

morphology of a verb α reflecting the interpretable phi-features of its subject β. One challenge would eliminate them from syntax, or at least from the *narrow syntax* stem of the Y-model which feeds interpretation. All phi-featural phenomena belong either to interpretation/LF, if interpretable, and otherwise to realization/PF. This view is advanced with generality for phi-agreement and structural Case in Marantz (1991) and Bobaljik (2008), who place them into a postsyntactic realizational morphology module adumbrated with the power to span the domain of A-movement. Related proposals for specific instances of agreement include Kratzer (forthc) and Albizu (1997).

The second challenge goes in the opposite direction. It proposes to restrict all manipulation of (morpho)syntactic features to syntax, so that a separate module cannot effectuate syntactic feature syncretisms, deletions, insertions, or displacements (Ackema and Neeleman 2007: 327f. citing Starke 2002). Such a view seems to underlie otherwise different syntactic approaches to traditional allomorphy, such as Kayne (2007, 2008) or Manzini and Savoia (2002, 2009).

The third challenge is of a different order. It comes foremost from models that eschew modularity altogether (Bresnan 2001; cf. Trommer 2002, Embick and Marantz 2008 for comments). They lead to the expectation that phi-feature phenomena traditionally in the morpho(phono)logy, such as syncretisms or gaps in the realization of phi-agreement, may have an effect on syntax and interpretation. The possibility arises also in models that observe modularity in analysis but do not enforce it by design (see Tseng 2005). Finally, it bears on models which, adopting a modular architecture, add devices to allow for narrowly limited information flow from realization to syntax and interpretation, such as the synchronization of copy spell-out and interpretation (Bobaljik 2001) or focus and accent (Reinhart 2006, Szendrői 2005). Phi-phenomena furnish one probe into the limits of intermodular communication.

These proposals are examined below from the perspective of uninterpretable phi, both traditionally belonging to morpho(phono)logy and to syntax. The inquiry indicates that they partition neatly into two profoundly different groups, although some on each side of this divide are superficially similar, notably syncretisms and synthetic-analytic alternations. Modularity individuates them as morpho(phono)logical or syntactic through their computational properties, the information to which they refer, and their (in)visibility to syntax and interpretation (sections 3, 4). Phi-features thus do seem to be an alphabet shared by the two modules. Evidence drawn from them points to an autonomy of syntax from morpho(phono)logy, and to various computational and informational differences between the two modules, such as a limitation of the latter to word-like domains. Phi-features thus placed in the syntax can be further compared to those in interpretation, and sometimes fail to match them or to any pass any notion of interpretability, suggesting some autonomy of syntax on the interpretive side as well (section 5).

2   A tour of uninterpretable phi

To set the scene, this section lays out some uninterpretable phi phenomena taken at first as typical of morphology, syntax, and interpretation. In (3) is a morphological syncretism. In Spanish 3.DAT + 3.ACC clitic clusters, the usual realization of 3.DAT as *le* (SG), *les* (PL) is pre-empted by what is elsewhere the reflexive clitic *se*. In some varieties, the plurality of 3PL.DAT further surfaces on the adjacent 3.ACC clitic as its plurality, *los* in

(3). Because the use of *se* for 3.DAT is limited to the context of a 3.ACC clitic, not 1/2.ACC, it refers to the person phi-feature of the accusative clitic, interpretable on the accusative but not on the dative. Similarly for the plurality of the dative clitic on the accusative. Put in terms not usually used for this example, the realization of the dative as *se* or *le(s)* is *controlled* by the person features of the accusative clitic, and so constitutes *person agreement* with it. Likewise, the *s* morpheme on the accusative clitic looks like number agreement with the dative. In neither case are the phi-features acquired by the agreeing clitic visible to its interpretation, only to its realization.[1]

(3)　　El libro,　a ellos,　¿quién *se*　　　　　*los*　　　　　　　　prestó?
　　　　the book,　to them,　who　SE<3PL.DAT *les*　3PL.ACC<3SG.ACC *lo*　lent.3SG
　　　　The book, who lent <u>it</u> to <u>them</u>?　　　　(American Spanish, Bonet 1995: 634)

As a traditional instance of allomorphy in morpho(phono)logy (Perlmutter 1971, Bonet 1995), the particular realization of 3.DAT/ACC is expected not to affect syntax and interpretation, and to invoke mechanisms partly distinct from theirs. An alternative that would place it into the syntax, as per the second challenge of section 1, has no such expectations. Underlying it however is an observation that morphophonology does not obviously predict: the pieces like *se, (lo-)s* that appear in such 'opaque' cliticization in Romance generally have independent existence, in this case as a reflexive clitic and (3.ACC)PL. Section 2 takes up these issues.

The term *agreement* is ordinarily applied to apparently syntactic reference by the form of one element to the interpretable phi-features of another. Four constructions highlighting syntactic character are in (4)-(7). In the first three, agreement takes place between a raising structure and a nominative DP removed at a potentially infinite depth from it. Change to an ECM structure switches the case of the remote DP to accusative. The examples are picked to suggest that such agreement can be both for number and person, and cross even finite clause boundaries. In the last example (8), the direction of the relationship between the DP and the verb is inversed: agreement tracks the number of *wh*-DPs (not other *wh*-phrases) moving successive-cyclically through their local CP, again resulting in a potentially infinite apparent distance between the two. This agreement at a distance or by an iteration of more local steps (all four examples favor the latter) is throughout restricted by same types of constraints as limit similarly long-distance movement, such as islands and a c-command relationship between the elements involved. This suggests the same component at work as for movement: syntax.

(4)　　a.　Það voru　　taldir　　　[hafa　verið keyptir　　einhverjir bátar].
　　　　　there were.3PL believed.PL.NOM to.have been bought.PL.NOM several boats.NOM
　　　　b.　Hún taldi　　　[hafa　verið　keypta　　　einhverjir báta].
　　　　　she　believed.3SG to.have been　bought.PL.ACC　several boats.ACC
　　　　　　　　　　　　　　　　　　　(Icelandic, Sigurðsson 1991: 355f.)
(5)　　There <u>look</u>/*<u>looks</u> as if there <u>are</u> <u>problems</u> with this analysis.
　　　　　　　　　　　　　　　　　　　　　　(Groat 1997: 122)
(6)　　Þetta　<u>höfum</u>/?*<u>hefur</u>　líklega　　bara verið <u>við</u>.

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[1] In examples, clitics are in italics, 1SG→2SG means 1SG transitive subject acting on 2SG object, and the ⟨x⟩…⟨y⟩ convention means that one and only one of x, y is to be understood on a given reading.

this   have.1PL/?*3SG   probably   only been we.NOM
<div align="right">(Icelandic, Sigurðsson and Holmberg 2008)</div>

(7)   a. Where are <u>the boys</u> <u>who</u> Tom <u>think(s)</u> *t″* Dick <u>believe(s)</u> *t′* Harry <u>expect(s)</u> *t* to be late?
       b. <u>the people</u> <u>who</u> John <u>think</u> *t′* it is surprising to *t* [that Bill <u>makes</u>/*<u>make</u> money]
<div align="right">(Boston English, Kimball and Aissen 1971: 246)</div>

In the minimalist program, phi-features on the agreeing element are said to be *uninterpretable* in distinction to their *interpretable* status on the noun that controls the agreement (overt or not). In part, this dichotomy reflects the observation that the occurrence of phi-features on the agreeing element seems redundant. It then corresponds to similar distinctions elsewhere, notably between phi-features with or without a predicate core in Bresnan and Mchombo (1987: 755f.). The phi-features of agreeing element need not thereby be invisible to interpretation. For Chomsky (1995: 172-6), they are upper copies in a movement chain of interpretable features, and have pronoun-like behavior as binders and controllers; and Winter (2002) develops the semantic contribution of plural agreement on verbs.

However, the phi-features of agreement seem to be still more uninterpretable in some cases. An example contrasting syntactic and interpretable phi is (8), to which we return in section 5: the French weak subject pronoun *on* 'we' controls 3SG verbal agreement and local anaphor, but for all other purposes it has only 1PL phi-features. For cross-clausal anaphora, for instance, its 3SG phi-features are invisible. Even outside mismatches, it has been observed that phi-agreement is unexpectedly inert for many syntactico-semantic phenomena for which it had been expected to count, including as binder, controller, or floating quantifier licenser, (9) (cf. Jónsson 1996 for Icelandic, Polinsky and Potsdam 2001 for Tsez, Rezac 2008y for French).

(8)   Nous$_i$, on$_i$ se$_i$/*nous   croit   loyaux   à nos$_i$/*ses$_i$ principes.
       we   we 3SG.REFL/*1PL   believe.3SG loyal.PL to our/*his/*their principles
       We believe ourselves loyal to our principle. (French)

(9)   a. There seem to me/*each other/*themselves to have been some linguists given
          good job offers.   (cf. Lasnik 1999: 183, Den Dikken 1995)
       b. Into the cafeteria have ⟨*<u>both</u>⟩ gone [⟨both⟩ the students], I think.
<div align="right">(Culicover and Levine 2001: 301)</div>

This observations leads in Chomsky (2000a) to the reformulation of phi-agreement in (9) not as the movement of interpretable phi-features, but as the valuation and nearly immediate deletion of uninterpretable ones, phi-Agree, depriving it of all activity save participation in other occurrences of phi-Agree prior to deletion (such as perhaps the local anaphor binding in (8)). However, they have also inspired a different proposal: to place all phi-agreement outside the narrow-syntactic computation to interpretation, encapsulating syntax and interpretation from it entirely as a matter of the same principle that encapsulates them from phonology (Marantz 1991, Bobaljik 2008, Kratzer forthc).[2] The emerging theory leaves the interpretable phi-features of arguments for interpretation

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[2] Marantz (1991) addresses subject-verb agreement, but focuses on structural Case whose identity as nominative – accusative often seems equally interpretively irrelevant when divorced from movement (DP-licensing). Other work links assigned Case to phi-agreement (Schütze 1997, Chomsky 2000a).

and uninterpretable ones for post-(narrow)-syntactic morpho(phono)logy; narrow syntax is phi-free. Its cost is an extension of the powers of morphology beyond its traditional limits to the word or phrase, in order for it to effectuate the long-distance or iterative agreement in the examples above.

By this proposal, phi-agreement is given the leeway to mix some properties traditionally assigned to syntax, like action-at-a-distance, with those traditionally assigned to morphology, such as relatively 'arbitrary' relationships between featural context and change or reference to aspects of PF like linear order. As an example of what might be expected, consider (10). The French noun *laideron* controls feminine agreement on all but preverbal modifiers. It might be thought to mix linear precedence with cross-phrasal concord. A better example would have a more clearly morphophonological condition constraining more long-distance or iterative agreement of the type (4)-(7).◊ Likewise, left-conjunct agreement both operates over a distance and needs precedence, but if precedence follows from c-command, there are ready syntactic analyses of it both when it syntactic consequences and when it does not (Munn 1999, van Koppen 2005). A truly telling situation would combine allomorphy of the type in example (3) with across the distances seen in (4)-(7), a question addressed in section 3.

(10)   (Tous/*toutes) ces   laiderons   essaieront   (toutes/*tous) de séduire Antoine.
        all.MPL/*FPL these.MPL ugly.women   will.try.3PL all.FPL/*MPL to seduce Antoine
        (All) these ugly women will (all) try to seduce Antoine.   (French, Kayne 2000: 181)

These are the issues addressed in what follows. Section 3 indicates that phi-conditioned allomorphy of the kind in (3) is syntactically inert and lacks a long-distance analogue, suggesting for it an extra-syntactic morphology constrained to reflect that. Section 4 contrasts with it person-hierarchy phenomena that have syntactico-semantic consequences, along with other characteristics of syntax, putting some uninterpretable phi there. From them section 5 investigates the uninterpretability of some narrow-syntactic phi, including that in example (8).

3   Phi in morphology

3.1   Introduction

One of the candidate domains for uninterpretable phi phenomena is *morphophonology*. I use this term as a cover for the system or systems responsible for those aspects of the form and arrangement of morphemes that do not follow from syntax or interpretation. It is at its most clearly extrasyntactic when referring to phonology, as in the past participle allomorphy of English (11) or the phonology-sensitive position oscillation in (12).

(11)   a. heav-<u>ed</u>   b. le<u>f</u>-<u>t</u>   c. r<u>un</u>   d. th<u>ough</u>-t   e. let

(12)   a. <u>t</u>-okm-è   b. ab-<u>t</u>-é   c. Rule: *t*- __[stem [-low V]], else *-t*
            2-eat-PERF   do-2-PERF   (Afar, Noyer 1992: 228f.)

Most approaches to extrasyntactic allomorphy allow it to refer to some of the features that also play a role in syntax, such as phi-features, and then it becomes a window onto

the relationship between two components of language. A telling example comes from phi-syncretisms. Some are accidental, (13), and simply confirm the inertness of homophony for syntax and interpretation (Zwicky 1992: 355). Others however obtain across different realizations of morphosyntactic features, and stating them requires reference to these features themselves. In French, gender is thus neutralized in 3rd person non-nominative/strong pronouns, including the 3PL.ACC *les* in (14). This syncretism as well is ignored by syntax and interpretation, including agreement, local anaphora, and bound and coreferential pronouns.[3]

(13)   The <u>sheep</u>/<u>fox-es</u>$_i$ look$_i$/*looks at themselves$_i$/*itself and then they$_i$/*it leave.

(14)   Les cuillères$_i$,   je <u>*les*</u>$_i$ ai   mises$_i$ là où   elles$_i$/*ils$_i$ sont d'habitude.
        the spoons(FPL), I them.ACC have put.FPL where they(F/*M) are normally

Modular architectures agree on the autonomy of narrow syntax and interpretation from morphophonology, but they differ in the phenomena in each module, including the phi-conditioned syncretisms and synthetic-analytic alternations of concern below. One view attributes some of them to a nonsyntactic, nonphonological component, with the scope to manipulate some of the same 'morphosyntactic' features as narrow syntax. It is shared by whole families of approaches to morphology, including the realizational components of Aronoff (1994), Bonet (1991), Noyer (1992), Halle and Marantz (1993), Trommer (2001), Ackema and Neeleman (2007), which cover the spectrum of other architectural options. The opposite yet modular perspective departs from the idea that a given feature is accessible to only a single module, so all syntactic feature manipulations belong to a single syntax, including those of phi-features (q.v. below). In contrast to both position stand nonmodular architectures, which combine morphology, phonology, and syntax in the same computation (Bresnan 2001).

The issue of modularity versus nonmodularity seems clear enough, but an example may clarify the options for morphophonology in a modular architecture. Aronoff (1994: 24f.) uses the English past participle to illustrate the motivation of a nonsyntactic, nonphonological component manipulating some of the same features as syntax. They occur in both the passive and the perfect constructions, and because they have a variety of phonological formations according to the verb stem (11), it cannot be that their use in both reflects an accidental homophony of the verb and two syntactically distinct formatives, one for the passive and one for the perfect. Rather, the two constructions share a single nonphonological entity, the past participle, incarnated in these various formations. This participle might be the realization of a single syntactic structure shared by the two constructions. It must be so, as a matter of principle, if no nonsyntactic component can map two distinct sets of syntactic properties onto a single entity. Alternatively, one might suppose that there is no common core of syntactic properties between the perfect (active) and the (progressive) passive which the participle could realize, and there then must be such a component, creating a nonsyntactic syncretism of syntactic properties. The evidence for it is the more compelling the more difficult it is to find the necessary syntactic core, as with passive morphology coupled to an active syntax

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[3] Syncretisms count for resolving of conflicting features at morphological spell-out, particularly multiple cases on a (pro)noun (McCreight Young 1988, and for similar phenomena, Franks 1995: 62f., 79f.).

for deponents (Embick 2000), or syncretisms governed by inflectional classes (Stump 1991). This component is the morphophonology here, and it can be conceived of in different ways – as word syntax and/or its realization, as pieces-based and/or inferential, as 'contiguous' with narrow syntax or wholly distinct and unlike (Aronoff 1994: 12-29, Harley and Noyer 1999, Stump 2001: 9-12, Ackema and Neeleman 2007). The issues of concern in this section are: Does it exist; What can it do; What does syntax see of it; How like or unlike syntax is it, in its computations and in the information it accesses and manipulates?

