

# The Non-autonomy of Syntax

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## **Abstract**

Structuralism sought to introduce various kinds of autonomy into the study of language, including the autonomy of that study itself.\* The basis for this was the insistence on categorial autonomy, whereby categories are identified language-internally (whether in a particular language or in language). In relation to phonology, categorial autonomy is tempered by grounding: the categories correlate (at least prototypically) with substance, phonetic properties. This is manifested in the idea of 'natural classes' in generative phonology. Usually, however, in more modern grammars, despite some dissent, no such grounding (in meaning) has been attributed to syntax. This attitude culminates in the thesis of the 'autonomy of syntax' which was put forward in transformational-generative grammar. In what follows here it is argued that the consequences of this are very unfortunate. Distribution alone is insufficient to determine the identity of categories; what is relevant is the distribution of the prototypical members of the category, where prototypicality is notionally defined. Prototypical nouns, for instance, denote concrete, discrete, stable entities. Syntax, as well as phonology, is grounded. Groundedness ensures that only the prototypical behaviour of semantically prototypical members of a category determines its basic syntax; and this syntax reflects the semantic properties. Groundedness filters out potential syntactic analyses that are incompatible with this. For instance, given the diverse semantic characters of prototypical nouns and verbs, groundedness predicts that the X-bar theory of syntactic structure, which attributes parallel projections to lexical categories, is false. Consideration of the syntax of nouns and verbs confirms that this is indeed the case. The attribution to syntax of categorial autonomy without grounding should be abandoned.

## **Introduction**

Much recent work in syntax assumes the 'autonomy of syntax': syntactic generalisations are best regarded as independent of what are regarded as extra-syntactic considerations – semantic, pragmatic, phonological, social, ... Alleged enhancements of 'autonomy' are valued, so that the avoidance of appeals to what might be conceived of as 'grounded' elements, which are (at least partially, but necessarily) semantically determined, is presented as a desirable pursuit: see e.g. Wilkins (1987), who vindicates in these terms her assignment of reflexivisation, with its apparent dependence on 'thematic roles' and co-reference, to the semantics rather than to the syntax. I shall suggest here that the cult of 'autonomy' is an aberration of later twentieth century linguistics that has had very undesirable

results. I shall argue not just that syntactic generalisations correlate with semantic, but further that it is impossible to establish, for instance, syntactic categories on purely distributional grounds. Not just any distribution is relevant here, only the distribution of the semantically prototypical members of the category.

The basic observations and suggestions made in what follows, notably the proposed notional and functional basis for syntactic regularities, are far from novel; much will be familiar from, for instance, the range of recent ‘functional’ approaches to grammar. But there are at least two considerations that make the following worth pursuing here.

In the first place, there is the general lack of acknowledgment that the assumption of ‘autonomy’ is itself recent, is a departure from a centuries-old grammatical tradition; present-day ‘functionalists’ and ‘notionalists’ inherit a long tradition whose distinctive views are still relevant. I have in mind work in ‘traditional’ (pre-structuralist) grammar and in early European structuralism. It is the ‘autonomy of syntax’ assumption that is a historical aberration, not just a deviation from other recent approaches. Section 1 of this paper thus spells out some of the background to the development of the notion of the ‘autonomy of syntax’ and specifies what I think is involved in such an assumption (though see Anderson 2005b for more extensive discussion of this history).

Secondly, I suggest here that the adoption of a notional and functional basis for syntax is not to be opposed to ‘formal grammar’: the optimal ‘formal’ (distributionally supported) grammar has a notional basis. Section 2 discusses a few syntactic phenomena to whose expression reference to semantics seems to be appropriate, and suggests these are not untypical – though aspects of syntax may become ‘routinised’, less sensitive to notional considerations. This is a topic which is taken up in the conclusion. Section 3 shows, further, that it is misleading to base ‘formal’ accounts of the syntax of categories on anything but the behaviour of notionally prototypical members of the category. The optimal (formal) analysis cannot be selected on purely distributional (semantic-free) grounds, whether or not these are posited as part of ‘universal grammar’.

## **1. The autonomy of syntax**

It is not controversial to say that structuralists strove to establish the ‘autonomy of linguistics’ (from other disciplines), though this goal is in itself controversial (see e.g. Newmeyer 1986). But this ‘global’ application of autonomy is not the major focus here. Rather my concern will be with recent proposals concerning the autonomy of various aspects of linguistic structure, specifically of syntax. The attitude involved is reflected in formulations such as Radford’s ‘autonomous syntax principle’ (1988: 31):

AUTONOMOUS SYNTAX PRINCIPLE

No syntactic rule can make reference to pragmatic, phonological, or semantic information.

This is derived more immediately from Chomsky (1977). But Chomsky (1957: 17) already insists on 'syntactic autonomy': 'I think that we are forced to conclude that grammar is autonomous and independent of meaning, ...'.

