# Reference to individuals, person, and the variety of mapping parameters

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The paper addresses two related questions: whether the principle that nominal arguments must be projections of D, apparently holding in many Romance languages, holds in English and in other languages as well; and why such a principle should exist at all. The answer empirically suggested to the first question is that the principle does hold in English, contrary to Chierchia (1998) and supporting the N-movement approach to the nominal Romance-Germanic parametrization proposed by Longobardi (1996), but that certain other languages, specifically Japanese, are likely to exhibit nominal arguments without D, as expected in Chierchia's (1998) framework. Following the restrictive approach to phrase structure proposed by Chomsky (1995, ch 4.), the second question will be addressed by identifying D with the Person head and by arguing that the latter feature is crucial to allow type-shifting from property- to individual-denotation. Under a minimalist theory of parameter formats, it will be argued that all the three possible polymorphic realizations of the feature Person admitted by such a theory are crosslinguistically instantiated, precisely by Japanese, English, and Italian.

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## Reference to Individuals, Person, and the Variety of Mapping Parameters[*]

## 1.  Background assumptions

In this paper I try to sketch some speculative lines of approach to a few questions left open in Longobardi (2005a), mostly centering around crosslinguistic variation in the mechanisms governing the syntax/semantics mapping of nominal arguments. In so doing, I will explore to what extent such mechanisms can be reconciled with two (sometimes even apparently conflicting) restrictive requirements: constraints on the general form of parameters (Longobardi 2005b) and the need to prune phrase structure by eliminating categories which are not indispensable for the computation nor adequately justifiable as primitives of the two interface levels (in the spirit of Chomsky 1995, ch. 4). I will argue that such a line of inquiry, originally rooted in purely minimalist considerations of simplicity and conceptual necessity, may naturally lead us to also attain a higher degree of the classical descriptive and explanatory adequacy in one intricate area of the syntax/semantics interface and is thereby empirically supported.

In order to proceed, it will be necessary to recall and slightly refine some basic assumptions of the mapping theory worked out in Longobardi (2005a) and previous work.

### 1.1.  A (mental) ontology and its syntax

As a background, I will essentially accept Carlson's (1977) idea that among the entities presupposed by the human language faculty (more precisely, by its Conceptual-Intentional system C-I, in Chomsky's 1995, 2005 terms) are two types of individuals, objects and kinds.

*Kinds* will be understood as maximal sets of objects sharing some properties across all possible worlds, while *objects* will be regarded as primitives.

*Properties,* the other relevant type of primitive entities (cf. Chierchia 1984), will be distinguished from individuals by the fact, among others, that unlike the latter they fail to be located with respect to speech act roles (therefore, distinctions like ±speaker/hearer will not apply to them).

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Next, I will use the general term *denotation* for any type of relation holding in an utterance between an expression (usually a phrase, e.g. an argument or a predicate: *the man, a man, every man, no man, men, John, Man*) and the entity or entities (individuals or properties, respectively) it stands for in the ontology of the C-I system. I will instead reserve the term *reference* (as opposed primarily to *quantification*) for a subcase of denotation, namely a one-to-one relation between an expression (usually, *prima facie*, a single word, e.g. *John, Man, men* (in one sense)) and an entity (thus a constant relation, not the product of an operator-variable structure). In this paper, for simplicity, I will focus mainly on reference, understood in this meaning and saliently instantiated by determinerless proper or common nouns, and less so on quantificational (operator-variable) types of nominal denotation, though the fundamental insights can be argued to apply to both categories (cf. Guardiano and Longobardi in prep.).

A further rough intuition is that nouns, as part of their lexical meaning, can *name* individuals and, particularly, that so-called *common nouns* name kinds and so-called *proper names* of traditional grammar name objects[1]. Let me interpret this as meaning that, minimally, nouns (including, in particular superficially determinerless ones) merged in an appropriate structure can refer to an individual's *property* of being named in a certain way. This feature of nouns is especially apparent in predicative usages, of course (cf. 'I am John', 'This is gold'…). Now, it seems that such items can be used in some languages also to refer to *individuals* (objects or kinds) they name (cf. 'I met John', 'Gold is precious'): in this work I will precisely explore and qualify this conclusion, arguing that no ambiguity nor parametric variation is involved in the referential properties of nouns.

I will anyway suppose that no other lexical categories (e.g. articles, quantifiers,…) can *refer* to individuals, except for pronouns, which may stand for nouns, and demonstratives, which can denote by ostension. Let me call all these items (nouns, pronouns, and demonstratives) 'potentially individual-referring'.

Against this background of assumptions, Longobardi (2005a), especially building on Longobardi (1994 and 2001), proposed, for the nominal arguments of Italian and several

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[1] Borer (2004) suggests that the difference may be just one of derivational history, not a lexical one. Although this happens to be largely true on the surface, it does not exhaust the properties distinguishing 'proper names'. Cf. Longobardi (2005a, sect. 4) for a more fine-grained empirical analysis of such a distinction.

other Romance languages, a generalization like (1)a and complemented it with (1)b, designed to explain why bare common nouns never undergo the same, now familiar, N-to-D movement as proper names:

(1)  a.  **Core Generalization:** N-to-D chain/CHAIN iff reference to individuals (i.e. the two types of constant interpretation: that of proper names and that of common nouns when used as kind-denoting names)

   b.  **Economy principle**: Avoid an (overt) chain/CHAIN except as a last resort

In the case of nouns with object reference, (1)a is supported by paradigms like (2), where (2)a exemplifies N-raising, (2)b lack of raising, and (2)c might instantiate a presumably expletive article:

(2)  a.  Roma antica *t* era una città potente      chain
      Rome ancient was a powerful city

   b.* Antica Roma era una città potente        no chain/CHAIN
      Ancient Rome was a powerful city

   c.  L'antica Roma era una città potente       CHAIN
      The ancient Rome was a powerful city

as for kind reference, it is supported by examples like (3) in conjunction with the observation, derived from (1)b, that common head nouns can never raise to the D position:

(3)  a.  Madame Curie ha scoperto il radio       CHAIN [2]
      Madame Curie discovered the radium

   b.* Madame Curie ha scoperto radio
      Madame Curie discovered radium

the bare noun in (3)b can only have an indefinite reading, i.e. as a variable bound in this

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[2]  Again possibly with an expletive, in the sense proposed in Vergnaud and Zubizarreta (1992). However, even if the article in (3)a did not instantiate an expletive but a particular type of definite operator, along the promising lines of Dayal (2003), the core content of generalization (1)a would remain unchanged: a nominal argument without a phonetically spelt out D cannot be referential (cf. (2)b and (3)b), in the intended sense.

case by a default existential operator and ranging over amounts of 'radium', producing an interpretation obviously inappropriate for the object of the predicate *discover*, which in the pragmatically salient sense (first discovery of the new element) should denote the kind.

## 1.2.  *The type-shifting nature of the Core Generalization*

The fundamental intuition behind (1)a is that nouns are never sufficient, by themselves, to *refer* to individuals, e.g. when used as arguments in actual utterances, and that this is equally true for both common and proper nouns.

Even simple *reference* to individuals (in our technical, restricted, sense above), then, turns out to be like other forms of individual denotation: an essentially syntactic, computational, property of nominal arguments, relying on, but not being exhausted by, lexical properties of nouns; it is never satisfied through just a lexical head but requires at least a functional position (the head D, hence a full phrase DP), no less than usual quantificational structures with overt operators.

Let me finally recall and stress that all the constraints and effects following from generalization (1)a (e.g. N-to-D of proper names, indefinite reading of bare nouns) necessarily hold of proper names and bare nouns whenever functioning as *arguments*, but are suspended, again for both categories of nouns, when they are used as non-arguments, e.g. *predicates* (cf. Longobardi 2005a sect. 5). This seems to mean that nouns, by themselves, are instead sufficient to refer to properties, minimally the property of being named that way.

## 1.3.  *A topological mapping theory (TMT)*

In Longobardi (2005), (1)a is then derived from a more general theory of the denotation of nominal arguments, based on the DP-internal position (hence the qualification 'topological') of the items involved, sketched below:

(4)      *Denotation Hypothesis:* Individuals are denoted in D

(5)      *Licensing condition:* Arguments denote individuals, as constants or variables

(6)      *Definitions:*

   a.   Constants have a fixed referential value, thus denote one and only one individual (kind or object)

   b.   Variables are bound by (coindexed with) an operator and range over a set of values, thus denoting a set of individuals (kinds -for taxonomic readings- or objects)

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The conjunction of (4)-(5) already yields (7) (which is independently well supported by argument/non-argument asymmetries in Romance: cf. Longobardi 2005a) as a theorem:

(7)     A 'nominal expression' is an argument only if it is introduced by a category D (cf. Szabolcsi (1987), Stowell (1989, 1991) (N may denote properties, not individuals)

From the conjunction of (4)-(5) with (6) one deduces the theorem (8) , among others, which is largely equivalent to the **Core Generalization** (1)a:

(8)     An argument is a constant if and only if D contains $\alpha$, $\alpha$ a potentially individual-referring expression[3] (otherwise: an argument is a variable)

A constant will denote whichever kind/object $\alpha$ names or may anyway refer to; otherwise, denotation will be secured by binding the variable either *selectively* through an actual operator in D (definite/indefinite descriptions, quantified phrases…) or *unselectively* (bare nouns, with empty D bound e.g. by Ex or Gen operators: Diesing 1992, Longobardi 2001)[4].

Finally, perhaps not too surprisingly, their empty D, acting as a (non-locally bound) variable, subjects Romance argument bare nouns to what can be termed an ECP-like distribution (in the sense of descriptively obeying Chomsky's 1981 Empty Category Principle, like wh-traces or *syntactic* variables), as first pointed out by Contreras (1986)[5]:

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[3]   I.e. $\alpha$ can be an actual noun, able to refer to the individual it lexically names, a pronoun or a demonstrative (or equivalently an expletive article linked to the noun in a CHAIN in Chomsky's 1986 sense).

[4]   Such two subcases of the variable interpretation might fall together under Dobrovie Sorin's (1994) DR, which could derivationally create an empty category in D (as suggested to me in various forms by B. Laca, S. Rothstein, D. Delfitto, H. Kamp p.c.) by moving out the operator. A technical alternative to be explored is that the empty category functioning as a variable, as well as the target of N-movement, is the Spec of D, not its head, perhaps more in line with Higginbotham's (1985) notion of saturation.

[5]   This third property may be less detectable or invisible in languages which anyway escape the constraint producing classical subject-object asymmetries in case of movement.

(9)  a.  Gianni ha trovato uranio in questa miniera

Gianni found uranium in this mine

b.* Uranio è stato trovato in questa miniera da Gianni

Uranium was found in this mine by Gianni

Notice that, on the whole, in a language like Italian the effects of (4), namely generalization (1)a, are well detectable off phonetic representations, i.e. point to a so-called early, pre-SpellOut, application of (4) itself.