The empirical domain through which these issues are investigated here are phi-conditioned clitic/affix syncretisms and alternations between clitics/affixes and strong pronouns. They lend themselves well to this inquiry, because they manipulate phi-features in a superficially nonsyntactic way, and have close look-alikes that in section 4 turn out to be clearly in the syntax. Their investigation indicates that phi-features are used by two quite distinct components of a strongly modular architecture: morphophonology and syntax, distinguishable by the formal character of their operations and the information to which they refer in ways to be made specific below, and with no information flow from morphophonology to syntax.

3.2   Phi-conditioned syncretisms

Phi-conditioned syncretisms lead to *opaque cliticization / agreement*, so called because they yield a surface combination of exponents that one might expect to be interpreted otherwise. *Opaque cliticization* is illustrated in (15). Romance tends to resists realizing 3.DAT + 3.ACC clitic clusters by the clitics used for 3.DAT and 3.ACC independently. Instead, another clitic or a $\varnothing$ is substituted for one or both of them, or for subsets of their features. In Catalan, 3SG.DAT surfaces as the locative clitic in the context of a 3.ACC clitic: instead of its usual form *li*, it assumes the form *hi*, elsewhere found only as the locative clitic, and it occupies the position of the locative following the 3.ACC clitic, rather than preceding it as dative clitics do. In some varieties, 3PL.DAT *lzi* is so treated as well. The use of *hi* for 3.DAT in this phi-conditioned context and only here is said to be 'opaque' with respect to its use elsewhere for a locative only.

(15)   Romance opaque cliticization for: 3.DAT + 3.ACC clitic clusters
    a.   retained (French ACC DAT, %DAT ACC, Valencian DAT ACC)
    b.   3.ACC $\rightarrow \varnothing$ (French)
    c.   3.DAT $\rightarrow$ *se* reflexive (Spanish) (in varieties, PL of DAT realized on 3.ACC)
    d.   3SG/%PL.DAT $\rightarrow$ *hi/y* locative (varieties in Catalonia, Italy, France)
    e.   3SG.DAT $\rightarrow$ *ni* ablative (Castrovalvi in South Italy)
    f.   features of both conflated and redistributed across two positions (Barceloní)
                    (Bonet 1991, Manzini and Savoia 2002, 2005, Pescarini 2006, Bonami
                                                and Boyé 2006, Rezac forthc)
    On the analysis of Bonet (1991, 1995), opaque cliticization occurs in a component between syntax and phonology, and takes the form of contextual deletions of featural content to yield $\varnothing$ or a feature structure identical to another clitic. It is not phonological, because the result is systematically syncretic with an independently extant clitic or $\varnothing$ rather than a phonological modification, so it manipulates morphosyntactic features

(Bonet 1995: 612). It is not syntactic, because the mechanisms and information that enter into opaque cliticization differ from those used by unequivocally syntactic dependencies. On the one hand, they require reference to more arbitrary feature combinations than syntax uses, as the variation in (15) might suggest (Bonet 1991: 68ff.). On the other hand, they only access a systematically impoverished set of syntactic properties, while perhaps invoking others invisible to syntax. Both of these points are developed below. They are two of the touchstones that point to a module distinct from syntax.

The third is the systematic invisibility of opaque cliticization to syntax and interpretation. It is striking, because an opaque clitic is syncretic with a clitic that has its own independent syntactico-semantic life, so the two can be compared. Consider the Spanish spurious *se* in (3). 3.DAT surfaces as the otherwise reflexive clitic *se* before 3.ACC, while 3.ACC may assume the plurality of 3.DAT. Yet syntactico-semantically, there is only a nonreflexive dative and a singular accusative, both for interpretation, and for elements linked to the clitics such as doubling pronouns. This invisibility of opaque cliticization appears to be hold generally, for example for dative-locative syncretisms (Rezac 2009), or for plain deletion. In French a 3.ACC clitic may delete in the context of 3.DAT one, (16), yet it retains its binding-theoretic pronominal character, and continues to antecede the floating quantifier *tous* which requires it as a licenser.[4]

(16) a. Elle$_{*x\in i}$ *la*$_i$/∅$_i$ *lui*   a   déjà   présenté[e].
        she   her.ACC   her.DAT   have   already   introduced
        She has already introduced her(*self) to him.

     b. Elle a plus de conseillèr(e)s$_i$ à proposer:

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[4] The likes of (16)b, (i) are fully grammatical for speakers from Nantes and Paris of different backgrounds and generations (and found on Google). Such 3.ACC deletion is not object drop, applying to accusatives that cannot be dropped otherwise and lacking its typical indefinite reading (Bonami and Boyé 2006: 296). Others have the subtler paradigm (ii), by which deletion of *les* is dispreferred if there is an element agreeing with it. Perphaps there is competition by the alternative available parse without an accusative clitic, leading to the expectation of an object after the verb and backtracking upon meeting the agreeing element indicating the clitic (a morphological garden path: cf. Bayer et al. 2001, Rezac forthc). It would coincide with a difficulty of 3.ACC deletion itself: (16) without *les* may be difficult without a discourse indication of the object, as when *conseillères* is replaced by *rencart*(MSG) 'rendez-vous' (with or without *tou(te)s*).

By contrast, Morin (1978: 12 note 5) gives (iii), though the deleted pronoun must remain nonreflexive (Morin 1977: 371) (brought to my attention by R. Kayne p.c.). Morin draws a parallel between 3.ACC deletion here and independent object drop in *montre-moi (ça)* 'show me (that)'. It may indeed be that an object drop parse renders difficult morphophonological clitic deletion. Alternatively, 3.ACC/__3.DAT deletion is syntactic object drop in the grammar of speakers with (iii), which would a good case for the existence of syntactic devices with the power to code the 'arbitrary' contexts of opaque cliticization.

(i) Elle a plus d'assiettes$_i$ parce que je ∅$_i$ *lui* ai toutes$_i$ cassé[(e)s] / acheté[(e)s].
     She doesn't have any more plates because I bought [*them.ACC*] all from her.
(ii) a   Comme tu m'avais laissé les robes$_i$, je *les/?∅*$_i$ *lui* ai (toutes) mises pendant les vacances.
        As you had left me the dresses, I put *them.ACC/∅* all on *her.DAT* during the vacations.
    b   Laisse-moi les robes$_i$, je ∅$_i$ *lui* mettrai (?toutes) pendant les vacances. [√*toutes* with *les*]
        Leave me the dresses, I will put ~~them.ACC~~ all on *her.DAT* during vacations.
    c   Laisse-moi les robes$_i$, je vais (?toutes) ∅$_i$ *lui* mettre pendant les vacances. [√*toutes* with *les*]
        Leave me the dresses, I'm going to put ~~them.ACC~~ on *her.DAT* during vacations. (A. Zribi-Hertz pc)
(iii) Je *(*les*) *lui* ai tous donné. [∅ *lui* good without *tous*]
     I have given them.ACC/*∅ her.DAT all. (Morin 1978: 12 note 5)

elle	*les*ᵢ/∅ᵢ	*lui*	a	<u>tous/toutes</u>ᵢ	déjà	présenté[(e)s].
she	them.ACC	her.DAT	have	all.M/FPL	already	introduced

She has no more counsellors(M/F) to propose: she has already introduced them all to him.　　(French varieties; participle agreement unpronounced)

Opaque agreement presents the same profile. Combinations of agreeing arguments often fail to control simple cumulations of the exponents realizing their agreement when uncombined, and are affected by deletions or transfers of phi-features. In Mapudungun, transparent $1_{subject} \rightarrow 2_{object}$ agreement combinations have been historically replaced by 1PL reflexive agreement if the total number of participants is greater than two, and otherwise by the group $1DU_{subject}$ agreement + an 'inverse' morpheme not otherwise used to express any argument combination (Arnold 1997).[5] Rhodes (1993: 145) aptly calls such opaque forms in Algonquian 'inflectional idioms'. They are particularly common cross-linguistically for combinations of two 1ˢᵗ/2ⁿᵈ person agreement controllers (Heath 1991, 1998). The outcome typically makes use of independently available agreement affixes, though sometimes in nonce combinations, both seen Mapudungun, and we may then speak of *phi-conditioned syncretisms*, as for the opaque cliticizations above.

Arregi and Nevins (2006ab, 2008) study opaque agreement in Basque varieties, (17).

(17)　　Basque impoverishment and obliteration:[6]
　　　　2SG/PL.ERG→1PL.ABS ⇒ 2SG/PL.ERG→3SG.ABS (Ondarroa, Bermeo)
　　　　　　　　　　　　　　　⇒ 3SG/PL.ERG→1PL.ABS (Maruri, Alboniga)
　　　　1PL.ERG→2PL.ABS　　⇒ 3SG.ERG→2PL.ABS (Alboniga, Gallartu)
　　　　1PL.ERG→2SG/PL.ABS ⇒ 2SG/PL.ABS intransitive (Zamudio, Bakio)

Like Bonet, they model them as post-syntactic deletion of features rather than as accidental phonological homophony or syntactic transformations.[7] On the syntactic side, the variation in opaque agreement shows the same 'arbitrariness' as opaque cliticization and to which we return below. Thus in (17), Albondiga but not Ondarroa transforms both 2SG/PL.ERG→1PL.ABS and 1PL.ERG→2PL.ABS, the latter unlike the other transformations listed excluding 2SG. Also like opaque cliticization, it is syntactico-semantically inert. Not only do the opaque forms retain their nonimpoverished interpretation, but overt pronouns linked to the agreement exponents are not impoverished along with them. Apparently the impoverishment of phi-features of agreement affixes in opaque forms cannot reach out to affect those of linked pronouns.

(18)　a. Su-k　　　　gu　　　　ikusi　d-o-su　　　　　[< gaitx-u-su]

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[5] The inverse morpheme occurs when the object outranks the subject on the person hierarchy (1/2>3).

[6] The rules are exhaustive save for Bakio (where all 1↔2 combinations are opaque, without more details: Hualde 2001: 228 note 5, Bermeo: Egaña 1984: XX). Thus in Gallartu only 2SG but in Albondiga 2SG/PL are affected (Yrizar 1992(I): 479, 482, (II): 124, 127), and Albondiga alone has both rules.

[7] Arregi and Nevins extend Bonet's point about the independence from phonology, because the opaque forms not only use the wrong agreement exponents, but also the allomorphs of surrounding morphemes that specifically depend on them. For example, when 1PL.ERG→2PL.ABS *zaitt*$_{2.ABS}$-*u*$_{AUX}$-*gu*$_{1PL.ERG}$ 'we have you' is impoverished by 1PL deletion in Bakio, the result is not *zaitt*$_{2.ABS}$-*u*-∅$_{3SG.ERG}$ 'he has you', but *z*$_{2.ABS}$-*ara*$_{AUX}$ 'you are' with a different auxiliary root, because the deletion of 1PL has wholly removed the ergative argument whose presence conditions the auxiliary root *u* (q.v. Rebuschi 1983, Albizu 2002).

    you-ERG us.ABS   seen   DFLT-AUX-2SG   1PL-AUX$_{+ERG}$-2SG
    You saw us. (Ondarroa Basque, Arregi and Nevins 2008, ex. 32)

    b. erungo-su   [< -gait-u-su]   gu
        bring.FUT-(AUX.)2PL   -1PL-AUX$_{+ERG}$-2   1PL.ABS
        You will bring us. (Bermeo Basque, Egaña 1984: XX, Hualde 2000: 22 note 1)

This observation about linked pronouns holds of both opaque agreement and clitics, and it is more significant than might seem, because it speak of a limit on scope of morphophonology. One of the options on the table in recent work is for it to compass some of the long-distance or iterative dependencies previously reserved to syntax, notably all phi-agreement and structural Case assignment (Marantz 1991, Bobaljik 2008; or more, Kratzer forthc). If the component responsible for the phi-deletions and transfers is endowed with such scope, we should expect to find long-distance versions of these phenomena. They would be analogous to Rhodes 'morphological idioms' transferring phi-features in Basque (18), in Mapudungun, or in Chukchi below, or to the opaque cliticization in (3), as syntactico-semantically arbitrary and inert as they are – save they would affect pronouns across as large phrase-structure distances as agreement spans. Yet they seem unattested. Not for obvious functional reasons of ambiguity, as those would apply to the typically undoubled clitics and *pro*-drop agreement as well.

The absence is predicted if morphophonology is constrained to its traditional 'small' domain such as the word or the prosodic phrase and perhaps material adjacent to their edges, (19). It provides a desirable limit on a range of morphophonological operations, both the feature transformations above and affixation discussed later, and is posited or derived by a variety of theories. Its interpretation is to be tempered by the range of data for which it is needed here. For instance, if there were a postsyntactic mechanism of head-modifier that could transfer phi-features over long distances, it would rarely lead to opaque phi-features for pronouns at a distance from each other even if it fed allomorphy, insofar as co-concording elements rarely comprise the two needed pronouns.[8]

(19)   Morphophonological operations are restricted to 'small' domains (adjacent elements, or nonadjacent ones in the extended word / prosodic phrase).

The hypothesis (19) does the desired work only if other components like syntax cannot effectuate such arbitrary, inert syncretisms as seen in opaque agreement and cliticization. This brings us to the opposite take on phi-conditioned syncretisms, a narrow-syntactic approach that may be called *nanosyntactic*. In the conceptual background is a principle founded in a strong version of modularity: the syntax module alone underlies all (morpho)syntactic feature manipulations, rather than duplicating them across components (Ackema and Neeleman 2007: 327f. citing Starke 2002). It follows that syncretisms due to phi-feature manipulations rather than accidental homophony are syntactic, if phi-features belong to the syntax.

The chief obstacle to a syntactic approach for opaque cliticization and agreement is their syntactico-semantic inertness when compared to regular uses of the opaque

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[8] (19) also has no bearing on whether a moving element participates in morphophonology with elements local to an intermediate position prior to moving farther. The theory of copies and multiple spell-out is to decide whether such allomorphy 'en passant' could yield opaque phi pronouns that end up separated.

exponents, but nanosyntax advances a promising explanation for it.[9] It is best illustrated first with an example, using 3.ACC 3.DAT > LOC 3.ACC. Bonet (1991, 1995) proposes that 3.DAT is a combination of the featural content of LOC and of 3.ACC, the latter being just phi-features. A nanosyntactic approach reifies these feature bundles as distinct terminals, 3SG/PL and LOC, (20) (cf. Kayne 2000, 2007, 2008, Cardinaletti 2008). Opaque cliticization can then be analysed as syntactic movement of the LOC subpart 3.DAT above the 3SG/PL of the accusative, (20). This movement bleeds the usual spell-out of *[3SG/PL [LOC* as a dative clitic. The displaced LOC surfaces as the locative clitic, and the 3SG/PL stranded by it may have no spell-out, or it may surface as plural morphology right-peripheral to the 3SG/PL of the accusative (as in (3) but with a dative for a reflexive clitic: see Manzini and Savoia 2005: 4.5.6 for examples).

(20)   [$_{(ACC)}$ 3SG/PL [$_{(DAT)}$ 3SG/PL [LOC → [LOC [$_{(ACC)}$ 3SG/PL [$_{(DAT)}$ 3SG/PL [t_{LOC}

On this view, an element realized by an opaque clitic is not expected to *lose* any syntactico-semantic properties that it has when realized by a nonopaque one elsewhere, because syntactic movement can reconstruct. (20) retains *[3SG/PL [LOC*, with *LOC* as trace or lower copy. Opaque cliticization might expected to *gain* properties because of the additional movement. In (20), *LOC* scopes over 3SG/PL of the accusative, as it does not when *[3SG/PL [LOC* is realized regularly as a dative clitic. If there are phenomena sensitive to higher position of *LOC*, they should show the syntactico-semantic activity of opaque cliticization. One could in particular seek to compare the opaque cluster with a cluster containing a regular locative clitic and 3.ACC, since as mentioned above, opaque 3.DAT > LOC cliticization in Catalan assumes both the form and the position of regular locative clitics. However, the syntactic decomposition of clitics in nanosyntax circumvents such straightforward predictions. It is not necessarily the case that the terminal *LOC* of (20) that underlies the locative exponent and is shared by opaque 3.DAT and regular locative corresponds to the whole of the latter. Rather, it might be but a subpart of a richer structure of the locative, whose other elements are not spelled-out, but which are essential for endowing a locative with the properties it has. In that case it is vain to look for those properties in the opaque cliticization of 3.DAT because it contains only *LOC*, not the rest of the locative's elements. Naturally, the appeal of the analysis depends on its gains elsewhere. Particularly disconcerting might be the contrast between the opaque dative→locative cliticization of this section, and its look-alike in the next, which does have a fully syntactic profile.