Elsewhere Chomsky acknowledges the 'structuralist' background to such ideas, as part of a concluding autonomist 'credo':

A central idea of much of structural linguistics was that the formal devices of language should be studied independently of their use. The earliest work in transformational-generative grammar took over a version of this thesis, as a working hypothesis. I think it has been a fruitful hypothesis. It seems that grammars contain a substructure of perfectly formal rules operating on phrase-markers in narrowly circumscribed ways. Not only are these rules independent of meaning or sound in their function, but it may also be that the choice of these devices by the language learner (i.e. the choice of grammar on the basis of data) may be independent, to a significant extent, of conditions of meaning and use. (1972: 119)

However, elsewhere again, Chomsky insists on the limits of the contribution of what he refers to as 'modern descriptive linguistics':

On the other hand, it seems to me that the substantive contributions [of 'modern descriptive linguistics'] to the theory of language structure are few, and that, to a large extent, the concepts of modern linguistics constitute a retrogression as compared with universal grammar. (1969: 6)

But, in so far as transformational-generative grammar maintained and extended the autonomist position adopted by the immediate followers of Bloomfield (represented by the contributions to Joos 1958 – though this is, admittedly, scarcely homogeneous), who are presumably to be included in the referents of his 'structural linguistics' and 'modern descriptive linguistics', it can be said to represent a further step back from engaging with the 'philosophical' grammar tradition whose ideas on 'universal grammar' Chomsky apparently has in mind. The debt of transformational grammar to the American structuralists who preceded them has been underestimated; the debt to 'universal' or 'philosophical' grammar has been much exaggerated. Before I take up the extent of the debt to the 'Bloomfieldians', let us consider the lack of the claimed debt to 'philosophical' grammars.

Chomsky (1969: 5) declares that 'I think that we have much to learn from a careful study of what was achieved by the universal grammarians of the seventeenth and eighteenth centuries'. But his equation (ibid.) of 'deep structure' with the 'underlying' constructs of these grammarians cannot be said to come from such a 'careful study'. And this impression is not disabused by a reading of Chomsky (1966a). Indeed, passages like the following concerning the Port-

Royal *Grammar* (Lancelot & Arnauld 1660) make quite transparent the inappropriateness of such an equation:

The identity of deep structure underlying a variety of surface forms in different languages is frequently stressed, throughout this period, in connection with the problem of how the significant semantic connections among the elements of speech are expressed. Chapter VI of the Port-Royal *Grammar* considers the expression of these relations in case systems, as in the classical languages, or by internal modification, as in the construct state in Hebrew, or by particles, as in the vernacular languages, or simply by fixed word order, as in the case of the subject-verb and verb-object relations in French. ... Notice that what is assumed is the existence of a uniform set of relations into which words can enter, in any language, these corresponding to the exigencies of thought. The philosophical grammarians do not try to show that all languages literally have case systems, that they use inflectional devices to express these relations. On the contrary, they repeatedly stress that a case system is only one device for expressing these relations. (1966a: 44-45)

The 'relations' expressed in this variety of ways are clearly (in Chomsky's own words, it seems) 'semantic connexions' not elements in an autonomous 'deep structure'; the syntax of such 'philosophical' grammars are grounded in semantics. Ch. VI of the Port-Royal *Grammar* offers notional definitions of morphological cases and prepositions that express these 'connexions', just as the immediately preceding chapters are concerned with the semantic definition of nouns and number and gender. But 'deep structure' does not figure among the 'exigencies of thought'.

It is, rather, the assumption that grammar is semantically grounded that has much in common with views expressed in the tradition of 'philosophical' grammars which flowered particularly in the seventeenth and eighteenth centuries. A later example of these that is typical in this respect is James Harris' *Hermes* (1751), where he attributes semantic properties to the word classes: 'substance' for nouns, 'energy' for verbs, combined with 'assertion' in the case of finite verbs, etc. Such ideas can be traced back, particularly through renaissance 'philosophical' grammarians, to the philosophers of classical Greece.

On the other hand, much of what underlies the 'autonomy of syntax' assumption can be seen to derive from the 'Bloomfieldian' tradition that explicitly rejected notionally-based grammars. Let us now look briefly at the relevant aspects of that tradition.

We can distinguish the 'Bloomfieldian' attitude to syntax, in its most extreme form, as follows:

*Syntax and groundedness*

a) *The thesis of categorial autonomy*

Linguistic categories must be manifested in intralinguistic relationships

b) *\*Categorial grounding*

Categories must be grounded in substance

(where the asterisk denotes rejection of the thesis). Syntax is not grounded. In the case of phonology, on the other hand, both (a) and (b) are appropriate:

*Phonology and groundedness*

*a) The thesis of categorial autonomy*

Linguistic categories must be manifested in intralinguistic relationships

*b) Categorial grounding*

Categories must be grounded in substance

According to Bloomfield (1933: 158), ‘... each linguistic form has a constant and definite meaning’, but the meaning (as unanalysable by linguistic science) does not enter into the analysis of forms. Linguistic forms are merely different in meaning. But phonemes not merely differ phonetically but, for instance, the identification of sounds as positional variants (allophones) of a phoneme depends on ‘phonetic similarity’. This attitude, and the resulting asymmetry between the planes, is transmitted to the ‘transformationalists’.

The asymmetry between the planes is accentuated by another consequence of Bloomfield’s eschewal of semantic analysis. He insists (1933: 162):

The meaning of a morpheme is a *sememe*. The linguist assumes that each sememe is a constant and definite unit of meaning, different from all other meanings, including all other sememes, in the language, but he cannot go beyond this.