### 1.4. Parametric extensions

As noticed at least since Longobardi (1994), English systematically contrasts with Italian with respect to all the three properties mentioned above (raising of proper names, interpretation and distribution of bare nouns):

(10) a.  Ancient Rome was a powerful city

b.* Rome ancient was a powerful city

(11)  Madame Curie discovered radium

(12)  Uranium was found in that mine

In other words, the three following crosslinguistic generalizations on determinerless nominal arguments hold:

(13) a.  Romance proper names must raise to D

b.  English proper names cannot raise to D

(14)  English bare nouns may be kind-referential names (i.e. have the interpretation of expressions like 'that type/species of object') in all the environments where Italian bare nouns fail to achieve it (cf. Longobardi 2001, Delfitto 2002 for a detailed analysis of various contexts)

(15)  English bare nouns, unlike the Italian ones (Contreras 1986 and much subsequent work), have ECP-free distribution, like proper names

(14) and (15) can be descriptively unified as (16) (cf. Longobardi 2001, Delfitto 2002):

(16) a.  Italian bare nouns: *only quantificational* expressions (syntactic *variables*, i.e. indefinites, like overt indefinites and unlike proper names) existentially or generically bound

b.  English bare nouns: always potentially ambiguous between a *referential* interpretation (*constants*, precisely kind-referential names, unlike overt indefinites and somewhat like proper names) and the *quantificational* interpretation above

On such grounds, Longobardi (1994, 2001) proposed a second generalization of this domain:

(17)  The two differences (13) and (16) are typologically related

In other words, no such a thing as (1)a as a whole seems to be visibly observed in English. If the syntactic unification of object- and kind-reference proposed with (1)a is correct, then (17) is exactly what we ought to expect. One must then formulate some parametrization of roughly the following form:

(18)  **Parameter** (informal): Italian: +(1)a (call it 'strong reference')/English: -(1)a ('weak reference')

Guardiano and Longobardi (in prep.), expanding some suggestions in Longobardi (1996), propose that the distinction between these two language types apparently extends, *mutatis mutandis*, beyond Italian/English[6]:

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[6]  Longobardi's (1996) hypotheses were in turn built on Borer's (1994) and Siloni's (1994) insight that definiteness checking is crucially involved in the raising of Hebrew construct state nouns.

(19) a. *English* side: Norwegian, Icelandic, Welsh,...**(weak reference** languages**)**

b. *Italian* side: Spanish, Rumanian, Greek, Bulgarian, Arabic (cf. Fassi Fehri 2005),…**(strong reference** languages**).**

## 2. Two questions

Thus, in certain languages (strong reference ones), the *derived* position of nouns in referential arguments (denotational constants) seems to be the same (modulo an overt chain/CHAIN), namely D, as that of lexical articles in, say, definite descriptions, for principled reasons. Now, two questions arise, among others:

(20) a. How, exactly, do the other languages differ?

b. Why is precisely the D position involved in the denotation of individuals (and not, say, of properties)?

### *2.1. Determinerless nouns crosslinguistically*

Addressing the first question minimally implies raising issues like the following:

(21) How can English proper names and English bare nouns escape the constraints holding on Italian bare nouns?

Recall, to illustrate the problem, that English and Italian, but most likely Germanic and Romance more generally, seem to differ in the following, *prima facie* curious, way:

(22)

|  | Germanic | | | Romance | | |
|---|---|---|---|---|---|---|
| PNs | a. | [ø | N] | b. | [N | *t* ] |
| BNs | c. | [ø | N] | **d.** | **[ø** | **N]** |

Formally, it is (22)a,c,d that have roughly the same internal structure, i.e. a non raised-to-D noun (though so far only Romance has provided some evidence for ø being an actual empty category [$_D$ *e*], precisely through the pattern (23)a below); but with respect to meaning and external distribution it is (22)d which is isolated and (22)a,b,c that pattern together:

(23) a. (22)d is subject to obligatory variable interpretation and an ECP-like distribution

b.  (22)a,b,c are free from such constraints

It has been argued (since Longobardi 1994) that Romance proper names (22)b indeed escape the constraints holding on bare common nouns (i.e. variable interpretation, ECP-like distribution) via N-raising, neutralizing the relevant empty category otherwise present in D. Since no such displacement is overtly visible in Germanic, we are faced with questions like (21).

## 2.2.  *Two alternatives*

The basic issue behind (21) is whether (7) does indeed hold in English, as well as in Romance, the hypothesis argued for in Stowell (1989,1991) and then extended to other Germanic varieties in Crisma (1999). If this hypothesis is correct, then the TMT sketched in 1.3 above can be universal, but the ø of structures (22)a and c must then be a true empty D like that of (22)d. Therefore something must prevent this superficially empty D from being subject to the Romance constraints.

A viable solution was suggested in Longobardi (1994) and especially (1996), namely that N-raising can only be overt in Romance and only covert in Germanic (and that the relevant constraints apply after such covert movement), with the final consequence that both (22)a and c could end up having the same logical representation as (22)b. This approach maintains exactly the same mapping theory for both language types and reduces the differences to a single one of a very well known format, overt/covert movement dependency.

Briefly, according to this theory, the LF of (10)a would look like (24), i.e. like the PF of (2)a, and the LF of English bare nouns could analogously be as in (25):

(24)      [Rome [ancient [...*t*...]]] was a powerful city

(25)  a.  [Dinosaurs [...*t*...]] have become extinct
      b.  [Dogs [...*t*...]] are sitting on my lawn

Thus, LF (25) could be understood *à la* Carlson (1977), i.e. as anyway kind-referential, with a prevailing generic or existential meaning according to the interpretation of the predicate[7]: in either case the ECP-like constraint on null Ds should be circumvented by

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[7]  After all, an existentially flavored reading is a possibility admitted also for many Romance definites,

means of the same strategy (N-to-D) used by Romance proper names[8]. Of course, this suggests that the distributional constraint in question applies to LF representations and, at the same time, that Romance nouns must be unable to take advantage of covert movement to avoid its effects.

Then, four questions arise in this framework:

(26)  a.  Why can Germanic proper names raise *covertly*?

 b.  Why can Germanic common nouns *raise* at all?

 c.  Why can't Germanic nouns raise *overtly*?

 d.  Why can Romance nouns *only* raise overtly?