The evident promise and the potential problems of the nanosyntax program can only be appreciated once further developed. At present, it and its variants face Bonet's observation of the apparently nonsyntactic 'arbitrariness' of opaque cliticization and agreement. They call for a calibration of syntactic movement that may not exist for more unequivocal instances of it, and for principled reasons. Consider how the 3.DAT > LOC opaque cliticization might be parametrized. While in some varieties of Catalan it affects only 3SG.DAT, in others it does so 3PL.DAT as well. A possible model would require LOC to first move past the dative's 3SG/PL, prior to moving higher in (20), so that the dative's 3SG/PL can be a locus of parametrization. Assuming movement is triggered by

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[9] I set out my understanding of the proposal of Michal Starke (p.c.). Caveat beyond the usual measure.

an Edge Feature EF, in some varieties both 3SG and 3PL have EF, in others only 3SG. However, LOC must never remain in this intermediate position (surface *3SG.ACC LOC): the dative's 3SG/PL only has EF in order to allow or block movement to a higher position. So the 3SG of the dative only has EF if selected by 3SG/PL with an EF.

Whether this kind of selection is found and thus available for unequivocally syntactic movement is first an empirical question. To see the scope of it, we must keep sight not merely of the illustrative example above, but rather of the full diversity of parametrization found for opaque cliticization and agreement, such as the pointwise differences in Basque varieties above. A wider look exacerbates the problem. Bobaljik and Branigan (2005) emphasize the point about nonsyntactic arbitrariness of the Chukchi spurious antipassive in (21). Here not only subject-object phi-combinations, but tense as well plays a conditioning role (cf. Baerman 2007 for Yurok). It suggest that phi-conditioned syncretisms can involve a list of triplets $\langle \alpha, \beta, \gamma \rangle$ where α and β are each a phi-set *arbitrarily* paired one with another, and arbitrarily also with a third factor γ such as tense: $\langle 3SG, 1SG, T_1 \rangle$, $\langle 3SG, 3, T_2 \rangle$, but not $\langle 3SG, 3, T_1 \rangle$, and so on.[10]

(21)   Chukchi spurious antipassive: deletion of object agreement and insertion of extra morphology in the contexts of $3SG_{subject} \rightarrow 1SG_{object}$, $2 \rightarrow 1$ in the non-participial tenses and additionally $1 \rightarrow 2$, $1/2 \rightarrow 3$, $3SG \rightarrow 3$ in the participial tenses.

To code this in syntax, a selection chain between three heads will be required, Tense, a specific subject agreement phi-set, and a specific object agreement phi-set. The requisite mechanism might or might not exist in a given theory (see Adger 2008). Whether it should, depends on whether agreed-on syntactic dependencies use it. As far as is known at present, there is no phrasal A-movement analogue of the movements required for opaque agreement and cliticization: no A-movement of only a 2PL object over only a 1PL subject, for example (whether or not we add a further restriction, such as only in the past). A-movement and other syntactic phenomena governed by the phi-features of the subject and object do exist, but not for the arbitrary pairings of phi-sets of Basque or Chukchi. Rather, as far as is now known, they are limited to 'person hierarchy' interactions, namely configurations where the object outranks the subject on narrowly delimited phi-scales such as $1/2 > 3$ or $1 > 2 > 3$ (section 4). If these are the limits of A-movement, the task ahead for a syntactic mechanism for opaque phenomena is to limit its mechanisms correspondingly. Likewise, it must not allow the long-distance versions of them, if as discussed above they do not exist: a 3SG.DAT full pronoun becoming LOC in the context of a phrase-structurally remote 3.ACC pronoun.

Thus the nanosyntactic approach finds good grounds to set aside the apparent syntactico-semantic inertness of phi-conditioned syncretisms, but it does not yet bridge the divide between their character and that of syntactic dependencies. The third

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[10] Bobaljik and Branigan's (2005) analysis is couched in a postsyntactic morphology, specifically in its copy spell-out algorithm, which may delete a lower rather than the higher copy in a movement chain if the latter would lead to an agreement morpheme combination that is idiosyncratically banned. This need not be construed as a long-distance dependency in the morphophonology: a given copy's illegitimacy is detected locally, and a lower copy's legitimacy need only access whether a higher copy has been spelled out or not, which is coded locally in an approach assuming e.g. multi-dominance. They underscore that a postsyntactic analysis rightly predicts that the spurious antipassive has no syntactico-semantic correlates (cf. section 4).

distinguishing mark of a separate morphophonological module is the distinctiveness of the information it uses. By it as well, there seem to exist phi-conditioned syncretisms outside syntax. On morphophonological approaches to them, the component where they occur uses partly syntactic features, but they are not isomorphic to those of a given syntactic structure. Neutralizations occur to erase certain syntactic distinctions. For instance, Romance clitic systems do not distinguish among indirect object, possessor, or benefactive datives in their clitic exponents, and similarly opaque cliticization seems to conflate them. Thus the Spanish and Catalan 3(PL).DAT 3.ACC > LOC/SE 3.ACC syntactico-semantically inert transformations apply to all datives, in contrast to a similar syntactic transformation we will see in section 4.

Stronger evidence that these opaque phenomena are outside syntax would be their reference to phonology. Bonet's postsyntactic morphology component bans this because phonological information is only inserted at its output, but not all approaches to morphophonology do so, permitting a space where both morphosyntactic and morphophonological features can be seen (Aronoff 1994, Bobaljik 2000, Ackema and Neeleman 2003). A candidate for phonological conditions in opaque cliticization is found by Morin (1978). In Québec as in some European French, 3SG.DAT *lui* may syncretise with LOC *y*, both when alone, and when fed by 3SGM / 3SGF / 3PL.ACC *le/la/les* + *lui* > ∅ + *lui* (q.v. ex. (16)).[11] In Québecois alone, *lui* > *y* may also occur when 3SG.DAT combines with an undeleted 3.ACC clitic. Then *lui* > *y* is obligatory, the resulting *y* precedes 3.ACC, rather than follow it as *lui* does, and the 3.ACC clitic must assume its otherwise optional variant with initial *l*-deletion: 3SG.DAT *lui* + 3SGF/3PL.ACC *la/les* > *y* + *a/es*.[12] If *l*-deletion, also affecting determiners, is (morpho)phonological (cf. Auger 1994: 55 note 9), opaque cliticization may be accessing phonological information. However, there is a nanosyntactic analyses to be explored, where *l* -- ∅ spell out a terminal in virtue of *a/es* raising past it (for example). It would be premature to conclude much from this example at this point, and further inquiry is called for (cf. Heath 1998 for phonology in 1↔2 allomorphy).[13]

(22) Je *lui*   *la / y a / *lui la / *l'y* rendrais.   [žlawïrã̃drɛ] ~ [žyarã̃drɛ]
      I   him.DAT her.ACC   would.return (Québecois, Morin 1978: 33f.)

All these apparently nonsyntactic properties of phi-conditioned syncretisms are also relevant to a different syntactico-semantic approach to opaque cliticization, proposed by Manzini and Savoia (2002). It might be called a *what-you-see-is-what-you-get* hypothesis. According to it, a locative clitic realizes the same syntactic structure when used for a locative argument and opaquely for a 3.DAT / __ 3.ACC, because the meaning of a dative can be conceptualised as a location as well as a goal, much as *the wagon* can be the theme or path in *load the wagon with hay ~ load the hay onto the wagon*. The key device needed then is to limit the use of the locative *syntax/interpretation* for goals to the

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[11] The syncretism *lui – y* is distinct from *lui > '(ɥ)i*, the latter blocking liaison (Morin 1981: 99). The order *(l)ui le* occurs in varieties of European French under conditions varying among them, but not to Québecois.
[12] 3SGM.ACC *le* has no variant with *le* deletion and so is not compatible with *lui > y*.
[13] Many approaches view conjugation class as morphophonological (Aronoff 1994, Stump 2006, Baerman and Corbett 2007; vs. De Crousaz and Shlonsky 2003: 427). Among them, only some would allow it to condition opaque cliticization (Bobaljik 2000; Anderson 2005: 28f.), another question to explore.

context of the syntactic structure realized with a local 3.ACC clitic, in the same way that allomorphy restricts the use of the locative *form* in a morphophonological approach. The issues for the device are the same as for the syntactic movement in nanosyntax. Why, for example, do we not find 3SG but not 3PL goals being coded by a locative 'at' PP only in the context of a potentially remote 3.ACC pronoun (if we do not)?[14]

Phi-conditioned syncretisms thus show the three properties of a separate module of which syntax-interpretation is autonomous, its signature so to speak:

(23) Morphophonological signature in phi-conditioned syncretisms:
    a. Syntactico-semantic inertness.
    b. Distinct computation: reference to more arbitrary combinations of morphosyntactic features than syntax, but limited to a 'small' domain.
    c. Distinct information: neutralization of some morphosyntactic feature content of a given structure and perhaps reference to phonology.

Narrow syntax, by contrast, need not be inert or short-distance, and cannot operate over such arbitrary feature combinations or refer to phonology. That is its signature, that of phenomena in section 4, superficially similar to the ones here, but wholly syntactic. On the simplest modular architecture, mixing of these properties should not occur.

3.3   Gaps and synthetic-analytic alternations

The morphophonological signature of phi-syncretisms reappears in a different referring to uninterpretable phi: 'arbitrary' gaps and the synthetic-analytic alternations that they may govern. They also make for a minimal contrast with similar syntactic phenomena of the next section.

Arbitrary gaps occur when a syntactic structure is unrealizable or 'ineffable' for reasons that seem to have nothing to do with syntax or interpretation: anti-repetition constraints, uncertainty about morpheme order or about allomorph choice, morphological garden paths, and so on (e.g. Neeleman and van der Koot 2005, Albright 2006, Baerman et al. forthc.). Examples are the absence of 1/2PL for French *frire* 'fry', past for English *forgo*, past participle for *stride*, contracted form for *am not*. Trommer (2002) and Embick and Marantz (2008) bring out a key prediction of putting these gaps outside syntax and interpretation, into the system(s) covered by the 'morphophonology' here: The gaps should be invisible to syntax and interpretation and thus never license otherwise unavailable structures or meanings. Over a great range of data, the prediction seems correct, as they demonstrate for **amn't*. Thus, there is no syntactic structure or interpretation unblocked just by the absence of the perfect *have + stride*: **He is after striding*, **He has done stride*, *#By now, she strode across the desert for many years*.

Phi-conditioned arbitrary gaps occur when the gap is partly defined by the phi-features of an agreement affix or clitic. The French clitic sequences in (24) are

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[14] The needed device may be independently needed for analyzable idioms, interpreting *tabs* as *surveillance* in the context of *keep __ on*. Clitics may be parts of idioms (cf. Miller 1992: 141): French *y aller de 'LOC go of'* = 'be at stake', *s'en prendre à 'SE GEN take to* = take it out on'; *l'emporter 'him.ACC carry.way* = win', *se la couler douce 'SE her.ACC pour softly* = take it easy'. The last two do involve clitics with different phi-features – but ones that serve to differentiate *form* only, not two referential/bindable arguments.

examples.[15] If syntax is autonomous of these gaps, any 'repairs' for them should occur in only syntax-external component(s), in morphophonology. By *repairs*, I mean structures conditioned by the gaps, whether viewed as genuine repairs responding to the existence of a gap (Williams 1997), or structures whose licensing restates the nonsyntactic conditions defining the arbitrary gap. By investigating possible repairs, it is possible to examine this prediction, and to see what the limitations of morphophonology are. Consider French, where an unfocussed dative pronoun can only be realized as a clitic rather than a strong pronoun, and there are good grounds to believe that clitics and strong pronouns differ syntactically (Cardinaletti and Starke 1999; cf. below). Modularity predicts that an arbitrary clitic cluster gap should not license a strong pronoun to replace a clitic. This is systematically true, as in (26), (25). When strong pronouns replace the blocked dative clitics in these examples, they bring with them their distinctive syntactico-semantic properties, including an obligatory focused reading.

(24)   a.   *3.ACC + LOC (*l'y*) // __subcat dative   (Heggie and Ordóñez 2005)
        b.   *3SG.DAT + LOC (*lui y*)   (Morin 1981, Miller and Monachesi 2003)
        c.   *mediopassive *se* + DAT (*se me/lui…*)   (Kayne 1975, Postal 1990)
                                                                        (Rezac forthc)

(25)   a.   C'est parce que le nid protège ses petits$_i$ / son petit$_i$ que
            l'oiseau   ⟨*leur*$_i$⟩   *y*   donne   à   manger ⟨*à eux$_i$ / √à EUX⟩.
            the bird   them.D   LOC   gives   to   eat   to them / to THEM

        b.   l'oiseau   ⟨**lui*$_i$⟩   *y*   donne   à   manger ⟨*à lui$_i$ / √à EUX⟩.
            the bird   him.DAT   LOC   gives   to   eat   to him / to THEM
            Because the nest protects its young, the bird feeds them/*him/HIM there.
                                                                        (Rezac forthc)

(26)   Un tel mensonge   ne *se* ⟨**lui*⟩   dit   pas   ⟨à Louise/*à elle/à ELLE⟩
        such a lie   not SE   says   not   to Louise/*to her/to HER
        One does not tell Louise/HER/*her such a lie. (Postal 1990: 167, Rezac forthc)

This finding converges with other instances of the syntactico-semantic inertness of arbitrary gaps. However, the prediction is only that a strong pronoun cannot be licensed by an arbitrary clitic/agreement gap if it involves a syntactic structure distinct from the clitic/agreement. By contrast, a strong pronoun *form* substituted for a clitic in morphophonology could be conditioned by an arbitrary gap. Such an alternation between a clitic/affix and a pronoun should then be completely invisible to syntax and interpretation. Its expected character is that of recent analyses of the English comparative alternations between the *-er* affix and *more*, (27). Because the alternation depends on (morpho)phonological properties such as prosodic length, it should occur outside syntax, and thus lack syntactico-semantic correlates. This seems true. Certainly, the comparative meaning, its properties like NPI licensing in (27), or its uses as in correlatives (28), do not depend on the alternation. However, it involves an alternation between an affix and a phrase, which belongs traditionally to syntactic head-movement. Embick (2007) and Embick and Marantz (2008) develop an analysis in a morphophonology outside the

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[15] The mediopassive *se* + DAT gap may or may not involve phi-features; it is conveniently introduced here.

narrow-syntactic mapping to LF, with access to morphophonological information, yet with enough the syntax-like power to carry out head movement. The comparative *-er* spells out a terminal that lowers to the adjective if its morphophonological requirements are met, and surfaces as *more* otherwise.

(27) Mary is slower/more rapid/more apt/more ploddingly slow than John ever was.
      (*more slow, *rapider, *apter, *ploddingly slower)
(28) The slower / more detailed, the better / more interesting. (Booij 2002: 316 note 7)

Phi-agreement clitic/affix gaps can also condition such alternations. In Irish, (29), the subject of a verb must be realized as an agreement affix if there is an appropriate inflected form of the verb available, and as a strong pronoun otherwise. The set of inflected forms is arbitrary. In Kerry, the verb has inflected forms for all phi-features of the subject in the past, but the present and future lacks 2PL; in Chorca Dhuibhne, 2SG present is missing as well; Connacht lacks all plural forms in present and future and 1PL, 2PL in the past; and Ulster retains only the 1SG present form of all of these (Andrews 1990). The ensuing affix-strong pronoun alternation is invisible to syntax, in contrast to French (McCloskey and Hale 1983). French clitics and strong pronouns realize syntactic structures with very different properties, such as the possibility of strong pronouns but not clitics in coordinations or as heads of relative clauses (Cardinaletti and Starke 1999). In Irish, the behaviour of the affix is simply that of a strong pronoun in all respects, as in (30).[16] Its realization as an affix happens in the morphophonology, where it is syntactico-semantically inert, need not obey syntactic islands like the Coordinate Structure Constraint, and can 'repair' arbitrary gaps so as to be complementary with inflected forms (Pranka 1983, Doron 1988, Legate 1999, Ackema and Neeleman 2003).