And he goes on: ‘There is nothing in the structure of morphemes like *wolf*, *fox*, *dog* to tell us the relation between their meanings; ...’. The same is true of any relationship in the meaning of different constructions. This excludes from linguistics, and from grammar in particular, any study of semantics, lexical or constructional. I shall refer to this, not very succinctly, as ‘the minimalisation of linguistics’:

*The minimalisation of linguistics*

Linguistics = phonology, morphology and syntax

De Saussure, on the other hand, recognised that both ‘unmotivated’ signs (e.g. *vingt*) and ‘relatively motivated’ signs (*dix-neuf*) could enter into ‘associative’ relations (1916: 181). This essentially pre-structural scission of Bloomfield’s also continued in some form into the transformational tradition.

As a result, it seems to me, the status of semantics as part of the domain of linguistics has fluctuated within that tradition. Even when pursued as a part of linguistic description (as in Katz & Postal 1964), it is strictly separated from syntax. And, despite the continuing efforts of e.g. Jackendoff (1972, 1976, 1990, 2002) and a few others, it seems to play no part as such in the linguistic descriptions envisaged by more recent developments, notably in those labelled the ‘principles and parameters’ approach (Chomsky 1981) and the ‘minimalist program’ (Chomsky 1995). And, specifically, in the central transformational

tradition, apart from within the aberration known as ‘generative semantics’, semantics has been seen as playing no role in the syntax, whether included in linguistic description or not. The absence of a grounding requirement is insisted on, and there is a lingering suspicion of ‘unmotivated’ relationships.

There is a final ‘Bloomfieldian’ assumption that also depends in part on the exclusion of semantics. This concerns the relation between syntax and phonology. Bloomfield insisted on (1933: 162) ‘... the principle that linguistic study must also start from the phonetic form and not from the meaning’. In the practice of his immediate successors this became codified as what I shall call the ‘thesis of planar dominance’, which simplifies their views somewhat in considering only the relationship between the phonological and the syntactic ‘planes’:

*The thesis of planar dominance*

- a) Relations on plane A do not refer to categories of plane B;
- b) The converse is not the case;
- c) Plane A = phonology

Identification of the categories and relations of phonology do not depend on reference to the other plane, but not vice versa.

The notion of planar dominance was retained by the ‘transformationalists’. But in their case, phonology was not the dominant plane; and we must substitute (d) for part (c) of the previous formulation, to give a reversal of the direction of planar dominance:

*The thesis of planar dominance’*

- a) Relations on plane A do not refer to categories of plane B;
- b) The converse is not the case;
- d) Plane A = syntax

I don’t dwell here on the methodological and metaphysical motivations for this reversal, nor on the consequences for the phonology, whose distinctive categories are thereby no longer fully autonomous as far as reference to the other plane is concerned.<sup>1</sup> Consider here Chomsky’s assault on ‘taxonomic phonemics’ (1966b: §IV).

The interest of this in the present context is that it represents the final stage in the establishment of what came to be seen as the ‘autonomy of syntax’, namely autonomy from phonology. The adoption in transformational-generative grammar of ‘Bloomfieldian’ ideas concerning autonomy and grounding, combined with reversal of the plane that is assumed to be language-internally autonomous, or dominant, renders syntax insulated from both substance and phonology.

My focus of interest here is in the divorce between grammar and meaning that assumption of the ‘autonomy of syntax’ require, except in so far as semantics, whether linguistic or not, interprets the autonomous syntactic structures. I shall argue that syntactic categories and their ‘tactics’ are grounded in substance. I should point out that being ‘semantically grounded’ should not be equated with

the usual interpretation of ‘semantically based’. Syntax is categorially autonomous, but its categories must display the prototypical association with semantic properties that we can associate with phonological categories and phonetic. Such association is a means of excluding from consideration inappropriate syntactic analyses, as I shall try to show.

We can usefully contrast the idea of ‘grounding’ with the ‘semantically-based’ analyses emanating from ‘generative semantics’ (see especially Lakoff 1971, 1972, McCawley 1971, 1972). From a structuralist point of view, these developments constituted an over-reaction to suggestions of autonomy; they sacrificed the distinctiveness of language that structuralism sought to establish. Such analyses could be said, indeed, rather to be ‘logically based’: the content plane was based on the categories of a ‘natural logic’ that were translated derivatively (if at all) into the familiar categories of syntax, such as ‘noun’ and ‘verb’. Some ‘translation’ is necessary to the extent that these ‘familiar’ categories have an obvious superficial distributional motivation – as emerges, despite themselves, from the work of the ‘new grammarians’ such as Fries (1952). On the ‘grounding’ assumption, no such translation is necessary: linguistic categories are not ‘logical’ categories; they are merely associated with a prototypical notional substance. In what follows I shall try to clarify the distinction rather indirectly by considering some of the problems that arise from lack of grounding. These represent a major objection to the ‘autonomy of syntax’.