(26)a is answered by formulating parameter (18) roughly as (27):

(27)  Parameter: in Romance (4) applies also at PF, in Germanic only at LF

(26)b is answered by refining the Economy condition (1)b into (28), along lines proposed by Reinhart (1995), Fox (2000):

(28)  Economy: overt chains are a Last Resort, covert chains are licensed if they affect the interpretation (hence may involve common nouns, thus shifting from property- to kind-reference)

(26)c is answered by (27) in conjunction with Chomsky's principle Procrastinate, (26)d by the conjunction of (27) and (28).

As a consequence, the TMT and the lexical semantics of nouns remain basically invariant but the interpretation of D (hence the denotation of DP) is 'frozen' on the surface in Romance, not in Germanic, so that it is unambiguously readable off PF in Romance but only off LF in Germanic

The other conceivable approach may seem especially appealing under the impetus of minimalist theories of phrase structure (e.g. Chomsky 1995) since it tries to reject Stowell's

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which often properly translate English bare nouns: cf. '*Le* formiche erano dappertutto/hanno distrutto la mia viola da gamba…' vs. 'Ants were everywhere/destroyed my viola da gamba…'.

[8]  It should also remain possible for an English bare common noun, in the same syntactic and lexical environments in which its Romance correspondents may survive, to optionally fail to covertly raise to D, being thus treated as an unselectively bound indefinite.

hypothesis altogether and prune the syntactic tree by eliminating D from those nominal arguments where it is not obviously manifested by phonetic, semantic, or distributional properties (i.e. from Germanic object- and kind-referential arguments (22)a and c). Under this approach, however, it is necessary to account for the differences between Romance and Germanic (manifested in (13) and (16)) by means of two more radically distinct mapping theories ((4) for Romance and something roughly like 'Individuals are denoted sometimes by D, sometimes by N alone' for Germanic). Nouns would be of a different semantic type in Romance (+predicates, -arguments) as opposed to Germanic (+predicates, +arguments), a parametric difference not immediately reducible to consolidated parameter schemata. A first proposal precisely along these lines has been attempted in Chierchia (1998), though not yet addressing all the differences above.

Apart from conceptual considerations, the issue in (21) is ultimately a (subtle) empirical one. The mentioned works of Stowell (1989, 1991: cf. subcases (29)a and b below) and Crisma (1999: for subcases (29)c,e,f, and g), among others (especially cf. Zamparelli 1995 for subcase (29)d), suggest that Modern English and the other Germanic varieties indicated below display several constructions subtly but almost unequivocally pointing to the necessity of a high functional category (presumably of distributional type D) with a wide range of argument nominals though not with some of their non-argument correspondents:

(29)   a.   Presence of overt operator-like items (quantifiers, definite articles)

       b.   Presence of overt count-checking items (the same as above, indefinite articles)

       c.   Distribution of Saxon genitive constructions (German)

       d.   Definite reading of Saxon genitives

       e.   Definiteness suffixes cooccurring with adjectives (Mainland Scandinavian)

       f.   Lexically sporadic N-raising (Old and Middle English, Swedish)

       g.   Supposed expletive articles with proper names (Old English, German)

In these respects, Germanic acts rather like Romance, then, seemingly supporting (7). However, not all of this evidence is equally relevant: most of these cases can be construed as strong arguments that D is required in Germanic by argument nominals where the marked positive value of the features *definite* or *count* must be checked (precisely in D, presumably; cf. Zamparelli 1995, Crisma 1997), i.e. singular or definite common nouns;

but the crucial question is whether D is required for argumenthood itself in *all* cases (i.e. if (7) holds in Germanic as well), independently of the checking of feature values like +*definite* or +*count*.

In fact, the last two cases of (29) have already been construed by Crisma (1999) as suggesting that D is anyway required for argument proper names, whose count and essentially definite interpretation is likely to be intrinsic. Unfortunately, such arguments cannot be reproduced in Modern English. Furthermore, no proof yet has been provided concerning bare mass and plural common nouns, where the negative values for *definite*, if relevant at all (presumably in the supposed indefinite, not kind-referential readings: Diesing 1992), and *count* might be assigned by default, and which have so far shown no asymmetries. In the second part of this article, however, I will present some observations which seem to speak in favor of (7) holding in Modern English as well.

Let me, for now, just stress one point which becomes relevant if (7) holds in Germanic: if this turns out to be true, in fact, a category D will be required for argumenthood even in cases where it is neither manifested by overt phonological features relevant for the sensory-motor system S-M (again, in Chomsky's 2005 terminology) nor motivated by substantive properties of the position, relevant to the C-I system (precisely with proper names, kind names, and perhaps some definite descriptions too, in Scandinavian languages where definiteness is marked by lower affixes[9]). Therefore, under a strict minimalist approach, e.g. in the spirit of Chomsky (1995, 378: '…the only functional categories are those with features that survive through the derivation and appear at the interfaces, where they are interpreted') one may regard (30) as remaining an unresolved issue:

(30)    Why is the category D often manifested by nothing else than a syntactic operation (overt or covert Move), without apparently any content of its own either on the C-I or on the S-M level?

I will now focus on question (20)b; nonetheless, from this some further suggestions on certain aspects of both (30) and (20)a, hence of issue (21) and generalization (7), will arise.

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[9]   Cf. Guardiano and Longobardi (in prep.). In the case of definite arguments the value of the count feature becomes irrelevant, according to Crisma (1997, 1999). Hence, even a +count interpretation of a definite description with a suffix lower than D would not be a sufficient reason by itself to motivate the presence of D.