(29) a. Chuirfinn   (*mé)   b. *Chuirfeadh   mé   c. Chuirfeadh   sibh
         put.COND.1SG   I   put.COND   I   put.COND   you.PL
                                                                         (*put.COND.2PL)
(30) dá   mbeinn   -se   agus   tusa   mór   len   a   chélie
      that   be.COND.1SG   CONTR   and   you   great with   each   other
      that you and I would be very friendly with one another.

(McCloskey and Hale 1983: 502)

Why is 'gap repair' by a strong pronoun available in Irish but not in French? In French, considerable syntactic distance intervenes between the clitic in T/INFL and the only available strong pronoun in the VP. In Irish, pronominal subjects raise in the syntax to a position immediately c-commanded by the potentially agreeing verb (Chung and McCloskey 1987: 227). The component that decides whether the pronoun attaches or not need only operate over a very short distance such as under adjacency or within the prosodic phrase, and the above analyses restrict its mechanism accordingly. A similar locality constraint is seen in the English comparative affixation, blocked by *ploddingly* in *more ploddingly slow* of (27) (Embick 2007; cf. Noyer 2002: 796 generally). French strong pronouns could therefore never surface as clitics on the distant T/INFL. Morphophonological affix/clitic-independent alternations can apparently only obtain over

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[16] The contrastive *-se* is required by coordinated pronouns independently of affixation (McCloskey and Hale 1983: 503f.). It is in a similar suffix/pronoun complementarity in Breton (Jouitteau and Rezac 2006).

short distances. The observation dovetails with the one above that the arbitrary, syntactico-semantically inert phi-syncretisms can only occur within a small domain. For phenomena conditioned by phi-features then, the morphophonology component seems to be restricted to short distances. If it could span long-distance dependencies, or if syntax could respond to gaps conditioned by arbitrary phi-combinations, the absence of long-distance versions of the Irish alternation would be accidental.

Alternations of clitic/affixal-strong elements have been grouped as *synthetic-analytic* alternations, and both morphophonological and syntactic analyses offered (Andrews 1990, Poser 1992, Börjars et al. 1996, Williams 1997, Embick 2000, Kiparsky 2005, Embick and Marantz 2008). The Irish phi-conditioned alternation bears the same morphophonological signature as phi-conditioned syncretisms, (23). It is syntactico-semantically inert, sensitive to arbitrary morphosyntactic feature combinations and to morphophonology, within a small domain. A syntactic alternation is expected to have a complementary character, though it may happen to be inert and local. This is essentially what the French unfocussed clitic – focussed strong pronoun alternation is: noninert, nonlocal, and, as exemplified for a related alternation below (ex. (50), (51)), sensitive to morphological neutralized information such as the goal-possessor dative distinction.[17]

In the next section we will see phenomena superficially similar to phi-conditioned syncretisms and synthetic-analytic alternations, but with a fully syntactic signature. Syntactico-semantic effects, action-at-a-distance, morphologically neutralized properties, limitation to 'nonarbitrary' feature combinations, all correlate in them. Thus it seems that these phi-conditioned phenomena are individuated as morphophonological and syntactic by a strong version of modularity that forces either a syntactic or a morphophonological signature as above.

4   Phi in syntax

There are several ways to show that some uninterpretable phi belongs to syntax. The surest is by exhibiting its relevance for unequivocally syntactico-semantic phenomena such as the Binding Theory. Modular architecture then predicts of such a phenomenon that it would have other properties of the syntax module: the potential to span large phrase-structural domains, but only by independently motivated syntactic mechanisms, and to refer to morphosyntactic information neutralized in morphophonology, but not morphophonological information proper.

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[17] The syntactic analyses of the alternations viewed as morphophonological here indicate the elements that such a theory must adopt and the predictions it makes: (i) it must see the syntactically arbitrary gaps in the synthetic forms (*apter*, *put.COND.2SG), which is done by a pre-syntactic morphology defining possible words for syntax, or by a feedback of this information from realization (cf. Andrews 1990, Poser 1992); (ii) it impose a restriction on the underlying mechanism to derives their syntactico-semantic inertness, such as syntactico-semantic feature invariance for competing structures (Andrews 1990, Börjars et al. 1996); and (iii) it must have a condition restricting the alternations to information in a 'small' domain if desired (sisterhod, Poser 1992). (i) and (ii) without (iii) allows for synthetic-analytic alternations spanning large distances, where moreover the two elements of the analytic form are dissociable by 'movement' with its potential syntactico-semantic consequences: see Börjars et al., (1996), Embick (2000: 203), Kiparsky (2005). One may view the mechanism so defined as syntactic (Andrews 1990, Kiparsky 2005), or as a paradigmatic morphology containing syntactic structures along with words (Börjars et al. 1996).

The phenomena discussed in this section have this signature. They are phi-conditioned syncretisms and synthetic-analytic alternations, resembling superficially the morphophonological ones of the last section. Like them, they refer to uninterpretable phi-features, whereby the interpretable phi-features of one argument, β, influence another argument α on which they are uninterpretable in form or position. The subset of them that that can be put into the syntax by the arguments here are those referring to [+person] specifications, and are known as *person hierarchy* phenomena.

A good introduction is subject-object interaction in Arizona Tewa (Kroskrity 1985). The subject and the transitive object are ordinarily unmarked for case, (31)a. However, when the object is $1^{st}/2^{nd}$ person, the transitive subject is marked by *di*, (31)b. Partly it looks like an oblique/PP, because homophonous with one coding instruments (not agents), cf. (31)a. Partly it looks like a more structural Case, such as the agreeing ergative of Basque, because it does control agreement (glossed as set 'III'), albeit poorer than the unmarked subject does (set 'II'). Although the alternation of subject coding resembles that of English active-passive, it is entirely governed by the [+person] feature of the object. It is important here because it goes beyond morphology. The marked subject differs from unmarked subject and object in syntactic ways: it cannot be relativized, (32), or dropped under conjunction reduction.[18]

(31) a. Na: k'u:-'í'í-dí   dó-k'ege-'an
          I   rock-there-*DI*   1SG→3.II-build-PAST
          I built the house out of rock.

      b. na: sen-e-di   /   'u-di   dí-k^{w}ek^{hw}ę́di
          I   man-PL-*DI*   you-*DI*   2/3→1.III-shot
          The men/you shot me. (I was shot by the men / by you.)

(32) wó:-k^{h}ęge-n-'i   na-hik^{y}an-mí
      3SG→2.III-help-PROG-REL   IMPV-happy-OBLIG
      May you whom he/she has helped be happy! (May you who are helped be happy!)
      *May he/she who has helped you be happy!
                                (Arizona Tewa, Zuñiga 2002: 185, Kroskrity 1985: 311, 315)

The paradigm through which this is explored here further is known as the *Person Case Constraint*, PCC. The two elements that interact in it are the core internal argument with unmarked structural Case (transitive object and unaccusative subject in accusative, absolute, nominative), and an applicative object in the same Case/agreement domain (mostly dative here). The PCC prevents the former from agreeing or cliticizing if $1^{st}/2^{nd}$ person in the presence of the latter. If $1^{st}/2^{nd}$ person pronouns are required to agree or cliticize, the PCC then rules out such structures entirely. However, sometimes there is recourse to coding one of the two arguments in a way otherwise impossible, creating an

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[18] For more on subject-object interactions, see Jelinek (1993), Zuñiga (2002), and linking to the intransitive ones below, Albizu (1997), Nichols (2001), Béjar (2003), Bianchi (2006), Béjar and Rezac (2009). An overview of cases where person hierarchy interactions are syntactic is given in Rezac (2008x), e.g. A-movement in Algonquian (Rhodes 1993, Bruening 2001). Nichols (2001) and Béjar and Rezac (2009) a direct-oblique alternation similar to Arizona Tewa but of the direct object, in Kashmiri.

apparent 'repair' of the PCC (Bonet 1991): one of the arguments becomes a nonagreeing or nonclitic pronoun, a (nonapplicative) oblique, and so on.

The Basque alternation in (33) is one such paradigm. The PCC lets the applicative unaccusative *gustatu* 'like' appear only with 3rd person absolutive themes in the presence of its obligatory dative experiencer, (33)a. As both arguments must agree, the story usually stops here: a $1^{st}/2^{nd}$ person theme is impossible. In some varieties however, the $1^{st}/2^{nd}$ person may surface with ergative case and agreement, (33)b, which are available elsewhere only to the subjects of transitives (including (33)a). Neither the constraint nor the anomalous ergative have anything to do with over morphology: the agreement combinations banned by the PCC may exist for *nonapplicative* datives in a given variety, or may be an (arbitrary) gap, *%zatzaizkio* in (33)c, but in either case no anomalous ergative is available.

(33) a. Itxaso-ri$_i$ liburu-ak/*ek$_k$ gustatzen zai-$\underline{zki}_k$-o$_i$ / *di-o$_i$-$\underline{te}_k$
          Itxaso-DAT books-ABS/ERG liking   AUX-$\underline{PL.ABS}$-3SG.DAT / *AUX-3SG.DAT-$\underline{3PL.ERG}$
          Itxaso likes the books.

      b. Itxaso-ri$_i$ zu-k/*∅$_k$ gustatzen *$\underline{z}_k$-atzai-$\underline{zki}_k$-o$_i$ / di-o$_i$-$\underline{zu}_k$
          Itxaso-DAT you-ERG/*ABS liking   *$\underline{2.ABS}$-AUX-$\underline{PL.ABS}$-3SG.DAT / AUX-3SG.DAT-$\underline{2SG.ERG}$
          Itxaso likes you.

      c. Zu-∅/*k$_i$ Itxaso-ri$_k$ etortzen   *di-o$_k$-$\underline{zu}_i$ / $^{\%}\underline{z}_i$-a-tzai-$\underline{zki}_i$-o
          you-ABS/*ERG Itxaso-DAT coming   *AUX-3SG.DAT-$\underline{2SG.ERG}$ / $^{\%}\underline{2SG.ABS}$-AUX-$\underline{PL.ABS}$-3SG.DAT
          You are coming to Itxaso. (Tolosa Basque, variant T1, Rezac 2008a)

Other examples of the PCC and its 'repairs' are given in Table. To some extent, they suggest a uniform phenomenon. Chinook is like Basque, save that its 'ergativized' argument is the applied object, because in that language it is itself absolutive. The parallelism includes the existence of nonapplicative unaccusatives with the agreement morphology banned by the PCC. Finnish is the image of Basque through the ergative-accusative mirror. In these languages the PCC repairs consist in the addition of the otherwise unavailable 'dependent' case to unaccusatives, and thus they are unavailable to transitives, which already have an ergative / accusative argument. French and Georgian show how transitives may be repaired: by an otherwise unavailable strong pronoun in place of a clitic or agreement marker.[19] Their link to unaccusative repairs might be drawn through Cardinaletti and Starke's (1999) hypothesis that strong pronouns differ from weak ones in having an extra Case licensing capacity within themselves, autonomous of that of the clause. We return to analytical possibilities at the end of the section.

Table: PCC and its repairs in applicative constructions (Rezac 2008x)

	PCC: *underlined = 1/2 person	Repair (uniquely when PCC)
Basque (dial.)	DAT$_{Appl}$ + $\underline{ABS}_{S/O}$ agr+case	ABS$_S$ → ERG in unaccusatives
Chinook	ABS$_{Appl}$ + $\underline{ABS}_{S/O}$ agr	ABS$_{Appl}$ → ERG in unaccusatives
Finnish	OBL$_{Appl}$ + $\underline{NOM}_S$ case	NOM$_S$ → ACC in unaccusatives

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[19] For Georgian, Boeder (1999) observes that *Pronoun's self* has emphatic uses for *Pronoun*.

French	DAT$_{Appl}$ + <u>ACC</u>$_O$ clitic	DAT clitic → DAT/LOC strong
		and %DAT clitic → LOC clitic
Georgian	DAT$_{Appl}$ + <u>ACC/ABS</u>$_O$ agr+case	ACC/ABS$_O$ → [O*'s self*].ACC/ABS

> NOTE: agr[eement morpheme], case, clitic: signals morphological correlates present in a language, e.g. no case in Chinook; all are affected by the repair indicated.

The questions of interest here are narrow-syntactic character of the (uninterpretable) reference to (interpretable) phi in the PCC, its correlates, and its relationship to phi in adjacent modules. In one perspective, the alternations in Table do seem syntactic. The PCC is not a problem with morpheme combinations, since the expected ones surface for other structures, as noted for Basque and Chinook, and below for French. The repairs assign anomalous case to pronouns, or have them be strong rather than affixal, at distances crossing many phrases from the clitic / agreement complex affected by the PCC. However, these considerations do not decide between narrow syntax and a sufficiently abstract and long-distance morphophonology. Robust evidence of syntactico-semantic activity is needed.

French provides evidence similar to that of Arizona Tewa for putting the PCC and its repairs into narrow syntax. Unfocussed dative and accusative pronouns must surface as clitics, (35)a, while locative ones like the argument of *penser* 'think' need not, (35)c, although nonclitic datives and locatives are homophonous as nominals preceded by *à*. The PCC bans combinations of a dative and a [+person] accusative clitic, which includes both 1st/2nd person and the 3rd person reflexive clitic *se*.[20] Just in that case, an unfocussed strong dative pronoun is fine, (35)b. It looks then like a locative, being an unfocussed strong pronoun marked *à*, and one variety of French of may even deploy the locative clitic *y* for the dative one in this and only in this context, (36).[21]

(34)   PCC (French): *1st/2nd/*se* ([+person]) accusative + dative argumental clitics.
        REPAIR: dative clitic → strong *à* + pronoun, %LOC clitic (both only when PCC).
            (Couquaux 1975, Kayne 1975, Postal 1981, 1983, 1984, 1990, Rezac 2008x)

(35)   [Context: What do you mean she doesn't know them$_i$? Of course she knows them$_i$.]§
    a. Je *les*   ⟨*lui*$_i$⟩   ai présenté   ⟨*à elle$_i$/√ELLE$_k$⟩ hier.
    b. Je *vous*   ⟨**lui*$_i$⟩   ai présenté   ⟨à elle$_i$/√ELLE$_k$⟩ hier.
       I   them/you.ACC her.DAT have introduced   to her/HER   yesterday
    c. Elle ⟨*y*$_i$⟩   pense tout le temps ⟨à   eux$_i$⟩.

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[20] For the [+person] character of *se*, see Bonet 1995, Taraldsen 1995, Reuland 2001, Kayne 2000, Anagnostopoulou 2003: 265. Other work identifies *all* datives as [+person], on the basis of position, agreement, or interpretation, e.g. Anagnostopoulou 2003: 270-2, Rezac 2006, Adger and Harbour 2007: 21 resp. If so, the PCC is an interaction between two [+person] elements, as in Arizona Tewa.

[21] The *repair*-by-*y* (Couquaux 1975, Postal 1990; for Catalan, Bonet 1991) exists in grammars without recourse to the *general* use of *y* for dative clitics of many varieties, though one variant of the latter also fails to incur the PCC (Lambrecht 1981, Rezac 2009). The true repair-by-*y* is useful in deciding the status of complex examples, because it produces an an otherwise impossible surface form, rather than the repair-by-strong pronoun which is identical to one with a focussed dative pronoun. Thus (i) verifies (26). Examples from grammars with it are notated [y-grammar].