The ‘autonomy of syntax’ comprises various of the assumptions we have considered:

*The thesis of autonomy of syntax*

*The thesis of categorial autonomy*

Linguistic categories must be manifested in intralinguistic relationships

*\*Categorial grounding of content form*

Categories must be grounded in substance

*The minimalisation of linguistics*

Grammar = phonology, morphology and syntax

*The thesis of planar dominance*

- a) Relations on plane A do not refer to categories of plane B;
- b) The converse is not the case;
- c) Plane A = syntax

These all derive from the Bloomfieldian tradition, directly or indirectly, if only by inversion (as with planar dominance); and, most importantly from the present point of view, they underlie the absence of grounding of syntactic categories assumed in transformational grammar.

## 2. The groundedness of syntax

This and the following section look at increasingly demanding evidence for groundedness in syntax. I look firstly in this section at various syntactic generalisations in individual languages that seem to be fairly obviously grounded in semantic substance, contrary to the ‘autonomy of syntax’ assumption.

### 2.1 German adverbial placement

Some linear orderings of syntactic elements, for instance, seem to be patently grounded in semantic distinctions.

There are in German, for instance, instances of ordering regularities involving adjuncts of different semantic classes, as established by Frey & Pittner (1998, 1999). Thus, the comitative in (1) normally precedes the instrumental:

- (1) a. Er hat (zusammen) mit einem Freund mit einem Kleintransporter  
 he has (together) with a friend with a mini.van  
 den Schrank herbeigeschafft  
 the wardrobe hither.brought  
 (‘He (has) brought the wardrobe here with (the help of) a friend in a mini van’)
- b. (?) Er hat mit einem Kleintransporter (zusammen) mit einem Freund  
 den Schrank herbeigeschafft.

As Frey & Pittner (1998) put it, (1) show ‘dass man Instrumentaladverbiale lieber beim Verb pliziert als Komitative [...] Diese semantische Präferenz hat aber keinen syntaktischen Niederschlag im Sinne von syntaktisch fixierten Grundpositionen, die die Adverbiale relativ zueinander einnehmen würden’.

Such semantically grounded discriminations in word order are not uncommon. Of course, one can simply exclude such word order generalisations from the sphere of syntax by *fiat*. In this case, the syntax could treat these ‘normal’ – or at least ‘preferred’ – orders and reversals of them as of equivalent status; and they would be distinguished in status by semantic interpretation, perhaps, or some ‘stylistic’ component. But the exclusion of these regularities from syntax is arbitrary, aside from the equally arbitrary assumption of the ‘autonomy of syntax’. In so far as we find plausible the traditional circumscription of syntax as concerned, among other things, with the relative order of words, this strategy is suspect, in discounting some restrictions on order; it looks like a device to avoid disconfirmation of the ‘syntactic autonomy’ principle.

We find a similar device being employed in the postulation of ‘logical form’ as part of syntax (Chomsky 1981, 1995). While ‘contracting’ the syntax allows us to exclude such phenomena as are illustrated by (1), ‘expansion’ to embrace ‘logical form’ permits us to include, for instance, ‘thematic roles’ like

‘agent’ or ‘theme’ as syntax – though these look to be thoroughly grounded in substance.<sup>2</sup> So too the postulation of a syntactic role for semantic subclasses of verb (Levin 1993, Levin & Rappaport 1995) can be made to seem compatible with ‘autonomy’ only if these distinctions are attributed to ‘universal grammar’, and their semantic basis thus disguised.

## 2.2 *English infinitives*

Let’s look now, however, at a kind of instance of grounding where such an avoiding strategy is not as readily available. Present-day English has two infinitival constructions: one is introduced by *to*, the other is not so marked, and it is distinguished from other non-finites by its lack of morphological marking. I shall refer to the latter as the ‘bare infinitive’, illustrated in (2a):

- (2) a. Bill may leave, Bill does live there  
 b. Bill intends to leave  
 c. I urge Bill to leave

The ‘periphrastic’ infinitive with *to* is illustrated by (2b) and (2c), here accompanying respectively ‘intransitive’ and ‘transitive’ verbs. Now, given the typicality of the examples in (2), much of the relative distributions of the two infinitives can be summed up by saying that the bare infinitive occurs after ‘modal auxiliaries’, as in (2a) (if we include ‘periphrastic *do*’ with these), and the periphrastic infinitive with the complement of ‘full’ verbs, as in (2b/c). And this generalisation involves reference to a difference in syntactic category or subcategory. As such it does not directly challenge the ‘autonomy of syntax’ thesis.

But not all full verbs take an infinitival complement which is marked by *to*. The most notable systematic set of exceptions is the class of verbs of direct perception, as illustrated by (3):

- (3) I saw Bill leave, I heard Bill leave, I felt Bill tremble

These are ‘transitive’ verbs which govern the bare infinitive, to set beside the ‘intransitive’ ‘modal auxiliaries’.

There are exceptions to the other part of the generalisation, too, as illustrated in (4):

- (4) a. Bill ought to leave  
 b. Bill oughtn’t to leave, Ought Bill to leave?

*Ought* in (4a) takes the periphrastic infinitive, while (4b) illustrates that for many speakers *ought* otherwise behaves as a (modal) auxiliary, in inverting in questions and taking the negative suffix, unlike the ‘full’ verb in (5):

- (5) \*Bill wantsn’t to leave, \*Wants Bill to leave?

It looks as if we must simply recognise that there are exceptions to the infinitive generalisation. And, since *ought* belongs semantically with the set of ‘auxiliaries’ of the class identified in (4a), the ‘modals’, exceptionality includes infringement of consistency in manifesting grounding.