## 2.3. Arguments and D

Addressing question (20)b implies further deepening our understanding of Szabolcsi-Stowell's generalization (7), based on the two concepts of 'argument' and of 'D'. Such relation between the notion of argument and that of D, however, is a rather opaque and stipulative one. Notice that already deducing (7) from (4)-(5) allows one to eliminate the direct relation between argumenthood and D, resorting to the hypothesis that the categorial status of arguments derives from their denoting individuals, rather than properties. For, (5) seems to be independently needed as a definition of argument. But the whole move may have empirical, in addition to conceptual, support, since (4) appears anyway more accurate than (7). Crisma (1997, ch. 3) has shown that vocatives, being non-arguments, should behave like predicates in disallowing a relative clause built on a singular count head noun (also cf. Longobardi 2005a, sect. 5), but actually do not; this suggests that vocatives are likely to be full DPs in such examples, with a peculiar way to license an empty D. Crisma sketches such a licensing theory and supposes that vocatives are always introduced by a D and that this property does not characterize arguments as opposed to non-arguments, as hypothesized by Szabolcsi (1987 and subsequent work), but individual-denoting expressions versus expressions denoting properties. She proposes, therefore, that simple NPs can only denote properties, not individuals, and that arguments and vocatives are both individual-denoting. Crisma's insights are essentially those built into the TMT above (cf. (4)-(5)). This approach already eliminates the term 'argument' from the original generalization (7). However, it still leaves open question (20)b, i.e. the issue of why, now, such a relation should hold precisely between denotation of individuals and D, as postulated in (4).

## 2.4. Pronouns

One notable exception to the parametrization in (18) concerns the other usually object-referential category, personal pronouns. Longobardi (1994) noticed that in that domain Italian and English cease to contrast, pronouns being obligatorily in D in both languages[10]:

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[10] Bernstein (this vol.) notices that in addition to 1st and 2nd person plural pronouns, the construction with a pronoun followed by A or N is available for 3rd person plural *them* in substandard English, and then proceeds to suggesting an explanation for its absence with singular pronouns, based on the lack of proper person or number specifications. In Italian the conditions explaining this latter property are likely not to hold and correspondingly the construction, though more natural with 1st and 2nd person plural, is sometimes acceptable even in the singular:

(31)     Noi ricchi/*I ricchi noi stiamo trascurando certi problemi

(32)     We rich/*The rich/*Rich we are neglecting certain issues

(33)     I poveri imitano noi ricchi/*i ricchi noi

(34)     The poor imitate us rich/*the rich us/*rich us

(35)     Noi due/*I due noi….

(36)     We two/*The two we/*Two we….


This property of pronouns is not a peculiarity of English, but is found in other languages as well. For example it was carefully argued to characterize even articleless Slavic languages such as Serbo-Croat (Progovac 1998) and Polish (Rutkowsky 2002) [11]. They observe, among other things, that such languages pattern exactly like English with respect to Longobardi's (1994) generalizations: proper names and common nouns share the same distribution, but pronouns occur higher. Why then must personal pronouns always surface in D in Italian and why must (and of course may) they do so in English as well? Which properties of pronouns can be responsible for this difference between proper names and pronouns? A tentative answer may lie in the fact that in both languages pronouns are overtly specified for the full range of ϕ-features, namely gender, number, person and Case. In several Romance and Germanic languages nouns can be specified for gender, number, or Case (e.g. in German), but in none do they bear person distinctions. Let me then suppose that the head D, in addition to being available as the checking position for interpretive properties like e.g. Definiteness and Count (cf. the discussion in Crisma 1997, among others), intrinsically irrelevant in the case of object-referential expressions, is also the only one where the interpretable exponence of person morphology is admitted; we can hypothesize, indeed, that, crosslinguistically, the so-called D category minimally consists of the person feature:


(37)     D is the Person head

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     i.  Io professore non posso chiedere a lui studente di fare il mio lavoro gratis

        I professor cannot ask him student to do my job for free


[11]  Veneeta Dayal (p.c.) kindly informs me that the same apparently holds in Hindi.

(37) seems in essential agreement with Bernstein's (this vol.) hypotheses and in partial agreement with Platzack (2004). It also naturally complements proposals like Picallo (1991), Ritter (1991), Bernstein (1993) supposing that Number and Gender heads occur in the functional projection of nouns.

From this assumption, it is possible to immediately draw a further conclusion: English overtly determinerless nominals do, at least in some cases, involve a D position, after all. Of course, that a head D is present with pronouns in English does not imply that it needs to be present with all nominal arguments, as - we assume - in Italian. The latter is still an empirical question, solvable in principle on the grounds of evidence like that discussed directly below; but notice that the suggested hypothesis, that D actually coincides with (at least) the Person feature, undermines one reason of appeal for any attempt to prune the category in a minimalist spirit: its presumed lack of substantive content.

The hypothesis itself may remain neutral with respect to whether pronouns may/must be *merged* in that Person position or are *moved* to it[12]. Reasons to suppose that they are merged essentially like nouns and then raised are provided by the correct prediction that, rather like Italian proper names, in at least some non-argument occurrences they seem to surface postadjectivally, as in the following exclamation:

(38)     Poveri noi!
         Poor us!

the impossibility of determiners in this construction, even with proper and common nouns, suggests that the whole exclamation consists of a bare NP, and *not* of a verbless predicate+argument constituent:

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[12]  Rutkowsky (2002) suggests some interesting evidence from agreement phenomena that movement could be involved even in a language where other nouns do not apparently surface in D, like Polish.

(39) a.   Povero cane!

　　　　 Poor dog!

　　 b.?*Povero il cane!

　　　 * Poor the dog!

　　 c.   Povera Maria!

　　　　 Poor Maria!

　　 d.?*Povera la Maria!

　　　 * Poor the Mary

This pattern confirms that non-arguments are not necessarily DPs but arguments are, and can be interpreted as follows: Person, if and only if present, overtly attracts pronouns.

Notice, finally, that if pronouns are indeed universally moved there, the *overt* nature of this movement in, say, languages like Polish and English, where proper names instead do not overtly raise to D, can be imputed not to semantic reasons, as suggested in Progovac (1998), but precisely to the fact that the exponence of person on pronouns is itself an *overt* phenomenon, one which needs to feed phonetic interpretation.