(i)   *Un tel mensonge ne *s'y* dit pas, à Louise. (Postal 1990: 167) [n.b. *s'y* is fine with a true locative]

she   LOC   thinks all the time   about   them

(36)   Philippe   *vous/*l'*   ⟨y⟩   présentera   ⟨à elles⟩
            Philippe   you/*him.ACC LOC   will.introduce to them (Postal 1990: 127)

Thus French has both a synthetic-analytic alternation between a dative clitic and a strong pronoun, and an opaque cliticization of a dative as a locative clitic, both conditioned by the [+person] feature of the neighboring accusative clitic. This latter fact bears emphasizing. As noted above, 'arbitrary' gaps of the sort in (24) do not license these alternations.[‡] Another common contrast in the literature is between irreparable sequences of two dative clitics, as in causative (37) and raising (38), and the PCC in similarly complex causatives, (39) and (40).[22] [23]

(37)   Paul   *lui*   fera porter les livres   aux étudiants TOUTSUITE.
           Paul   *lui*   ⟨?**leur*⟩   fera porter les livres ⟨*à eux⟩   TOUTSUITE.
           Paul   him.DAT will.make carry   the books to.the students immediately
           [Context: E forgot to bring the books to P's students! What will they do now? __]
           P will make *him* carry the books to the students / *to *them* immediately.
                                              (cf. Kayne 1975: 296f., Postal 1981: 308)

(38)   Paul *m'*   ⟨*y / *leur*⟩   semble reconnaissant ⟨?**à eux*⟩.   [y-grammar]
           Paul me.DAT LOC/them.DAT   seems grateful   to *them*.
           Paul seems to me grateful to them.
                                          (Couquaux 1975: 71 note 11)

(39)   Il   *me*   ⟨*lui*⟩   fera   présenter ⟨à elle⟩ par ses parents.
           he me.ACC her.DAT will.make introduce to her   by his parents.
           He will have me introduced to them by his parents.
                                              (Kayne 1975: 297)

(40)   On *m'*   ⟨*leur*⟩   a fait   connaître/voir ⟨à eux⟩.
           On *m'*   *y / *leur*   a fait   connaître/voir , à ses amis. [y-grammar]
           one me.ACC LOC/them.DAT has made know/see   to them / to his friends
           One made *them* (, his friends,) get to know / see *me*.
                    (Couquaux 1975: 46, cf. Kayne 1975: 298 note 25 for *à eux*)

Whether the double dative gap is morphological or syntactic is not clear (Rezac forthc). There are more clearly syntactic failures of cliticization where unfocussed strong pronouns are not improved (Kayne 1975: 174-9, 185f., 295f., 305f., Rezac 2008x). Examples are causativized unergatives (41), and adjectival phrases as modifiers (42) and ECM complements (43). They lack cliticization sites of their own and are islands for clitic climbing.[24]

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[22] *Me lui/leur* is more acceptable to more speakers in raising than in causatives; q.v. Rezac (forthc).

[23] Type (40) is complicated due to restrictions on even non-clitic causees + animate accusatives (Kayne 1975: 241f., Tasmowski 1985: 350-3, Postal 1989, Rezac 2008x), and the badness of causees for some as even focused strong pronouns (Postal 1990, Rezac 2008x). The *y*-grammar is crucially probative.

[24] The islandhood of ECM for clitic climbing varies. Causatives of unergatives have recourse to other structures, including richer infinitival complement providing a cliticization site (in a different binding domain than the matrix, unlike obligatory climbing infinitives). Coordination structures can be used to

(41)　On *la/te*　　　⟨*leur*⟩　　　fera　　répondre　⟨aux policiers / *à eux⟩
　　　one her/you.ACC　them.DAT　will.make　answer　　to.the police / *to them
　　　They will make her answer to the police / *to them. (Kayne 1975: 295-7)

(42)　il *lui*$_i$　　faudrait　　une fille [$_{AP}$ redevable/(?)reconnaisssant à ELLE$_i$/*à elle$_i$].
　　　it her.DAT would.need a girl　　　indebted / grateful　　　to HER/*to her
　　　One would need a girl indebted/(?)grateful *to her$_i$/√HER$_i$. (Rezac 2008x)

(43)　on ⟨$^{\%}$*lui*⟩　　croit [$_{SC}$ Paula [$_{AP}$ ⟨**lui*⟩　　antipathique　⟨à Jacques / *à lui⟩]]
　　　one him.DAT believes Paula　　him.DAT unpleasant　　to Jacques / to him
　　　One (we) believe(s) Paula unpleasant to Jacques/*him. (Rezac 2008x)

　　The PCC repairs are thus not generalized responses to failure to cliticize, but to the PCC. An applicative dative oscillates between a clitic and a strong pronoun or a locative clitic according to the [+person] of a neighbouring accusative clitic, or put differently, the dative's form agrees (covaries) with the person feature of the accusative.$^{£}$

　　The foregoing dative-locative and clitic-strong alternations resemble the opaque cliticization and affix-pronoun alternation in section 3, which bear the signature of morphophonology. For the PCC repairs as well, Bonet (1991) develops an elegant morphological, postsyntactic analysis. Datives move from a VP-internal to a VP-external position, and clitics spell out the top copy of this chain, while strong pronouns the bottom one. Top copy spell-out is preferred, yielding the clitic. However, if it would incur a morphophonological ban on *me-lui* clitic clusters, the lower copy is targeted for spell-out, giving a strong pronoun. Such PF-dependent lower copy spell-out has since been employed elsewhere, notably in Bošković's (2002) analysis of multiple *wh*-movement in Romanian where lower copies surface to avoid a sequence of homophonous *wh*-words (cf. also note 10). Its consequence in a modular architecture is the following:

(44)　The spell-out of the higher or lower copy of a chain has no consequences for its syntax or interpretation, because it occurs in the extra-syntactic, PF component. In the syntax, all copies are present. (Polinsky and Potsdam 2006, Bobaljik and Branigan 2006)

　　This prediction furnishes a touchstone to put the PCC alternation into narrow syntax rather than outside it (Rezac 2008x). In French, clitics and strong pronouns differ on various syntactico-semantic correlates other than focus: floating quantifiers, right dislocation, and binding. For each, the strong dative pronoun of the PCC repair has a structure distinct from that of a dative clitic.

　　Bare floating quantifiers in the middle field can be licensed only by dative or accusative clitics, whether or not they double a strong pronoun, and not by strong pronouns alone or any nonpronouns: (45)a versus (45)b. The strong pronoun repairing a dative clitic in a PCC context behaves like a strong pronoun and not like a clitic, (45)c.

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make the same point (Kayne 1975: 177-9, 2000: 171f., vs. Cardinaletti and Starke 1999: 152, 208), but may be complicated by obligatory clitic doubling (Rezac 2008x).

Therefore, its syntax does not contain that aspect of the syntax of a clitic which licenses a floating quantifier.

(45) a. Elle *la*   *leur*$_i$ a   <u>tous$_i$</u>   présentée (à EUX$_i$)
      b. Elle *l'*   a   (*<u>tous$_i$</u>) présentée à EUX$_i$/*à eux$_i$
      c. Elle *m'*   a   (*<u>tous$_i$</u>) présentée à eux$_i$.
          she   her/me.ACC them.DAT has all   introduced to them

                                                                                    (Rezac 2008x)

Next, right dislocation is compatible only with a clitic link, not with a strong pronoun. The strong pronoun of the PCC repair behaves like a strong pronoun, while the locative clitic of its *y*-grammar variant behaves like a clitic (Couquaux 1978):

(46) Roger *m'*   ⟨*y*⟩   a présenté   ⟨*à eux⟩, à ses amis.   [*y*-grammar]
      R   me.ACC LOC has introduced to them to his friends

                                                                        (Couquaux 1978: 213 note 6)

Finally, pronominal clitics but not strong pronouns in French are subject to a Condition B.[25] Morin (1978: 356f.) observes that the strong pronoun introduced by PCC repair behaves like a focussed dative strong pronoun, or like an unfocussed locative one, in not being subject to Condition B:

(47) Jean$_i$ s' est attaqué   à lui$_i$,   pensant s'attaquer aux autres.
      Jean   SE is attacked to him, thinking to attack others (Morin 1978: 357)

This argument is weakened by analytical options that would relate (47) to the dative reflexive clitic *se*, for example as the spell-out of a structure with *se* as the upper and *à lui* as the lower copy of a chain, *Jean se$_{ACC}$ s̶$_i$'est attaqué à lui$_i$*. This possibility can be eliminated by *overlapping reference* contexts, where a reflexive is impossible: *We saw me/myself.* In French, Condition B strongly rules out clitics in overlapping reference (Kayne 2002: 143-6, Rooryck 2006). Thus no clitic whatsoever is possible for an unfocussed object in (48)a, reflexive or not, and so the focused strong pronoun has a reading unavailable to any clitic. The unfocused strong pronoun of PCC contexts in (48)b is fine just like the a focused strong pronoun of (48)a.

(48) a. *Vous   *t'*   avez   chacun donné dix euros (à TOI)
          Vous   avez   chacun donné dix euros à TOI / *à toi.
          you(PL) you(SG).DAT have   each   given ten euros to YOU(SG) / to you(SG)
          [Kepa, talking to a group of who made a common fund for going out, addresses Maia, who was appointed the keeper of the money:]
          So you (PL) gave each ten euros to YOU (SG) [But you always lose things!]
          *So you (PL) gave each ten euros to you (SG) [although you knew that we had dinner for FREE?!].

      b. Vous   *vous*   ⟨*t'*⟩   êtes TOUJOURS dédiés   ⟨à toi⟩.
          you(PL) you(PL).ACC you(SG).DAT are always   dedicated to you(SG)

[Psychologist to the husband in a couple: Without yours telling each other explicitly,] You have ALWAYS devoted yourselves (PL) to you (SG).

These three diagnostics demonstrate different syntactico-semantic correlates for dative clitics and the dative strong pronouns of the PCC repair.[26] [$] Modularity now leads to the expectation of a syntactic signature for PCC repairs, since (49)a holds:

(49)   Syntactic signature:
    a. Syntactico-semantic visibility.
    b. Computation: Potentially long-distance dependencies, not as featurally arbitrary as morphophonology.
    c. Information: Potential reference to morphosyntactic information neutralized in morphophonology, but none to purely morphophonological information.

The long-distance character of the French PCC repair is evident throughout, as the distance between the clitic cluster and the strong pronoun can span multiple XPs / prosodic phrases. It shines out in causatives of the type (40). Longer distances occur in the Basque and Finnish PCC repairs in Table, where the $1^{st}/2^{nd}$ person can be the argument of a raising verb introducing the applied object, and in Finnish in-situ (Rezac 2007, 2008x). The issue of arbitrariness is deferred until the end of this section, where the mechanics of the PCC and its repairs are considered.

The distinctively syntactic character of the information referred to by PCC repairs has two striking instantiations. First, they only fix 'lexical', indirect object datives, not various 'extended' datives like possessors, benefactives, and datives of interest (Kayne 1975, Postal 1990):

(50)   a.   On   *la/*me*   *leur*   a jeté   dans les bras, à ces filles.
         one   her/*me.ACC   them.DAT has thrown   into the arms, to these girls

    b.   *On *m'*   ⟨*y*⟩   a jeté   dans les bras ⟨à ces filles / à ELLES / à elles⟩.
         one me.ACC LOC has thrown into the arms to these girls / to THEM / to them
                                  (adapting Couquaux 1975: 58, 60) [y-grammar]
(51)   Elle   *le/*me*   ⟨*leur*⟩   a   jeté   dessus ⟨*(*à) eux / *(*à) Jean⟩.
       she   him/me.ACC   them.DAT has   thrown on   to them   to   Jean

These distinctions between datives are systematically neutralized in realization, where all datives use the same clitics. They are also neutralized for the opaque cliticizations

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[26] A further refinement would seek to establish whether the PCC must be in narrow syntax rather than interpretation (Rezac 2008x). If the PCC were interpretive, the emergence of an unfocused reading for an strong pronoun could be the response of the focus-assignment algorithm, operating over a reference-set of structures to pair focus with strong and nonfocus with clitic forms, to absence of the clitic alterantive eliminated by the PCC (cf. Adger 1994: 93-5 for subject readings; and Fox 2000, Reinhart 2006). This is not a possible analysis for PCC repairs that are not generated by syntax outside PCC contexts, like the locative clitic of French or the Basque ergative, but these lack clear evidence of syntactico-semantic noninertness (Arizona Tewa provides it for another person hierarchy repair). For the repair-by-strong pronoun above, the status of the diagnostics is a matter of one's theory; floating quantifiers for example seem to depend on narrow syntax or a noncomparison interpretation thereof (q.v. Fitzpatrick 2006).

with a morphophonological signature of section 3, including dative→locative, contrasting with the repair-by-*y* in (50).[27] As (50) and (51) indicate, to a first approximation there is a good match between the datives that cannot be affected by the PCC repairs, and those that cannot surface as nonclitics, or better, specifically as focused strong pronouns (Couquaux 1975, Rezac 2008x; cf. also Rooryck 1988 for the remainder). Under a syntactic approach to PCC repairs, the reasons for this lie plausibly in the proposal that 'extended' datives must be projected in an applicative structure, whereas 'lexical' datives may also be projected in a prepositional, locative-like structure (Kayne 1975, Anagnostopoulou 2003, Cuervo 2003). The PCC repair would then consist in licensing unfocused rather than just focused strong pronouns in the latter structure (Postal 1990, Rezac 2008x). A lower-copy spell-out approach to PCC repairs can derive their restriction to the relevant datives if only these have a lower VP-internal copy, as far as the repair by strong pronoun goes, but not readily for the repair by a locative clitic and its contrast with opaque cliticization (cf. Bonet 1991: 213).

The second instance of reference to syntactic information is uncovered by Postal (1984, 1990) for the PCC itself. For some speakers of French who have the PCC in the usual examples as above, there are 1/2.ACC + DAT clitic sequences that are not subject to it, as in (52). Their immunity to the PCC may be linked to the origin of the dative clitic as the complement of the adjective, and thus below the theme and/or nonapplicative (Postal 1990, Rezac 2008x). Whatever the analysis, and limited tough (52) is to the grammar of some speakers only, the PCC refers here to a syntactico-semantic distinction thoroughly neutralized by the surface morphology of the language. A similar reference obtains in Basque and Chinook, as noted above. A weaker but still noteworthy version of this argument comes from that far more common French varieties tolerating double dative clitic sequences like (38), because 1st/2nd person datives and accusatives are always syncretic across Romance, although they are differentiated by other phenomena such as right dislocation or participle agreement (Kayne 1975, Postal 1990).[28]

(52) Pierre *nous lui*   croit [SC *e*nous   fidèle *e*lui], nous autres communistes.
      Pierre us.ACC him.DAT believes   faithful,   us other communists
                                                              (Postal 1984: 153, structure added)

The PCC thus seems to have access to syntactic properties otherwise neutralized in the morphophonology, including in opaque cliticization. Switching perspectives, it is also insensitive   to   some   of   the   purely   morphophonological   information   that morphophonological syncretisms and synthetic-analytic alternations may see. The

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[27] Minimally contrasting pairs of both dative→locative strategies exist in Catalan (Rezac 2008x).

[28] A third argument for reference morphologically invisible information might exist (Rezac 2008x). There are datives, as in (i), that block 1st/2nd person accusative clitics (for many speakers), yet are not clitics or even covertly clitic-doubled (as witnessed by *toutes* in (i)). They seem to be applicative datives that need not be clitics, unlike those in (50), (51). For example, the dative of (i) has a psych-experiencer reading in other languages reserved for applicatives (Basque), and cannot be replaced by a strong pronoun in PCC repair. If this is the right analysis, it reduces the hope of identifying the set of datives causing the PCC by their morphological realization, such as 'dative clitics'; their syntactic profile is needed: 'applicative datives'.

(i) Il *l'/?*t'*   a (*toutesi) fallu   à mes amiesi / *à ellesi / à ELLESi.
     Il *le/*te*   *leur*i   a (toutesi)   fallu.
     it him/*you.ACC them.DAT   has (*all)   needed to my friends / to them / to THEM.
     My friends / they (all) needed him/you. (Rezac 2008x; cf. Kayne 1975: 241 note 47, Postal 1990: 172)

arbitrary gaps in (24) are not seen by it, unlike by the Irish affix-pronoun alternation, and the morphophonological feature repetition that may underlie the double dative ban in (37)-(38) is not either.

We may next ask what morphosyntactic feature combinations trigger PCC repairs empirically, and how they differ from those of the morphophonological phi-conditioned phenomena of section 3. This brings us to the computational character of the PCC repair and bears on the mechanism underlying it. PCC contexts as identified from PCC repairs do not seem very heterogeneous. All fit a ban on combining (i) [+person]$_{ACC/ABS/NOM}$ with (ii) [(+person)]$_{Appl}$. In French for example, (i) is $1^{st}/2^{nd}$ person and 3rd person reflexive accusative clitics, and (ii) is dative clitics. These are all arguably all [+person] (note 20). Parametric variation affects both elements, but only independently of each other. For (i), 3rd person *se*-reflexives are [+person] for the PCC in French but not in the superficially identical reflexive system of Spanish (Rivero 2004). Elsewhere, 3rd person animates are sometimes [+person] (see further section 5). For (ii), 3rd person applied objects may or may not trigger the PCC and its repairs along with $1^{st}/2^{nd}$ person ones, varying across Georgian dialects (Harris 1981: 283 note 4).