But the verbs in (3) are not simply an arbitrary set; they have a notional property in common, what I’ve referred to as ‘direct perception’. And this correlates with semantic restrictions on the construction in (3). The perception verb and its complement coincide in a punctual time reference. This is reflected in the anomalous status of (6), where the denotata of the two verbs are associated with occurrence in two different time intervals:

(6) \*On Tuesday I saw him leave on Wednesday

This property follows from the notion of ‘direct perception’.

Contrast this situation with (7):

- (7) a. On Tuesday Bill intended to leave on Wednesday  
 b. On Tuesday I urged Bill to leave on Wednesday

The periphrastic infinitive in (7) is future irrealis, and so compatible with the distinct time reference represented by *Wednesday*. The interpretation of the constructions in (8), on the other hand, contrasts with those for (3) in another way:

- (8) a. Bill tends to stay away  
 b. I like Bill to stay away

The infinitives in (8) are interpreted as ‘habitual’. (3), on the other hand, are interpreted as ‘habitual’ only if this is signalled elsewhere, as in (9):

(9) I see/saw Bill leave every Tuesday

‘Full’ verbs that take the periphrastic infinitive belong to either of these categories: they take either an irrealis or a necessarily habitual infinitive. The main exceptions to such a generalisation are those verbs that take neither an irrealis nor a habitual one but which don’t introduce two distinct events, as in (10):

(10) Bill happened to leave on Tuesday

(8a) involves a ‘habitual’ variant of this class; the two classes overlap. The ‘full’ verbs in (3) that take the bare infinitive involve, on the other hand, contemporaneous events that are distinct.

Selection of infinitive is based on these semantic distinctions; it is semantically grounded. The more marked bare infinitive has to occur only in specific semantic circumstances after ‘full’ verbs. The circumstance we have looked at here is where the ‘full’ verb is a verb of direct perception accompanied, as is

semantically natural, by an infinitive which introduces a distinct but contemporaneous punctual event.<sup>3</sup>

Moreover, the omission of *to* can be seen to be iconic. The direct, contemporaneous relation between the event of perception and the perceived event is reflected in direct juxtaposition of both verb forms with the perceived entity, without intervening *to*: ... *saw Bill leave*. We get some support for this from the behaviour of the corresponding passives of direct perception verbs, as exemplified in (11):

(11) Bill was seen (by Fred) to leave

Normal here is the periphrastic infinitive. The perceived entity does not appear between the perception verb and the infinitive in the passive; so iconicity cannot be achieved by omission of the *to*. We find in these circumstances the periphrastic infinitive, which is the default infinitive after ‘full’ verbs, that which occurs other things being equal. This also explains the *to*-infinitive with covert perception verbs like that in (12), where an overt ‘perceiver’ is an adjunct rather than a participant argument of the verb – as in the passive in (11):

(12) Bill seemed (to everybody) to hesitate

Occurrence of the bare infinitive after ‘full’ verbs depends not just on semantic factors but also on the viability of iconic representation of these factors. And iconicity (more generally discussed in e.g. Haiman (ed.) 1985, Simone (ed.) 1994) is also incompatible with the strict ‘autonomy of syntax’.

### 2.3 *Differential object-marking in Spanish*

Let’s turn to another example, from Spanish. There are circumstances in which the ‘object’ of a verb in Spanish is marked by the preposition *a* rather than being a bare noun phrase (Alarcos Llorach 1999: §335). One circumstance is illustrated in (13a), where the potential ambiguity resulting from postpositioning of both ‘subject’ and ‘object’ is remedied by the presence of the preposition:

- (13) a. Dibujaba           (a)    la       niña    el       niño  
           was-sketching            the    girl    the     boy  
           (‘The boy was sketching the girl’)
- b. Atravesó           (a)    la       procesión       un     camion  
           cut-across            the    procession     a     truck  
           (‘The truck cut across the procession’)
- c. Favorece        la       codicia   (a)    la       ambición  
           encourages    the    jealousy    the     ambition  
           (‘Jealousy encourages ambition’)

This possibility is available to definite ‘direct objects’, as in the examples in (13). Some speakers regard the *a* in (13a) as obligatory, while many reject the *a* with (13b), where the semantics of the arguments removes the ambiguity. As an aspect of its functional motivation, the distribution of *a* can be sensitive to the semantics, particularly the extent to which the two arguments occupy the same position on the ‘animacy hierarchy’. The ‘subject’ and ‘object’ can occur in either order, as illustrated by (13a) vs. (13c).

Further, we also find the preposition marking animate nominals even where the ‘subject’ is not postposed, as in (14a), and where also the ‘object’, if it does not contain a common noun, need not be definite, as indeed it is not in (14b):

- (14) a. Mataron            al            gato  
          they-killed        the        cat
- b. Esperan                    a            alguien  
          they-are-waiting-for            someone
- c. A            ella    no        la            conocen  
                  her    not    her        they-know
- d. Fue    don Quijote uno de    los    que    crearon a Cervantes  
          was    Don Quixote one of    those that    made    C.
- e. Vitoreaban                    a la    libertad / Enalzó a la    virtud  
          they-were-acclaiming    (the) liberty / he-praised    (the) virtue
- f. He ido            a    ver Málaga / Basta    visitar Vinuesa  
          I-have-been to    see M. /            it-suffices to-visit V.
- g. Enalzó            la    virtud            del    santo  
          he-praised        the virtue            of the    saint

The type of (14a) seems to be the link (‘marking a definite common noun’) between the usage in (13) and the rest of (14). As well as before definite nouns and before pronouns, indefinite, as in (14b), but also definite (but not clitic), as in (14c), we find the preposition before personal names (14d) and personifications (14e), while before place names usage varies (14f). (14g) illustrates non-personified use of *virtud*.