On the whole, however, the paradigm in question entails a much more far-reaching consequence: Italian and English completely share not only the pattern in (31)-(36), but also in (38)-(39). The obvious conclusion is that if this complex paradigm provides a further argument for the DP/NP asymmetry opposing arguments to (some) non-arguments in Italian, the same reasoning goes through for English: therefore, the contrast e.g. between (34) and (38) eventually provides a first direct empirical argument for Stowell's hypothesis that D is required for argumenthood itself even in Modern English. In turn, this conclusion support the need for an approach like Longobardi's (1996) to the parametrization here in question.

### 2.5.   *Person and TMT*

Now, under hypothesis (37), principle (4) of the TMT is naturally reinterpreted as:

(40)　　 *Denotation Hypothesis* revised: Individuals are denoted through the Person
　　　　 feature

(40) appears superior to (4) because a natural interpretation of it answers question (20)b: denotation of individuals (of which reference to individuals is a subcase) basically consists

of associating lexical material, e.g. the *individual-naming* content of nouns, with person specification, i.e. grammatical person; hence the head Person is required to search the ontology for an *individual* to be denoted. The fact that it does not apply to property denotation is now no longer mysterious: we have assumed *properties*, by definition, to be inherently personless (i.e. neutral with respect to specifications like e.g. ±speaker or ±participant in the speech act), on the basis of the intuition that only individuals can occur as speakers/hearers of utterances, so that the roles specified by Person are intrinsically irrelevant for properties. This assumption seems also supported by some empirical observations: if postcopular adjectival and (pro)nominal predicates can be prototypical expressions of properties, then the well known fact that in various languages they can only be resumed by morphologically 3$^{rd}$ person masculine or neutral singular clitic pronouns (Italian *lo*, French *le*, Catalan *ho*: cf. Bartra 1986, 1988) suggests that they are deprived not only of interpretable number or gender features (cf. (41)a), but also of the person feature ((41)b), sharply contrasting with individual-denoting expressions (arguments, as in (41)c):

(41)  a.   Gianni è monarchico e anticlericale; se anche Maria lo/*la/*li/*le fosse…

Gianni is monarchical and anticlerical; if also Maria CL(3SgM)/CL(*other forms*)-were…

'…; if Maria were too…'

  b.   Se Gianni fosse te o anche solo se Maria lo/*ti fosse…$^{13}$

If Gianni were you or even just if Maria CL(3SgM)/CL(2Sg)-were…

'…; or even simply if Maria were…'

  c.   Se Maria lo/ti vedesse…

If Maria himCL(3SgM)/CL(2Sg)-saw…

'If Maria saw him/you…'

3$^{rd}$ person masculine singular appears to be the unmarked uninterpretable form to spell out clitic pronouns, rather like it is the verbal agreement form for sentential (even coordinated) or impersonal subjects. Individual-denoting expressions, even though in non-pronominal cases are often assigned a default 3$^{rd}$ person value, are not universally bound to this

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[13] The sentence with *lo* sounds quite acceptable at least in the interpretation in which 'Maria' should share with 'you' all 'your' properties though not (counterfactually) her individual identity.

assignment: in some languages, e.g. the Ibero-Romance ones, definite descriptions and other quantified subjects may impose 1st or 2nd person agreement on the verb:

(42)      Las mujeres salimos con vosotros
          The women go-out (1pl) with you (2pl)
          'We women go out with you people'

More generally, the default 3rd person of most definite and indefinite descriptions, which can be either singular or plural, must not be confused with truly impersonal 3rd singular of the type in question. Thus, even empirically, properties seem to be featureless (though forced to be encoded by means of the intrinsic features of the individual bearing the relevant property when expressed by a non-clitic pronoun), individuals are not.

Then, under these assumptions, the distinction between the syntax of *individual* denotation, crucially involving D, and that of *property* denotation, often satisfiable by N alone, is automatically drawn in a principled way: nouns name individuals, but, alone, can only refer to (sets of) properties, minimally the property of being named that way; it is the association with a Person category which turns such entities into individuals (recall, e.g., that no N-to-D movement is required for N to function as a predicate: cf. Longobardi 1994, 2005a).

This empirical hypothesis connects two apparently unrelated phenomena, both singling out at the same time the category D and the concept of grammatical person: the morphophonological property of D concerning pronouns (the exponence of person) and the semantic property of D concerning predicates (not being required for denoting entities deprived of person, i.e. properties). Of course, expressing person is different from being just associated to it by movement: hence pronouns in English occur overtly in the Person head, while proper names do not. But two apparently disparate phenomena are unified.

Attraction of proper names to D (now Person) is an interpretive phenomenon, relevant for C-I, not to be confused with the morphological nature of Person's attraction of pronouns, necessarily relevant at the S-M level. Therefore, for names, it is licit to expect potential parametrization on the S-M level. We can now understand the intuitive content of parameter (27) as (43):

(43)      Parameter: certain languages refer to individuals (Romance,…) by overtly

associating the lexical content of nouns to Person (strong Person), others (English,…) do not (weak Person)

Such a parameter must be a very deep and consequential one in the structure of DPs: only in the Romance-Germanic domain, it is likely to be responsible for at least the three original types of contrasts pointed out in Longobardi (1994, refined 2001), i.e. (13), (14), and (15) above, and the two additional ones introduced in Longobardi (1996) (Genitive licensing and headless possessives), and the Rumanian-Scandinavian contrasts in the positioning of definiteness suffixes (Guardiano and Longobardi in prep.). Furthermore, it may account for the same contrasts and for various further intricate types of contrasts between Greek, Semitic, Bulgarian on one side and several Germanic varieties on the other (cf. Longobardi 2001, Guardiano 2003, and especially Guardiano and Longobardi in prep.).