What does not seem to be found cases where the phi-specification of (i) depends arbitrarily on the phi-specification of (ii), and potentially on an arbitrary value of other features such as tense, mode, or root identity – unlike in the superficially similar but syntactico-semantically inert phenomena of section 3. Those person hierarchy interactions for which syntactico-semantic noninertness has been established, there is congruently a nonarbitrary relationships between the phi-features of the two arguments involved, and role of tense or mode that is uniform for all choices of phi-values. This is true both of the examples discussed here, and of others such as Ojibwa (see note 18). Yet the generalization must be tempered by the limited set of phi-conditioned interactions investigated from this perspective. Only further work can establish the status of variants of the PCC (Nevins 2007 vs. Ormazabal and Romero 2007: 332-4), or mixed person-number interactions of varying degrees of (non)arbitrariness (Zuniga 2002, Trommer 2006, Nevins and Săvescu 2008).

If narrow-syntactic person hierarchy phenomena are restricted as suggested, they lend themselves to extant mechanisms for syntactic dependencies. Some recent analyses of the PCC are schematized in (53). To take (53)a as an example, feature-relativized locality prevents [+person] Agree between H (say, $T_{NOM}/v_{ABS/ACC}$) and a [+person] argument across an intervening dative, by hypothesis also [+person]. The PCC arises in the same way as the ban on raising of one phi-set over another in Chomsky (2000a), save that reference is made to [+person] rather than to [phi]. The importation of such featural distinctions is the only cost.[29] (53)b differs from (53)a only in the c-command of the arguments, which reflects different hypotheses about base-generation or prior movements. The approaches in (53) have been applied both to the PCC and to subject-object interactions like that of Arizona Tewa, delimiting the set of unmarked ('direct') subject-object combinations (Nichols 2001, Béjar 2003, Bianchi 2006, Béjar and Rezac 2009).

(53)   H↔β Agree pre-empts H↔α Agree or vice versa (for PCC, β = applied object)

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[29] However, the blocking relations and thus the consequences for syntax are more complex in theories where entailment relationships hold between phi-features and count for locality: see Starke (2001) in general, and for phi-features Béjar (2003), Nevins (2007), Béjar and Rezac (2009).

a. H   >   β   >   α:1/2   H↔β pre-empts H↔α by relativized minimality
          *Agree   (Anagnostopoulou 2003: 264ff.)

b. H   >   α:1/2   >   β   H↔β pre-empts H↔α by relativized minimality
          *Agree   (Ormazabal and Romero 1998)

c. β   >   H   >   α:1/2   H↔α pre-empts H↔α by cyclicity
     *Agree ‖ Agree   (Adger and Harbour 2007)

d. β   >   H   >   α:1/2   H↔[+person] requires spec-head, β in Spec-HP
     Agree ‖ *Agree   (Baker 2008: 77ff.)

e. α:1/2, β compete for Agree with H, other factors determine which wins.
                                         (cf. Nichols 2001)

When (53) bars Agree with a [+person] argument, repairs of the PCC occur, as well as the 'marked' (inverse) patterns of other person hierarchy interactions like the *di*-marked subject of Arizona Tewa. Because limited to contexts where the unmarked pattern is blocked, they seem to be its 'repairs'. Two types of syntactic models have been suggested for them: local and last-resort computation, the second but not the first truly characterizable as a 'repair'. They may be sketched as follows for the French alternation between clitics and strong pronouns in PCC contexts.

The local approach is proposed in Ormazabal and Romero (1998), adapted in Rezac (2008x). Starting from (53)b, in (54), β is an applied object base-generated as the complement of a preposition P* in the prepositional construction, α is a higher [+person] accusative, and H is P* once it incorporates into *v* above both α and β. P* triggers [+person] Agree with the first goal met in its c-command domain. This is the dative if there is no [+person] accusative, but the accusative otherwise, both cliticizing if unfocussed pronouns. The first scenario results in a dative clitic in the presence of a non-$1^{st}/2^{nd}$ person accusative, the non-PCC contexts. The second leads to a $1^{st}/2^{nd}$ person accusative clitic and a dative that stays in-situ as a nonclitic prepositional phrase. It yields both the PCC and its repair in one go.

(54)   a.   DAT$_{clitic}$ v+P* V   (ACC$_{[-person]}$)   [$_{PP}$ t_{P*} t_{DAT}]   (by P*-DAT [+person] Agree)
        b.   ACC$_{clitic}$ v+P* V   ACC$_{[+person]}$ [$_{PP}$ t_{P*} DAT]   (by P*-ACC [+person] Agree)

The last-resort approach is proposed by Nichols (2001) for subject-object person hierarchies, and in Rezac (2007, 2008x) for them and PCC repairs. It views repairs as truly repairs: when the [+person] α is left unlicensed in (53) by Agree with H, a last-resort mechanism steps in, such as adding a Case licenser. In French, it meets the Case requirement that otherwise drive an unfocussed dative pronoun to cliticize, and turns it into a strong pronoun frozen in the clause, autonomous of clausal Case licensing (cf. Cardinaletti and Starke 1999). The richer structure so induced for the pronoun switches it from a DP-like dative to a PP-like *à* + DP or locative clitic. Such a perspective on repairs is also inherent to optimality-theoretic approaches, as a general symptom of the framework not only for person but for all licensing (markedness) failures.

Both types of approaches are meant to use only tools available generally in narrow syntax, not only in person hierarchy phenomena. The result is for both a PP-like structure, close or identical to that of a locative argument. This accounts for the identical realization of the PCC repair and a locative (through unfocussed strong pronouns or the locative

clitic), and the limitation of the repairable datives to the readings compatible with a PP (for example indirect object goals but not possessors). The underlying insight is that of Couquaux's (1975) *Règle de Réanalyse*, which rewrites a [+dative] pronoun as a [-dative] one, that is a locative, in a PCC context.[30] Both approaches are extensible to the PCC repairs in Table and person hierarchy alternations as that of Arizona Tewa in general, under the requisite assumptions about the nature of the ergative, for example. And both face great challenges, above all that of restrictiveness. In French they must not yield strong pronouns for unfocussed datives in the many contexts where clitics are impossible for reasons other than the PCC, as in (41).[#]

Such is the character of one set of phi-conditioned syncretisms and synthetic-analytic alternations. It bears a fully syntactic signature, whether or not any present analyses of its mechanism prove tenable. The phi-conditioned alternates have distinct syntactico-semantic correlates, the domains of the alternation are long but island-bound distances, and there is reference to syntactic-semantic properties including some unavailable otherwise to realization, but not to morphophonological ones. A net partition is emerging between phi-conditioned phenomena with syntactic and morphophonological signatures, each individuated by its module though resembling one another on the surface. They reveal a modular architecture where narrow syntax is relevantly autonomous of morphophonology and the two differ partly in mechanisms and information.

The qualifications of 'relevantly' and 'partly' underscore the limited bearing of this result. The autonomy of syntax from morphophonology is deducible only for phi-conditioned phenomena such as arbitrary gaps in affix combinations. Even then, there is room for distinctions. The PCC and other person licensing requirements have often been analysed as a morphophonological constraint. Despite its visibility to narrow syntax shown here, and coded through a syntactic dependency for [+person], it may continue be grounded in the morphophonological, provided it is set off from the invisible arbitrary gaps in a principled manner and made visible to syntax. It may, for example, arise 'nearer' or simply 'at' the interface with syntax than they: as a person licensing condition in Distributed Morphology prior to Vocabulary Insertion (Albizu 1997), as a constraint on paradigm space definition rather than on filling its cells in Paradigm Function Morphology (Bonami and Boyé 2006), or as a Case licensing failure if Case is a morphophonological requirement (Anagnostopoulou 2003; Rezac 2008x). These aspects of morphophonology may be rendered visible to syntax without blanket transparency of the module, making for a narrowly delimited channel of intermodular communication.

Such intermodular communication is likewise needed if person licensing is rather a requirement of the *interpretive* component, as other work suggests: the need for [+person] to relate to the left periphery in the clause (Nichols 2001: 535, Sigurðsson 2004, Bianchi 2006: 2047-9), along with indexicals generally (Speas and Tenny 2003, Schlenker 2005). If so, the 'uninterpretable' reference, as by a left-peripheral phi-probe, to the 'interpretable' phi-feature of an argument, does have an interpretive role. This view raises issues about the relationship of the phi-specifications of syntax and those of interpretation, similar to

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[30] Couquaux takes the unavailability of the repair-by-*y* in some varieties to supervene on whether *y* allows a [+animate] referent, predicting that allowing *Jean y_i pense souvent, à elles$_i$* 'Jean LOC$_i$ think often, to them$_i$' entails allowing the *y*-grammar *Jean m'y_i présentera, à elles$_i$*. It seems unlikely. However, the idea might be recast with a different feature, as the known *y*-grammars also allow reflexive *y*, *Jean$_i$ y_i pense(, à lui-même)* (Couquaux 1975: 33f., Postal 1990: 129), unlike others (Zribi-Hertz 2003: 209). See Rezac (2008x, 2009).

ones that have been more thoroughly investigated for other selectional and movement requirements. The next section turns them.

5 Phi in syntax and phi interpretation

The preceding section shows that narrow syntax sometimes refers to person features. Using them, and others phenomena reasonably clearly in syntax, it is possible to examine the relationship between the phi-features of (narrow) syntax and those of interpretation. The general inquiry is of far-reaching consequences, not only for modularity – to what extent are the primitives of syntax, and their occurrences, those of interpretation, and derivable from it – but also for the nature of the interpretation. Only a small step is taken here: Some occurrences of phi-features in narrow syntax are autonomous of interpretative primitives. In proceeding, it is assumed that there is an interpretive component, and that to it belong those phi-featural relationships that are beyond the pale of standard syntax, such as phi-matching among cross-clausal anaphora. This assumption is taken up and situated among its potential executions and its alternatives at the end.

The French PCC repair puts into narrow syntax the [+person] phi-feature of accusative clitics when licensing a dative strong pronoun. These may be used to probe the syntax-interpretation relationship. *Fake indexical*s illustrate this potential. They occur when the phi-features of bound-variable pronouns seem to be ignored by interpretation. (55) has two readings, one of which entails that nobody else lost their, rather than the speaker's, notes. To arrive at this reading on Rooth's (1992) semantics for *only*, *only* needs the property I_i *lost* x_i's *notes* rather than I_i *lost* my_i *notes*. In deriving it, the [speaker] reference of *my* must be absent or obviated: it is a 'fake' *my*.

(55)   Only I lost my notes. (Therefore Ronja didn't lose hers.)
        $\forall P[P \in [\![x \text{ did MY homework}]\!] \wedge P \rightarrow P = [\![I \text{ did my homework}]\!]]$

Interpretatively the simplest solution is to have bound variable pronouns be born into the interpretation without phi-features, and get them in other components that do not feed it, such as PF. The trade-off is the need for long-distance and even cross-island transmission of phi-features in this other component (cf. Heim 2008, Kratzer forthc). Alternatively, the phi-features of *my* are in narrow syntax feeding interpretation, and interpretation has a device for interpreting *my* as *x*'s (Schlenker 2005, Maier 2006). PCC repairs bring evidence bearing on this issue: They diagnos fake indexicals as [+person] in narrow syntax. This is illustrated in (56) for a fake indexical *me* ranging over humans, and (57) over non-humans. Both *me* license the PCC repair by an unfocussed strong pronoun dative. [Π]

(56)   Il n'y a que moi qui *me*   ⟨*lui⟩   sois   présenté ⟨à elle⟩
        it is only   me that   me.ACC   her.DAT   am   introduced to her
        [We should have made her welcome, but] only I introduced myself to her. [No one else among you thought it important to present yourselves to her.]

(57) Parmi toutes ces choses de la ferme vendues aux nouveaux propriétaires, je suis seul à comprendre qu'on me ⟨*leur⟩ VENDE ⟨à eux⟩ – les arbres et la terre et les bêtes n'en sont pas conscients.
Among all these things of the farm sold to new owners, I am the only one to understand that one is SELLING *me.ACC *them.DAT/√to them – the trees and the earth and the beasts are not aware of it.

This result leaves numerous options for ignoring or interpreting fake indexicals, but they are there in the syntax. Another occurrence of [+person] is more telling. The clitic *se* in French appears in subject-oriented reflexives, mediopassives, anticausatives, and finally it is also idiomatically lexicalized with certain verbs or *inherent*. One example is in (47), with the locution *s'attaquer à* 'attack', lit. 'attack *se* to', another is in (58), *s'en prendre à* 'take it out on', lit. 'take *se* out.of.it to'. As these examples show, it behaves as [+person] for the PCC repair, licensing a strong dative pronoun (cf. Morin 1978). Morphologically, this is unsurprising insofar as this *se* looks exactly like the reflexive *se*, varying for the phi-features of the subject (1st person *me*, 2nd *te*, 3rd *se*, etc.). Interpretively however, for inherent *se* to be in a group with 1st/2nd person and nothing else is odd. It is about as nonreferential as *it* in *laugh it up*, both being irreplaceable by anything else.

(58) Elle vit dans un apart avec deux chats_i sans s' ⟨*leur⟩   en   prendre ⟨à eux_i⟩.
                              without SE them.DAT GEN take   to them
She lives in an appartment with two cats without taking it out on them.

The occurrence of [+person] on inherent *se* would seem to be simply uninterpretable. It suggests that some narrow-syntactic phi-specifications have nothing to do with an obvious sense of interpretation, and [+person] licensing specifically cannot be reduced to it. The issue is analogous to, and may be clarified by, the interpretive motivation of movement. In the classical Y-model, syntax is autonomous of the interpretive systems as well as of realizational ones, to both of which it only provides input. One line of evidence for autonomy comes from A-movement of expletives and idiom chunks. In (59), *much* lacks whatever content is necessary to relate to a PRO or a pronoun, and *the ice* to serve as a relative clause head. Yet both undergo A-movement. Arguably, not all A-movement can be reduced to some independently definable interpretive requirement such as topicality or scope, as seems more promising for A'-dependencies (cf. Rizzi 1997: 282).[31]

(59) Much seems to be *t* made of them without *PRO/*it/much being made of you.
(60) The ice (*that Fred broke) seemed to be broken for good. (cf. Horn 2003: 262)

The [+person] feature of inherent *se* is likewise an idiomatic occurrence of [+person], not obviously interpretable, least of all as something shared by inherent *se* and 1st/2nd person but no other elements. It recalls the phi-features due to the morphophonological phi-transformations of section 3. Yet it is present in syntax.

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[31] *Much* can be pronominalized, as by adding *doesn't it* or *and it is_FOC (*made of them)* (vs. **and much_FOC is*) to (59); cf. Postal (2003: 128-132) for *throw cold water*. Such 'tags' may be reflexes of deletion applying to the whole idiom. Yet the matter is complex. The argument is given here as a parallel, not endorsed.

It would be helpful to compare syntactic phi-features with interpretive ones as manifested by form, rather than semantic intuition. One important role attributed to phi-features in interpretation is to constrain nonsyntactic relationships between expressions, including anaphora across islands and clauses, for instance through (in)compatible presuppositions (Heim and Kratzer 1998). Thus particularly clear evidence would come from phi-mismatches between syntactic and interpretable phi in this domain, rather than ones motivated more theory-internally as for fake indexicals, or more intuitively as for inherent *se*. One such mismatch, that of French *on* 'we', both lays bare the existence of uninterpreted phi, and indicates where it comes from.

French *on* descends from Latin *homō* 'man'. From this source derive the 3SG phi-features that *on* has in its two present-day uses as a weak subject pronoun: a generic impersonal 'one', and as 'we'. In the impersonal use, *on* is 3SG for all diagnostics, (61): finite verb agreement, local anaphora, participle and secondary predicate agreement, and interpretively linked pronouns.

(61)   On$_i$ *se$_i$/nous$_{*i}$* croit   loyal   à ses$_i$/leurs$_{*i}$ principes.
        One/he SE/us   believe.3SG   loyal.SG   to his/their principles
        One$_i$ believes oneself$_i$/us$_{*i}$ loyal to one$_i$'s/their$_{*i}$ principles

In colloquial French, *on* has also displaced *nous* as the weak subject pronoun 'we':

(62)   a. (Nous$_i$,)   on$_i$ *se$_i$/*nous$_i$* croit   tous$_i$ loyaux$_i$ à nos$_i$ principes.
            us   ON SE/*us   believes   all.MPL   loyal.MPL   to our principles
            We believe ourselves loyal in our dreams. ($\sqrt{}$*nous* if '(Us,) one believes us…')

        b. On$_i$ aime bien PRO$_i$ se$_i$ sentir admirés /   PRO$_i$ se$_i$ faire admirer.
            ON likes well   SE feel admired   /   SE make admire
            We like to feel ourselves admired / make ourselves be admired.