With the examples in (13) what seems to be important is the definiteness of the nominal, as well as potential ambiguity based on ‘hierarchical equivalence’. But with those in (14) (except (f)) animacy is as important, and indeed in the case of (14b) negates the necessity for definiteness. According to Anderson (1997), all of the nominals in (14b-d,f) belong to a word class (which he calls ‘determinative’) that is typically not modified, unlike common nouns. They belong, further, to a subset of ‘determinatives’ that does not take a complement:

they, that is pronouns and names, are typically one-word ‘nominal phrases’, in traditional terminology. There is clearly a semantic basis to the class of one-word nominals (‘determinatives’ uncomplemented by a noun): they are nominals that never need or want descriptive material to help in the identification of their referent, and typically reject it; they are, if definite, identificatorily self-sufficient in context (Anderson 2003, 2004a).

Definite determiners also belong to the general class of ‘determinatives’, but are complemented by a noun, as in (14a) or (14e). So, we can generalise that the preposition in the cases illustrated by (14) appears before animate ‘object’ nominals that either contain a noun accompanied by a definite determiner (a complemented ‘determinative’) or are of the one-word-nominal class (uncomplemented ‘determinatives’). And belonging to the name subclass of uncomplemented ‘determinatives’ (necessarily one-word nominals) can overrule the animacy requirement, given the possibility in (14f).

If the ‘direct object’ preposition of (14) co-occurs with ordinary directional *a*, however, it may be (must be, for some speakers) left out, avoiding possible ambiguity (Alarcos Llorach 1999: §336):

- |      |     |         |           |     |     |       |    |      |
|------|-----|---------|-----------|-----|-----|-------|----|------|
| (15) | El  | maestro | presentó  | (a) | su  | mujer | a  | Juan |
|      | the | maestro | presented |     | his | wife  | to | J.   |

We have a sort of converse of the phenomenon illustrated in (13).

If what I’ve said is not too inaccurate, then we seem to have two kinds of regularities underlying the distribution of *a*. On the one hand, we have a functional motivation for the alternations in (13) and (15), but with reference to a semantic hierarchy; and they involve definite direct objects, which involvement thus correlates with a referential property. In (14) *a* marks an animate direct object that is either definite or consists of a (possibly indefinite) one-word-nominal; usage with the names of places varies. Thus, presence of *a* before objects is functionally and/or semantically determined.

Such phenomena are not uncommon: for more general and detailed discussions of ‘differential object marking’, see e.g. Moravcsik (1978), Hopper & Thompson (1980), Bossong (1985), Comrie (1989: §6.2). I would claim, indeed, that all of the localised instances of non-autonomy in §2 are typical. Of course, syntactic generalisations may become routinised, less or even insensitive to the semantic or pragmatic circumstances which determined them, as when topicalisation is converted into a ‘verb-second’ requirement. This is documented in studies of ‘grammaticalisation’ of word order in the tradition of Vincent (1980). But such phenomena are best understood against a background of assumed grounding.

However, rather than proceeding here with yet more examples of non-autonomy, I think we can demonstrate the non-autonomy of syntax in a more

general, and thus even more compelling way. For it is possible to show that the morphosyntax of syntactic categories in general is determined by the meanings of the categories. Let us now look at this more generally instantiated proposition – and its corollary that studies of syntax that ignore notional considerations lead to arbitrary analyses (based on arbitrary selections of distributional properties) only some of which might be, accidentally, appropriate.

### 3. The groundedness of syntactic categories

What I have to say is not new. It is in the spirit of the ‘traditional’, ‘notional’ grammars discounted by the ‘new grammarians’, such as Fries (1952), in particular – though we should acknowledge the problems with the practice of many of the former.<sup>4</sup> I argue that the kinds of inflection associated with syntactic categories and their basic syntax, the properties on the basis of which we establish the different classes, are semantically grounded.

Let’s take, for illustration, the most obviously agreed-on syntactic categories, verb and noun, distributionally distinguishable in all languages, even if perhaps not lexically recognised as such – i.e. given word-class status.<sup>5</sup> In notional terms, following particularly Anderson (1989, 1991, 1997), we can say that the prototypical verb represents an event, the prototypical noun an entity, where ‘entity’ and ‘event’ are cognitive categories. Prototypical verbs are *go, strike, give*; prototypical nouns are *girl, rock, sky*. Prototypical events are inherently dynamic and relational; prototypical entities are stable and perceptibly discrete. Event-denoters (verbs) prototypically take entity-denoters (nouns) as arguments.