## 2.6. *The person feature*

The conclusions arrived at induce one to look for the source of all this deep DP-internal parametrization (27), now conventionally labeled weak/strong Person distinction, in some more general (i.e. potentially manifested also outside the nominal domain) difference in the status of the person feature. This issue is too complex to be addressed here, but some exemplification of the possible perspectives will be provided: a possible place of manifestation of contrasts in the person feature is definitely person agreement. Now, all European languages so far known to display the possibility of non-3$^{rd}$ person agreement for non-pronominal DPs, as exemplified by Spanish in (42), appear to fall among those which can be considered strong Person languages in the sense above according to their nominal properties (cf. Guardiano and Longobardi in prep.): Spanish, Catalan, Greek. This may suggest that an implication exists between the parametric status of D as Person in nominals and its ability to control full-range (i.e. not necessarily 3$^{rd}$ person) agreement: namely, the latter property would be an option only among strong Person languages.

On the other side, it is perhaps not irrelevant that only among weak Person languages are varieties found with no apparent exponence of the person feature on verbal agreement, such as Mainland Scandinavian or, according to Kayne (2000), even Modern English: in these languages, in fact, it is the pronominal system and especially the obligatory antecedent-anaphor agreement in person (*I…myself, He…himself,* etc.) that show clear morphosyntactic effects of such a feature.

It is conceivable that other potential direct or indirect manifestations of the strong/weak

Person parameter like these might be discovered outside the nominal domain. For example, languages with strong Person in the nominal system might display traces of this status of the feature in the verbal system as well: most or perhaps all the languages with supposedly strong Person, if they have verbal tenses licensing null subjects, treat the latter as fully personal empty pronouns, while, among weak Person languages, there definitely exist some whose null subjects are only impersonal (German, Icelandic). Whether these scattered remarks are typologically significant I will leave to further inquiry.

## 3. Further parametrization ?

If (7), wherever clearly observed, can be conceptually motivated along the lines of the previous sections, i.e. ultimately derives as a theorem from (40), it will remain to be seen whether it is equally at work in languages where person is not a formal feature of grammar triggering syntactic operations. From now on, I will pursue some highly preliminary and speculative remarks on this further aspect of question (20)a.

### 3.1. Grammaticalization of person

Though I agree with Benveniste (1971) that one cannot imagine a natural language where the meaning of person (i.e. the role of individuals talked about with respect to the speech act) is really ineffable, it is the case that some languages have been argued to be deprived of *syntactic* effects of φ-features altogether, including person (e.g. person agreement on predicates or anaphors), a case in point being e.g. Japanese (cf. Kuroda 1992 among others). Furthermore, it has also been proposed (cf. Siewierska 2004, and examples and references cited) that Japanese so-called pronouns would not be full equivalents of personal pronouns in many European languages, but essentially nouns (with some meaning suggesting reference to speech act roles, presumably), because they

(44)  a.   do not form a limited class
      b.   display the same number morphology as normal nouns
      c.   tolerate most of the same modifiers (e.g. including demonstratives)
      d.   cannot function as bound variables even in the non-speaker, non-hearer form
           *kare*.

Whether some or all such properties of Japanese are related is unclear but plausible. Under the approach of section 2. we should expect such languages to survive without syntactic

effects of anything like (40), i.e. we might minimally expect the following implication:

(45)      If a language has no grammaticalized φ-features, (*ceteris paribus* with respect to European languages) it will have no head Person (=D) in its syntactic representation of nominal arguments

Hence, (40), if indeed a semantic universal, will have to be satisfied by free association of the lexical individual-naming meaning of a noun with the semantic concept of person necessarily present in the C-I system. A few predictions ensue for such a language type:

(46)  a.  proper names will have the same surface distribution as common nouns
      b.  bare nouns will be able to achieve kind-referential interpretation
      c.  expressions translating Indoeuropean pronouns will have the same distribution as nouns

and, more generally, also

(47)  a.  no person agreement will ever appear on verbs
      b.  no person agreement will ever appear on anaphors

Recall, next, that Bernstein (this vol.) argues that definite determiners in English (and perhaps, by parity of reasoning, other languages as well) express a person feature, hence under hypothesis (37) above they should surface in D (=Person) for principled reasons. Furthermore, Guardiano and Longobardi (in prep.) argue that various sorts of operators in different European languages are attracted to D overtly or covertly according to the same parameter governing overt/covert raising of individual-referring nouns, i.e. (27). Therefore, if these hypotheses are correct, a further consequence will be predicted for languages with no Person:

(48)      no obligatory collocation of any operator (such as quantifiers and definiteness markers, if any[14]) in the equivalent of a fixed D (i.e. Person) position within

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[14]  If Bernstein's association of person with definiteness holds crosslinguistically and can be shown to be

nominal arguments[15]

At least properties (46)c, (47)b, and (48) should superficially distinguish such a language from English (and all of them should distinguish it from Italian, of course). Now, all such predictions are fulfilled in Japanese: (46)a and b are observed, though perhaps irrelevantly, owing to the fact that Japanese displays no overt equivalent of articles at all: for this suggests that the possibility of a generalized null expletive determiner occupying D (a situation analogous to that presumably found in Latin, Russian, Polish: cf. Crisma 1997 and Gianollo 2005) as an alternative explanation cannot be entirely dismissed. However, (46)c and (47)a, b are also respected: Japanese 'personal pronouns' distribute in the nominal phrase exactly like nouns and no person agreement phenomena occur anywhere in the language (Kuroda 1988). Finally, prediction (48) is exactly the conclusion independently arrived at by Hoji and Ishii (2004): all sorts of operators may appear in floating positions outside the nominal phrase.