Then it has more curious agreement properties (Morin 1978, Oukada 1982, Kayne 2007, Cabredo Hofherr 2008, and esp. Creissels 2008). It is strictly 3SG for finite verb agreement, but also for object reflexive clitic, which always share the same features.[32] Thus the reflexive to *on* is the same specifically reflexive clitic as for 3rd person subjects, *se*, and not the 1st/2nd person object clitics such as 1SG *me* which are both reflexive and pronominal. Interestingly, *on* 'we' controls *se* only linearly adjacent to it, as in (62)a, but also separated from it by the mediation of PRO, (62)b. *On* transmits 3SG to PRO via obligatory control.[33] On most views, that makes the 3SG of *on* a squarely syntactico-

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[32] 3SG cannot be interpreted as 1PL without *on*, as (i) reveals, or Kayne's (2007) *Part!* '*let's leave!'.
(i)   Le village ne se souvient plus de nous, qui *nous* sommes */ *se* sommes / **s'*est / *se sont exilés.
      The village no longer remembers us, who have.1PL/*3SG/*3PL exiled *our/*her/*him-self/ves*.
[33] Whilst a local anaphor must be *se*, a remote one may be *se* or *?nous*: *On aime bien PRO se/?nous sentir admiré(s)* (Oukada 1982: 102, Kayne 2007). In such examples PRO mediates, so this seems a fact about it or (partial?) control. Possibly, the loss of the subject weak pronoun *nous* has left a purely 1PL PRO, also for the non-obligatory-control in (i). Outside control, the relative operator in note 32 is only 1PL.
(i)   On ne peut pas proceder   sans   PRO se/?nous   laver / déplacer / recontrer.
      ON cannot proceed   without   SE/us   wash / move / meet
      We cannot proceed without washing/moving ourselves // meeting each other.

semantic phi-specification, not a purely morphophonological one that spreads through postsyntactic adjustment of the subject + object clitic cluster in (62)a.$^{€}$ For all other purposes in (62), *on* is 1PL: clitic-doubled focussed object pronouns, left/right dislocated strong pronouns, other bound and coreferential pronominal arguments, participles and secondary predicates, and modifiers.[34] ^{μ}

A 3SG phi-specification is not necessarily interpretatively incompatible with a 1PL one, as in (63). However, for *on* it is simply invisible to interpretation (contrast (63)b). The 3SG specification of *on* and (usually) only it is only seen by verb agreement, local anaphora, and control, arguably narrow-syntactic mechanisms of the Move/Agree type. It is inaccessible for all other phi-matching such as cross-clausal anaphora, which can only see 1PL, some and perhaps all outside narrow syntax. The split may be analysed by giving *on* distinct phi-sets for different mechanisms, along the lines of Wechsler and Zlatić (2000) for more complex mismatches, or by taking 3SG *on* to co-occur with a covert 1PL *nous*, as does Kayne (2007). In either case, the 3SG specification of *on* must be invisible for the interpretation.

(63)   a.   Each of us$_i$ is uncertain about his$_i$ conclusions. (Sauerland 2008: 69f.)
        b.   They asked [our$_k$ group]$_i$ to leave before its$_i$/our$_k$ vote was registered.

Phi-mismatches like those of *on* are familiar, as in French (10) or the Serbo-Croatian examples discussed by Wechsler and Zlatić (2000), such as *braća* 'brothers', MPL pragmatically, NPL for anaphora and relative pronouns, FSG for adjective concord (p. 815; cf; below). *On* is noteworthy for the evidence of the narrow-syntactic character of its 3SG specification through control. Narrow syntax makes use of a phi-specification that is a diachronic fossil, autonomous of and invisible to interpretation.

The crosslinguistic variation in the PCC reveals a different way in which syntactic phi is independent of interpretive phi. There are [+person] specifications that are interpretable, but facultative. They are compatible with but not needed for a given interpretation, and their actual presence on an element is a matter of external factors like diachrony. This is unsurprising insofar as the same object may be picked out by compatible descriptions with different linguistic properties, including different phi-features: *I*, *my sister's only brother*, *the present writer*; *furniture, pieces of furniture*; *two*, *all even primes*. Among the devices used to refer to indexicals, some originate are 3rd person. In French (64), a regular 3rd person pronoun may be used in a marked way to refer to the addressee, inducing distance. Such a 3rd person accusative clitic is not [+person] for the PCC. In Spanish (65), this is a fully grammaticalized politeness treatment, which recruits the regular 3rd person clitics beside special 3rd person strong pronouns, 2SG(PL) *usted(es)* < *vos merced(es)* 'your grace(s)', recalling *Madam* (Collins and Postal 2008). In this use 3rd person clitics are [+person] for the PCC. The difference between the two languages

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[34] *On* may be used for the addressee, as *we* in English: *Alors, on fait l'andouille(,* toi)* 'So, we're behaving like a clown(*, [are] you)?'. It then remains resolutely 3SG for linked pronouns, but may pick up a plurality of addressees on a secondary predicate, *On$_i$ se croit loyaux à ses$_i$/leurs$_*$/*vos principes?* 'You believe yourselves loyal.PL to your principles?'. Perhaps alongside 3SG, *on* has a phi-set for concord, as argued for the related behavior of Italian impersonal *si* by D'Alessandro (2004), and discussed more generally below.

seems to be a matter of the grammaticalization of 3rd person expressions for 2nd person, and thus of an interpretatively facultative [+person] specification.[35]

(64) a. Alors, elle   prend la tarte? (elle = addressee or 'she')
          so,   she   takes   the cake
      b. Alors, je *la*   *leur*   présente? (la = addressee or 'her')
          so,   I   her.ACC them.DAT introduce
      c. Alors, elle$_i$ *se$_i$*   ⟨**leur*⟩   présente ⟨à eux⟩? (elle = addressee or 'she')
          so,   she herself   them.DAT introduces to them

(65) ⟨*Se*⟩   *la*   presentare   ⟨a estos estudiantes⟩
      SE (< 3PL.DAT les)   him.ACC I.will.introduce   to these students
      I will introduce her/you to the students // her/*you to them.

                                                        (Irene de la Cruz p.c.)

Another instance of facultative [+person] specification is indicated by the PCC for 3rd person pronouns referring to animates/humans. Some Spanish varieties do not morphologically distinguish animacy in 3rd person clitics (3SG/PLM *lo(s)*, F *la(s)*), and do not treat them a [+person] for the PCC. Others, *leísta* varieties, do, especially 3SGM animate *le* vs. inanimate *lo*. The animate clitic then does fall under the PCC, (66) (Ormazabal and Romero 2006, 2007). Elsewhere there is similar variation. In Table, Chinook and Finnish treat 3rd person animates as [+person] and distinguish them morphologically from inanimates, while Basque and French do neither. A morphologically dedicated series of 3rd person animates then seems to favour [+person] specification and its absence the lack thereof, much as grammaticalization favours [+person] on 3rd person pronouns for the addressee in Spanish versus French.[36]

(66) *Te*   *lo*   /*le   llevé   a casa(,   a   Aritz/*a usted)
      you.DAT   it/him.ACC /*him.ACC   I.brought to home   A   Aritz/A you
      I brought him/*you (polite) to her at home.
         (Ormazabal and Romero 2006; for *you, Javier Ormazabal, Urtzi Etxebarria p.c.)

Sometimes no obvious factor correlates with [+person] variation. French and Spanish reflexive clitic system seems identical, yet in French but not Spanish *se* is [+person]: [&]

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[35] Even in the French example, *elle* is direct address, albeit inducing distance. It is not a 'simulation', as with *Mais il est fou!* 'But he's crazy!', where the speaker addresses an imaginary entity more reasonable than the true addressee, or the advice of Paris metro *Les portes s'ouvrent, je laisse descendre* 'Doors open, I let people get out', pre-formulated from the reader's perspective to facilitate reflection. Unlike with *on*, 3SG for 2SG polite is not (necessarily) uninterpretable. Various phi-specifications are grammaticalized for politeness: French 2PL and German 3PL for 2nd person, Spanish 3SG/PL for 2SG/PL, Hanák Moravian PL with any person, Ainu 1PL.INCL for 2SG, and relatedly, 1PL of modesty or majesty for 1SG (Corbett 2000: chapter 7, Cysouw 2005). Interpretive diagnostics (sometimes) confirm these phi-specifications (cf. Corbett op.cit., Wechsler 2004, who analyses 2PL qua 2SG polite as a fourth person). It is not clear what lines separate which of these and e.g. the 1PL in *Are we doing better today?* to the patient or *Have we behaved badly?* to the child, the metonymic or descriptive indexicals of Nunberg (1993, 2004), Kwon and Zribi-Hertz (2008) (cf. note 37), and the 'impostors' like *Madam* of Collins and Postal (2008). The former two suggest not uninterpretability but rather varied perspectives; we return to this at the end of the section.

[36] Exceptions may be superficial. Thus the pronouns of French and Icelandic encode gender, not animacy as Basque and Finnish. For animates the masc/fem rather than neuter are used, they are not restricted to them.

(67) Ella *se le* entregó cuerpo y alma.
      she   SE him.DAT gave   body   and soul   (Rivero 2004: 498 note 2)

It seems from this that [+person] is interpretatively facultative on 3rd persons referring to addressees, to animates/humans, or to subject-oriented reflexives: compatible with these interpretations, but not needed for them. Its actual presence is a matter of grammaticalization giving interpretively unnecessary but harmless features on lexical entries. As for *on* and inherent *se*, syntax is autonomous of interpretation in the phi-specifications it uses.

However, the potential of syntax for autonomy from interpretation does not imply that interpretation never directly determines syntactic phi-features, in parallel to the systematic autonomy of syntax from morphophonological phi-transformations ((3), (14). Consider as a starting point human 3rd persons. It is clearly possible to refer to them using the same pronouns as those that refer to inanimates and which are not [+person], as in French or non-*leísta* Spanish. Yet when a distinctively animate 3rd person pronoun is available, as in *leísta* Spanish, its use is obligatory for animate referents. This suggests a principle like *Maximize Presuppositions* (68). It has been proposed in view of examples like (63), where a 3rd person refers to the speaker, and accounts for why 1st person ordinarily pre-empts 3rd. Only when a pronoun cannot be [+speaker] that a non-[+speaker] specification is allowed, as when bound by a quantifier ranging over some non-speakers. The principle might extend to the 3rd person use in (64), if presuppositions about politeness and such are taken into account.

(68) *Maximize Presuppositions*: The features that appear on a pronoun should be chosen so as to maximize the presupposition they express, as long as no presupposition failure is triggered. (Schlenker 2005, Sauerland 2008; citing Heim 1991)

Through Maximize Presuppositions, a language is forced to use animate and/or [+person] pronouns when compatible with interpretation, but not otherwise. *Leísta* Spanish must chose *le* for *lo* for a 3SGM animate, non-*leísta* is fine with *lo*.

The implications for modularity remain to be determined. On one possible view, syntax is sensitive to whether a referent is inanimate or animate or speaker, and chooses a pronoun from the available lexical choices governed by Maximize Presuppositions. This constitutes an intermodular communication from interpretation to syntax. It remains compatible with the autonomy of some syntactic features from interpretation.

On an alternative view, the syntax of a *leísta* variety generates both animate and inanimate pronouns independently of each other and of their interpretation. It is the interpretation that throws out a syntactic structure with the inanimate pronoun for reference to an animate entity, if there is available a structure identical save for an animate pronoun. This is a transderivational interpretive principle, of the kind investigated for other phenomena in interpretation (Fox 2000, Reinhart 2006; or in usage, Jacobson 1997). A prediction is that the syntactic crash of an animate pronoun by the PCC should free up an inanimate pronoun to refer to an animate entity. It seems to work nicely in *leísta* Spanish. In (66), *lo* becomes available for animates in a PCC context as it

is not available anywhere else (Ormazabal and Romero 2006). Moreover, *lo* may then only be used for a 3rd person, not politely for the addressee, which seems to be irrevocably grammaticalized as [+person], as in non-*leísta* (65). However, unmodified this also predicts that a 3rd person (inanimate) would become available to refer to 1st/2nd person in a PCC context, combining the options seen in (66) and (63), which is certainly not the case.$^{\infty}$

An important unknown here is what happens with inanimate interpretations of 1st/2nd person pronouns. One is available through an imaginary context, (69) (cf. Postal 1989); another through metonymy, (70) (Nunberg 1993).[37] Amelioration of the PCC would support a synchronization of syntactic [+person] feature and animate interpretation along either of the foregoing lines even for 1st/2nd person. Rezac and Jouitteau (in prep.) find for (69) that speakers split in finding none or significant improvement with respect to the PCC.[38] Among the analytical options, one is that there is uniformly an amelioration as far as the syntactic PCC is concerned, but one type of grammar cannot spell out the result due to an additional morphophonological gap of the type in (24) on 1/2.ACC + DAT clitic sequences, occasioned by their near-elimination by the PCC in most contexts (it should thus also rule out (52)).†

(69)   */?J'ai rêvé que j'étais un médicament, et qu'on *me leur* distribuait dans toutes les écoles.
         I dreamt that I was a drug, and that one me.ACC them.DAT distributed in all the schools.
                                                                            (Rezac and Jouitteau in prep.)
(70)   [Context: There is an exposition of statues of famous singers at Quimper. A singer arrives and says, about his statue: How come I'm not going to Quimper?]
         */?On ne peux pas *vous*   *leur*   envoyer, parce que vous êtes trop lourd.
         one   cannot   you.ACC them.DAT send,   because you are too heavy

The present state of these questions leaves in suspense the character of syntax-interpretation interaction, but not does not affect the conclusions reached from *on*, inherent *se*, and variation in [+person]. Not all the occurrences of phi-features in syntax there for reasons of interpretation. Some are interpretatively facultative, and some are not even interpretable, grounded rather in external factors such as diachrony. To that extent, syntax is autonomous of interpretation.

It has so far been taken for granted that there is a system of interpretation in which phi-features figure and underlie phenomena such as phi-matching in cross-clausal anaphora. That view is widely shared, whatever the system is (presuppositions, phi-matching of discourse representation structures), and alongside a variety of assumptions about phi in 'narrow' syntax (movement-type dependencies) and in other interpretative systems (pragmatics) (cf. Wechsler and Zlatić 2000, Barlow 1988, Schlenker 2005,

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[37] Metonymy comes in distinct types, e.g. *You sell better these days* (your books do), *You am parked here* (your car is), *I am traditionally allowed to chose my last meal* (the condemned prisoner is) (Nunberg 1993, 1995, Ward 2004). Jackendoff's (1992) investigation of the type (70) leads him to conclude that *X* has the meaning *statue (etc.) of X* by interpretive shifting, rather than by a covert syntactic structure with an empty noun like *statue*, since case, agreement, pronouns, and binding conditions do not see the noun, (i).
(i)   a   *(A statue of) himself fell on Ringo.
       b   [The four oxen / they] are cute. *vs*. [The statue of the four oxen / of them] is cute.
[38] Sixteen continental French speakers (three linguists) split in half, categorically over ten varied examples, withut correlated variables (age, provenance, socioeconomic background).

Sauerland 2008, Heim 2008, Kratzer forthc.). A common hypothesis is that there is a single phi-alphabet shared across these systems: the set of morphosyntactic phi-features has an isomorphic set of interpretive primitives, though a given occurrence of a syntactic phi-feature need not. Underpinning it are convergences between morphological and interpretative crossclassifications of phi-features. Morphologically, if *we = I + they(PL)* crossclassifies in its composition or agreement other pronouns, it will be with *me* and *they(PL)*, and not, say, *you(SG)* and *they(DU)* (Cysouw 2001), opaque agreement aside. This is reflected by construing *we* as containing features also belonging to *me* and *they*: [speaker], [plural]. The hypothesis of a shared alphabet holds that interpretive phenomena reveal the same primitives with the same crossclassification (cf. Sauerland 2008, Schlenker 2005). Thus, *they* and *me* are picked up, uniquely, by *us* in (71).

(71)   Because they$_i$ know me$_k$, Jane considers us/*them/*you$_{i+k}$ friends.