These properties relate directly to the morphosyntactic behaviour of nouns and verbs. It is thus not surprising that verbs attract morphological categories such as tense and voice, for instance: tense depends on dynamicness; voice on relationality, specifically variation in how the relations between verb and arguments are expressed. Discreteness and stability of entities is associated with the predominantly classificatory morphology of nouns, i.e. systems of gender (in a wide sense), which signal persistent and palpable attributes.

The same holds for the distributional behaviour of verbs and nouns, with the different types of construction that they invoke. A consequence of this is that the assumption of semantic grounding eliminates a wide range of possible analyses of syntactic structure that can be shown to be incompatible with grounding, whatever other arguments are adduced in their favour. Semantic grounding is highly discriminatory. It excludes analyses that might be seen as plausible on the basis of a selective (or over-inclusive) view of the distributional phenomena involved. Any analysis which fails to respect the semantic properties of the classes will prove to be inadequate on other grounds, too. And its adequacy in relation to other analyses which also fail to do so will be ultimately undecidable. As with the establishment of co-allophones in the phonology, i.e. the establishment

of the composition of a minimal contrastive category, substance (phonetic or semantic) must be invoked; it is not enough to look for distributional relationships – which are, anyway, so much more complex in the syntax. Distributional phenomena need to be interpreted in terms of knowledge of what is semantically prototypical for the various classes. Not just any noun, for instance, will display the basic syntax of the class. Thus, inspection of the brute distribution of nouns as a whole can be misleading; non-prototypical nouns may display partially aberrant distribution, a partial distribution not shared with prototypical nouns, as we shall see. What is important is what nouns in general share in their distribution with the semantically prototypical.<sup>6</sup>

### 3.1 *The syntactic non-parallelism of nouns and verbs*

We can, for instance, on the basis of semantic grounding, immediately discount the X-bar theory of syntactic structure, which assumes parallelism in the structures projected by the different syntactic categories, such as noun and verb. This assumption is based on the kind of observations offered in Chomsky (1970) concerning distributional parallels between nouns and verbs. Let me be clear that I am not questioning the notion of headhood attributed by X-bar (and other) theories to syntactic constructions. What is incompatible with grounding is the assumption of parallelism between the constructions of which categories like verb and noun are the ultimate heads. Parallelism cannot be reconciled with the divergent prototypical semantic properties of the prototypical members of the categories verb and noun, semantic divergences which demand syntactic differences.

The divergence in syntactic behaviour between verbs and nouns is relatively transparent (see further, for instance, Anderson 2005a). Thus, verbs are subclassified in terms of the arguments they inherently take, manifested as complements and subjects. Verbs differ in the number and semantic type of arguments they take, as illustrated in (16) and (17) respectively:

- (16) a. John wept  
       b. John read the book  
       c. Mary gave John the book
- (17) a. \*The stone wept  
       b. \*The stone read the book  
       c. \*The stone gave John the book  
       d. \*Mary gave the stone the book

This variety in argument number and type reflects the relationality associated with representation of an event; it reflects the grounding of the category verb.<sup>7</sup> Prototypical nouns do not have an inherent argument structure. This is a not

unfamiliar observation: cf. here, for a relatively more recent instance, Grimshaw (1990). *Girl* and *stone* and *sky* are not subclassified in terms of the arguments they require. There are a few ‘relational’ nouns which require a complement:

- (18) a. front (of the box), side (of the box), end (of the line), ...  
 b. (Mary’s) father/husband, ...

But (18a) depart from prototypically; they are not discrete. And (18b) involve a very restricted domain and relation-type. Otherwise, we can associate argument structure only with nouns that are based on events, typically represented by verbs. This basis is made overt morphologically in a noun like *student* – which has, of course, been a favourite example to illustrate parallelism. But even here the parallelism is not exact, as we shall see.

We find the parallels of (19) involving the noun and its base verb:

- (19) a. Bill is a student of French  
 b. Bill studies French

The noun also allows the optional modifiers that we find with the base verb:

- (20) a. Bill is a student of French at Nottingham (University)  
 b. Bill studies French at Nottingham (University)

The ‘derived’ noun apparently shows the same complements and adjuncts that we can associate with the base verb.

There is a difference, though. Although with many verbs complements normally must be overtly expressed, with ‘derived’ nouns in English this is never the case:

- (21) a. Percy murdered (Douglas)  
 b. Percy is the murderer (of Douglas)

Given this, and given the fact that (in English and many other languages, at least) nominal complements are marked by adpositions (or by a distinctive, genitive inflexion), Grimshaw (1990) regards even ‘event’ nouns as not assigning thematic roles. Anderson (in press b: ch.9) suggests that these ‘arguments’ are in apposition with lexically absorbed thematic-role-bearing ‘complements’; they are adjuncts like passive *by*-phrases. This distinction is not too important here, however. For more striking still is that nouns allow a distinct kind of modification from the adjuncts shared with base verbs.

As in (20), the noun modifier in (22a) is matched by an adjunct in (22b):

- (22) a. Bill is a diligent student of French  
 b. Bill studies French diligently

But the modifiers in (23a) have no verbal equivalent:

- (23) a. Bill is a foreign/pubescent/rotund student of French  
 b. \*Bill studies French foreignly/pubescently/rotundly

The noun modifiers in (23a) are not adjunct-equivalents; they belong to a distinct distributional class that we might refer to as attributives. In English, as is familiar, attributives typically occur ‘outside’ adjuncts and complements:

- (24) a. a rotund Nottingham University French student  
 b. a student of French at Nottingham University of large girth

The elements associated with the base verb, the equivalents of complement and adjunct, come closer to the noun head than the attributive; and the complement comes closer than the adjunct.