The success of the predictions above lead to a more full-fledged formulation of the parametrization in (43):

(49)     Languages with grammaticalized $\phi$-features may associate referential and operator expressions with Person overtly (strong Person: Romance) or covertly (weak Person: Germanic): (40) applies in narrow syntax

(50)     Languages without grammaticalized $\phi$-features (e.g. Japanese) may associate person to the relevant expressions freely (or at most under pragmatic constraints): (40) only applies in conceptual or pragmatic representations

The main consequence of these speculations is that languages without grammaticalized $\phi$-features may indeed have bare (i.e. without D) NPs in argument position, precisely as argued for Japanese by Hoji and Ishii (2004). Such entities would thus exist among the phenotypes admitted by UG, as suggested in Chierchia (1998), though not in Germanic languages, contrary to what had been proposed in Chierchia (1998).

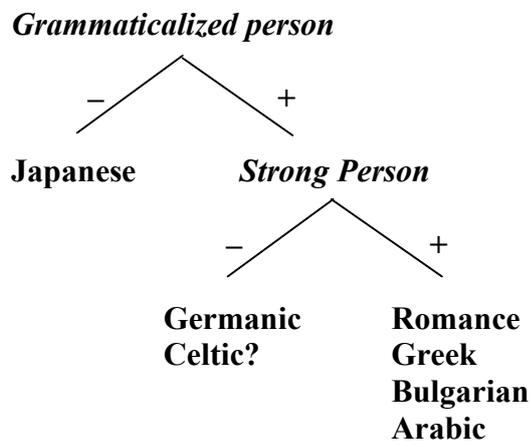If the generalized parametrization is tripartite as suggested here, the differences

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principled, it can even be the case that languages not grammaticalizing person systematically fail to grammaticalize definiteness as well.

[15]   Such items could then occur either in lower NP-internal or in NP-external positions.

between English and Japanese with respect to (46)-(47)-(48) provide further support to the hypothesis that even English (and all of Germanic: Crisma 1999) has D, now Person, in every argument nominal, as proposed by Stowell (1989, 1991) and that the contrasts with Romance as to the properties of bare nouns and proper names are due to the overt/covert nature of the N-to-D dependency (Longobardi 1994, 1996), not to optional lack of D.

Tentatively trying to add a few more languages to the picture just from superficial evidence (cf. Guardiano and Longobardi in prep.), the tripartite parametrization pattern might be supposed to be as follows:

(51)      Generalized *nominal mapping parameter* (in Chierchia's 1998 perspicuous terminology)

**Grammaticalized person**

–      +

**Japanese**      *Strong Person*

–      +

Germanic      Romance
Celtic?      Greek
              Bulgarian
              Arabic

### 3.2.   *A minimalist critique: features and categories*

The conclusions tentatively reached in this article have several consequences for the theory of parameters and that of UG.

First of all, as noted, they support the idea proposed by some scholars that also Person, perhaps on a par with Number and Gender, occurs as a distinct head in the functional projection of nouns. More importantly, notice that all such heads have immediately understandable semantic content, while at the same time features and heads with dubious or indirect interpretation in the C-I system (and often no obvious exponence in the S-M one) such as ±referential, ±argument, D, widely used in the literature in the past (cf. e.g. Longobardi 1994, Chierchia 1998 among many others), are eliminated altogether: at best such notions are a byproduct of the computation, not substantive features of the lexicon and their elimination arises exactly in the same minimalist spirit as that of the heads Agr (vs. T) in Chomsky (1995) in the system of verbal functional projections. In general, such an

approach executes the program of category pruning hinted at in Chomsky (1995, 378).

Furthermore, the conclusion that the locus of all parametrization of nominal mapping is D, i.e. Person, rather than N, reconciles this domain of facts with Borer's (1984) restrictive conjecture that parameters are properties of functional heads, not of lexical ones like nouns, whose semantic type could thus be regarded as universally invariant and just property-denoting.

### 3.3. Parametric Minimalism

However, the most capital insight suggested by the present approach has to do with the theory of parameters itself and the way of investigating it: it turns out from the present approach that mapping parameters not only respect Borer's (1984) conjecture, but also seem to fall into just two pervasive parameter schemata:

(52) a.  An interpretable feature may be: grammaticalized/extragrammatical (essentially Kuroda's 1988 schema: for a DP-internal case study cf. the treatment of ±definite, ±count in Crisma 1997, 1999)

   b.  If grammaticalized, a feature may trigger: overt/covert Move (essentially Huang's 1982 schema)

The very fact that the whole parametrization required within this framework to account for the variation examined reduces to independently attested parameter formats conceptually supports the approach. Actually, trying to subject a wider *corpus* of parameters to a minimalist critique in this sense, i.e. to reduce them to a restricted number of conceptually necessary forms, as envisaged in Longobardi (2003), they may turn out to fall into few abstract parameter schemata: for a very preliminary example, notice that over 40 of the 49 parameters tentatively collected in Gianollo, Guardiano, Longobardi (2004) for a comparative analysis of DP structures fall into only 4 recurrent parameter schemata, two of which are those identified in (52). If this kind of approach reveals productive, then minimalist considerations can begin to apply not only to principles but also to parameters of UG. In this spirit, Longobardi (2005b) has suggested that the crucial notion in acquisition may precisely become 'parameter schema', not 'parameter'. The initial state of the language faculty $S_0$ would not be endowed, at least for the core grammar, with a finite though enormous list of parameters, but with a much more limited number of parameter schemata. According to the evidence contained in primary *corpora*, only the parametric

choices required by each target language, in terms of specific observable properties of the (functional) items of its lexicon, would be elaborated and, with a value set, would become part of successive states, including the steady state $S_n$. An approach of this type, well supported in a domain of robust variation like that of nominal mapping, might be a first step toward simplifying and, hopefully, better understanding the fundamental evolutionary problem of why grammatical variation exists at all in natural languages[16].

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[16] Cf. Baker (2001).

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