It is in the context of this hypothesis of a shared phi-alphabet that uninterpretable occurrences of phi-features give rise to discussion. However, the specifically *interpretive* character of the system against which they are measured is unclear, if we take interpretive to pertain to reference to entities in models of the world. An important observation about phi-matching is that it does not involve features obviously interpretable in this sense (Corbett 2006). In French (72), *(eye-)glasses* is feminine plural not only for clause-internal accord and concord, but also for cross-clausal anaphora. FPL seems to be a property of the linguistic expression *lunettes*, not of its reference or use, insofar as *lunettes* 'glasses' and *juments* 'mares' need not share any features to the exclusion of the referents of all masculine or singular expressions.[39]

(72)   Les lunettes$_i$, je les$_i$ ai mises là où   elles$_i$/*elle$_i$/*ils$_i$/*il$_i$ sont/*est d'habitude.
          the glasses,   I them.ACC have put where they(FPL/*SG/*MPL/*SG) are/*is normally

More egregious mismatches are brought forth in Wechsler and Zlatić (2000). Serbo-Croatian *braća* 'brothers' is FSG for concord and NPL for (cross-clausal or not) anaphora, *gospoda* 'gentlemen' is FSG for concord but MPL for anaphora, *sudije* 'judges' FSG for both. Pragmatic pick-up is also be available by MPL *oni* throughout, but Wechsler and Zlatić (1998) demonstrate it to be a redescription that lacks properties of true anaphora such as sloppy readings.

These observations lead Wechsler and Zlatic (2000) to posit different phi-sets and different mechanisms to give concord and predicate agreement (through subcategorization, the mechanism of selection and movement-type dependencies in HPSG), pronominal anaphora (phi-matching in discourse reference structures), and, distinct, reference (subject to pragmatic conditions). In an abstractly similar move, Sauerland (2007) proposes that gender matching of the type in (72) is due to conditions on identity on pronouns viewed as elided definite descriptions. Extended to (72), *elles* would contain *les lunettes* and become *elles* by ellipsis licensed by the antecedent *les lunettes*. Ellipsis is a different mechanism than movement-type narrow-syntactic dependencies, and since it sensitive to partly different information, there is space for

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[39] Natural language expressions may refer to linguistic as other properties (*the last-mentioned trochaic foot*), but in an extragrammatical fashion hard to believe to underlie gender concord (cf. Lewis 1970 [1982: 195]).

mismatches as that of *on* 3SG/1PL. The identity conditions on the antecedent-ellipsis relationship are interpretive and syntactic. However, they must also refer to pure morphological identity, if the proposal is to eliminate the need to interpret *braća* 'brothers' as NPL or *lunettes* as FPL, and not to allow their ellipsis under semantically equivalent descriptions with a different gender and vice versa.[40]

If neither (morpho)syntax nor anaphoric dependencies are straightforward evidence about interpretative phi-features, some less transparent uses of phi-features may be cast in a new light, as (73) (vs. (71)) or (74) or note 35. I do not mean to conclude from them and from mismatches that interpretation is about phi-less things. It is irrelevant to meaning when *we* is used for the addressee ((74), note 35) that it may be *I + you / x* in its usual meaning and morphologically. It creates a context where the addressee's perspective is assumed as the speaker's own, who yet remains: a putting of oneself in the addressee's shoes, for empathy, or ridicule of self-importance, or deference (cf. Nunberg 2004 on descriptive indexicals). But these primitives of interpretation – authors of points of view, referential loci, modes of their grouping – map only indirectly to the phi-alphabet that morphology provides and that syntax at least sometimes follows (cf. Aronoff et al. 2005). Sometimes its use will not be isomorphic to interpretation, as in *I* and *the present writer*, or uninterpreted for *lunettes* and inherent *se* and *on*.

(73)   Because her group$_i$ knows the present writer$_k$, Jane considers us$_{i+k}$ friends.
(74)   Don't we$_k$ look nice in our$_k$ new hat! But if you$_k$ go with them$_i$, you$_{i+k}$'ll look odd!

6   Conclusions

Through uninterpretable phi-features, a picture emerges reasonably clear about modularity in some parts. Two systems suggest a strongly modular architecture as far as phi-features go: narrow syntax and morphophonology are partly different in their computational properties (domain size, operation types), partly in the information they access (syntacticosemantic, morphophonological), and arranged so that syntax is encapsulated from morphophonology. This seems systematic and pervasive enough to be encoded as a matter of principle. On the interpretive side, all is murkier, save that the phi-features of narrow syntax sometimes are not those evidenced either by interpretation taken intuitively, nor by phenomena like cross-clausal anaphora.

A variety of modular architectures is compatible with the results, and depend on other factors addressed in the literature. The encapsulation of syntax from morphophonology and interpretation has already been discussed at various points. Phi-sensitive phenomena point to a strong encapsulation, but only as the invisibility of morphophonological phi to syntax goes, and more specifically the kinds of phi-reference seen in 'arbitrary' syncretisms and gaps. The boundary may be more permeable elsewhere. The evidence here does not bear on morphophonology affecting syntax or PF in other domains, such as accent-focus and copy interpretation-position synchronization (Reinhart 2006, Szendroi

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[40] This is not Sauerland's proposal, which depends on semantic identity and thus allows gender change through synonymous or entailed descriptions. However, this possibility is only found for what Wechsler and Zlatić (1998) show to be, at least in some cases, pragmatic redescription, with quite a different matter than true anaphora. Sensitivity to morphological properties raises issues for indirect licensing in ellipsis (entailment, sloppy readings, vehicle change; q.v. Fiengo and May 1994, Fox 2000, Sauerland 2004, 2007).

2005; Bobaljik 2002), or the existence of a morphophonology operation or component spanning large phrase-structural if it cannot create long-distance analogues of opaque cliticization/agreement. Nor does it limit other kinds of influence that morphophonology might have on syntax, in the choice of morphosyntactic primitives during acquisition, or in shaping language change.

The relationship between the computational systems of modules has been the object of intense debate for syntax and morphophonology. Some work finds two wholly unlike computational systems (Aronoff 1994). Other investigations see far-reaching parallels and even a single system modulated in its operation by information types (Embick and Noyer 2001, 2007; but cf. Williams 2007). Between these extremes lie two distinct systems supervening on a common core (cf., in a different domain, Ackema and Neeleman 2007).

Partial sharing of information types is instantiated by phi-features themselves, as an alphabet that spans modules. This need give no pause. A modular architecture requires a way to share information, to relate alphabets across modules. The relationship need not be isomorphic, and the syntax-morphophonology mapping among both phi-alphabets and occurrences of phi-features remains mostly unknown. For instance, the PCC gives French and Spanish *se* different [person] values for syntax, yet their morphological properties seem identical. Nevertheless, morphology seems to be one source of phi-specification in narrow syntax. They are fossils of diachrony and grammaticalization, and at least partly coded by overt morphological evidence such as distinct animate 3rd person pronouns or the 3SG agreement morphology of *on*. The basic phi-specifications of lexical items in syntax and morphophonology may be identical or the latter a reduction of the former, compatible with syntax feeding morphophonology, with further phi-transformations taking place in the latter domain which syntax does not see.

It would be interesting to have on these issues a perspective from other cognitive domains where modularity has been investigated. It may be that the organization of other 'mental organs' bears little parallelism to that of syntax and its adjacent systems (Chomsky 1980). However, many of the themes raised here reappear elsewhere, as for low-level vision (Pylyshyn 1999): its nearly complete encapsulation from an agent's knowledge and goals, save for a narrow channel by attention modulation; the question of shared alphabets at its input and output; the evidence for distinct vision-for-perception and vision-for-action components (what and where systems), partly encapsulated from each other, partly sharing the same primitives and computations.

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$\diamond$ The condition of linear precedence takes this example beyond that of mismatches between accord, concord, and anaphora (Wechsler and Zlatić 2000 for Serbo-Croatian *deća*). There is in fact hesitation about the concord of a postnominal adjective: *tous/*toutes ces laidrons ?amoureux/?amoureuses* 'all these enamoured.M/FPL ugly women'. A more clearly morphological condition is said to obtain for French *gens* 'people' (Grevisse 1969: §104), masculine save for a preverbal modifier not separated from it by another one homophonous for masculine/feminine: *toutes les bonnes et vieilles gens fous de scrabble* 'the good.FPL and old.FPL people crazy.FPL about scrabble', *tous les bons et honnêtes gens* 'the good.MPL and honest.MPL people'. However, the FPL expressions seem frozen and judgments absent. It may thus belong with stylistic or viral adjustment as in Lasnik and Sobin (2000), Madariaga (2009).

§ The same pattern with various focus controls, such as contrastive focus, e.g. *I'm not saying she does not KNOW the girls$_i$, I'm saying she has into INTRODUCED her/herself/you to them$_i$.* Strong pronouns in this context are perfectly natural and in categorical contrast with others, for the grammars (wide-spread) under investigation, as in (i).

(i) a   L'étrange Frédérique$_k$ séduit les gens$_i$ sans PRO$_j$ se$_k$ ⟨*leur⟩ donner ⟨à eux$_i$⟩.
        The strange Frederique seduces people without *SE* ⟨them.DAT⟩ give ⟨to them⟩

    b   L'étrange Frédérique offre son corps$_k$ aux gens$_i$ sans le$_k$ ⟨leur$_i$⟩ donner ⟨*à eux$_i$⟩.
        The strange F. offers her body to people without giving *it to them*.

    c   L'étrange Frédérique$_i$ *te* fait séduire les gens$_i$ sans PRO$_i$ te ⟨*leur$_i$⟩ donner ⟨à eux$_i$⟩.
        The strange F. you makes seduce people without (her) giving *you to them*. (Rezac 2008x)

‡ A minimal variant of (25) to create the PCC does allow the strong pronoun:

(i)   C'est parce que son petit$_i$ a faim que l'oiseau *nous* ⟨*lui$_i$⟩ donne à manger ⟨à lui$_i$⟩.
      It's because his youngling is hungry that the bird gives ⟨*him.DAT⟩ us.ACC ⟨to him⟩ to eat. (worms speaking) (Rezac forthc)

£ There may be *other* contexts where PCC repairs apply without attenuating this point. The relevant construction is 1/2.DAT$_{causee}$ + DAT, Couquaux (1975: 46), Postal (1990: 146-8), if the same phenomenon as PCC repairs: *Lucille, Philippe nous y a fait téléphoner à tous* 'Philippe had all of us call Lucille' – in the *y*-grammar, not in the more general colloquial substitution of *y* for dative clitics, q.v. for such examples Tasmowski (1985), Rezac (2009).

$ For the overlapping-reference residue of Condition B which cannot be reduced to an elsewhere case of Condition A, one would expect a semantic rather than a syntactic treatment to depend on directly on relationships between objects in a model rather than the expression of their phi-features in a structure, and so not to differentiate the interpretatively equivalent (i-a/b/c) – in contrast to (i-d). However, the judgments are difficult (⁺ indicates a difficult sentence rather than ungrammaticality), and even on the

collective/distributive contrast (i-c/d), they are very variable: most speakers of French, Spanish, Romanian, report (i-d) as ungrammatical though for some better than (i-c).

    a   Chacun de vous$_i$ m'/$^+$t'a choisi comme (son$_i$) représentant.

    b   Chacun de vous m'/$^+$t'avez choisi comme (*son$_i$) représentant.

    c   Vous m'/*t'avez chacun choisi comme représentant.

    d   (Comme groupe, par un vote unanime,) Vous m'/$^+$t'avez choisi comme représentant. (MJ p.c.)

$^\#$ Among the issues that arise, particularly interesting is what happens when a dative cannot be 'repaired'. When this is for interpretive reasons, as for a possessor dative, the story ends there; but when the dative is an inherent clitic that has no potential strong pronoun analogue, the accusative might be targeted by the repair, as nowhere else, (i). However, *toi* in (i) does not seem except from focus, though this is not easy to test for 1st/2nd person pronouns (e.g. *LUI il s'imagine mal TOI à cet âge-là* seems to require *TOI*, not *toi*).

(i)   Je *me ⟨l'/*t'⟩*   imagine mal ⟨*lui/√toi⟩ à cet âge-là.

    I me.DAT him/*you.ACC imagine badly him/you at that age (Morin 1979: 296, Perlmutter 1971: 56)

$^\Pi$ The auxiliary of (56) permits *suis, sois, ait, a. Suis* (ind.) and *sois* (subj.) indicate that the relative operator *qui* is treated as 1SG to which *me* is reflexive; *a* (ind.), *ait* (subj.) as 3SG. For Morin (1978: 361) *ait* is the regular colloquial use, *sois* literary. For Mélanie Jouitteau (p.c.) all choices of auxiliary are possible but *ait,* and (very marked) *a* belong to a different dialect than standard *sois* (literary), *suis*.

$^€$ As in *la boulangère les prend/prennent* 'the baker(SG) them.ACC take.SG/PL', PL acceptable to some in Britany.

$^\mu$ Regarding links to other pronouns, there may be some variation. Oukada 1982: 102 reports links of *on* to 2nd person pronouns, but they do not seem uniformly acceptable to other speakers: *Quand on$_i$ est inquiet rien ne peut vous/?te distraire; (*Vous$_i$,) on$_i$ veut bien jouer ce soir; ?Tiens, toi$_i$, on ne dit même pas merci?*. All this sets aside distinctive dialectal variation * in the spoken French reported here: *on nous lave* 'we wash ourselves' (Mélanie Jouitteau p.c. at a highly marked spoken level), *nous se lavons* (Kayne 2007 < Bauche 1928: 111).

$^\&$ However, there may exist French speakers treating some 3SG animates as [+person] (e.g. 3SGM for one male speaker). Cf. perhaps Benveniste-Blanche (1978: 13f.): *il les lui attire, les ennuis*, but *il les attire à lui, les enfants, les amis*, localizing the difference in the [±human] reference of *les*. However, for other speakers the difference is that *à lui* must be strongly focussed, or (more weakly?) focussed and coreferential with *il*.

$^\infty$ Both views could take into account other interpretive properties such as being λ-bound by an animate, bearing on Roca's (1992: 59) paradigm (not lightly subsumed under the PCC: Ormazabal and Romero 2007 vs. Rezac 2008x). Ormazabal and Romero (2006) point out that the use of *lo* for *le* in PCC contexts brings with it *lo*'s restrictions on clitic doubling, bespeaking either a more complex repair than simple feature switch, or that these restrictions are linked to the morphosyntax of *lo* for *le*.

† The inspiration of the imaginary context is Postal (1989), who discovers that it strikingly improves the dispreference on 1st/2nd person subjects of French middle *se* constructions, (i-c), along with replacement by an 'impostor' (i-b). D'Alessandro (2004) analyses the Italian incarnation of the ban in (i-a) as the PCC, but the goodness of (i-c) is far greater than with object clitics. The middle *se* construction in French is systematically ambiguous with the reflexive, and Zribi-Hertz (1983) analyses absent middle reading (i-a) as due to a conflict between the points of view of both the impersonal agent and the speaker/addressee, leaving only the reflexive which has only the latter. In (ii) these preferences reverse via a decrease in the salience of the speaker/addressee's point of view. This may be compatible with a PCC analysis, if one can correlate a decrease in reflexive saliency with decreasing the (salience of the) personhood of the speaker/addressee. Postal shows the same imaginary context factor in (iii), likewise treated as a pragmatic conflict (Tasmowski 1985) and likewise relatable to the PCC (Rezac 2008x).

(i)   a   Nous, on ne se trahit pas.

        'We do not betray ourselves' / *'One does not betray us'.

    b   Bibi ne se trahit pas.

        'One does not betray Darling (= me) ' [Bibi 'Darling' used for the speaker like 'Daddy' in English]

    c   Si nous étions de chemises, nous nous vendrions pour pas cher.

        'If we were shirts, we would sell pretty cheaply.' (Postal 1989: 104f., 140f.)

(ii)   a   Vous allez voir, je me transporte facilement, je suis la perle des paralytiques.

        You will see, I transport easily, I am the pearl of paralytics. (Zribi-Hertz 1983: 365)

    b   Nous ne nous vendrons jamais.

We [= our writings] will never sell. (Sandfelt 1928: 133)

b   Je me convaincs/*trahis facilement.
On easily convinces/*betrays me.

(iii) a   *Hervé me fera repasser à Louise.
Herve will have Louise iron me.

b   Si j'étais une chemise, Hervé me ferait repasser à Louise. (Postal 1989: 104)