Attributives are also available to prototypical nouns, as in (25a), even though they lack complement- and adjunct-equivalents:

- (25) a. a foreign/pubescent/rotund girl  
 b. [[stud(y)]<sub>v</sub>ent]<sub>N</sub>  
 c. [girl]<sub>N</sub>

As we might expect, then, the ‘derived’ noun combines aspects of the syntax of noun and verb: the complement- and adjunct-equivalents in (24) are licensed by the component verb shown in the rough representation in (25b), while the attributive is licensed by the noun category. But the prototypical ‘non-derived’ noun of (25c) allows only attributives. It is such nouns that reveal the basic syntax of the noun. The distribution of non-prototypical nouns is misleading, in suggesting a parallelism with verbs.

Attributives provide for more detailed classification than the inherent classes of the noun, classification that is syntactically optional; they are thus to be expected with a category like noun, which is semantically inherently classificatory by virtue of the stability and discreteness of what it prototypically represents.<sup>8</sup> Contrast both (verbal) adjuncts, which typically introduce contingencies to do with space and time or qualification of the mode of participation (manner, purpose etc.) of a particular argument of the (prototypically dynamic) verb, and complements which implement the relationality of the verb.

The syntax of verbs and nouns is not at all parallel, except where the noun is complex; where it involves a verbal component. Certainly, verbs and nouns can both be predicative, as can adjectives:

- (26) a. Bill studies French  
 b. Bill is a student  
 c. Bill is studious

But typically in languages non-verbal predications can be finite only indirectly, via an overt copula, as in (26b-c). The presence of a ‘copula’ is much less com-

mon with verbal predications (cf. e.g. Stassen 1997, Pustet 2003). Otherwise, the syntax of nouns is universally very different from that of verbs, reflecting basic distinctions in grounding. And this will not be revealed in the distribution of just any noun: the distribution of the semantically prototypical is crucial (see again note 6).

A framework that attempts to articulate explicitly the role of the notional characterisation of syntactic categories is offered in Anderson (1997, in press b: Part III). Here I merely provide some motivations for the implementation of such a programme, based on the inadequacy of X-bar theory, whose claims, in so far as it can be said to make any distinctive empirical claim (Kornai & Pulum 1990), are false.

### 3.2 *Event-based nouns and lexical structure*

Of course, the verbal basis of some nouns that show ‘verbal’ argument-structure may not be marked overtly in the morphology. I am thinking not just of conversions, such as is associated with the ‘action’ nouns *walk* or *dive*, but also of nouns for which there is no lexical base verb. Take (27a), for instance, involving a noun, *pilgrimage*, that represents an entity that involves an inherent event (a journey):

- (27) a. Lisa’s pilgrimage to Santiago  
 b. pilgrim

The noun in (27a) is overtly based on the noun in (27b), which represents an entity that participates in this kind of event. There is (to my knowledge) no single verbal lexical item in Present-day English to serve as the base for either of the nouns. All we do have are verbal ‘periphrases’ involving these very nouns, as in (28):

- (28) a. Lisa went on pilgrimage to Santiago  
 b. Lisa made a pilgrimage to Santiago  
 c. Lisa wants to go as a pilgrim to Santiago

Nevertheless, the semantic non-prototypicality of *pilgrimage* we can associate with a verbal base unrealised as such: it is the verbal component ‘incorporated’ in *pilgrimage* that allows the complement filled by *to Santiago*.

This can occur even in the absence of the ‘periphrastic’ verb, as in (29a):

- (29) a. A pilgrimage to Santiago is his dream  
 b. His walk to Santiago exhausted him

The *to*-phrase in (29a) is sanctioned by the verbal (event) component of *pilgrimage*, just as the *to*-phrase in (29b) is associated with the event represented by



Saussure (1916: part 2, ch.6, §3), for instance, did not reject relations between lexical items that are not signalled, that are ‘unmotivated’. It is in accord with the tradition defined by his work to recognise that there is a place in grammar for lexico-syntax, syntax that is sensitive to lexically-internal categorial structure that may not be signalled overtly. This involves the recognition that there are aspects of syntax that appeal to lexical structure without that lexical structure being made overt morphologically. (For the implementation of a neo-Saussurean view along these lines, see Colman & Anderson 2004.) It is in that spirit that we might suggest that *pilgrimage* is a categorially complex item in other ways than are made overt by the suffix attached to it. It is this complexity that is reflected, in particular, in its non-prototypical, partially verbal syntax. Linguistic form involves lexical structures that are both overt and covert.<sup>9</sup>

This is not to suggest that the syntax of lexically complex items is identical to the syntax of ‘periphrases’: this was one of the major problems associated with the transformational (syntactic) derivation of such lexical items that was proposed by the ‘generative semanticists’ (see e.g. Lakoff 1965, Postal 1971, and such responses as Fodor 1970, Kimball 1970). Nor do I have in mind a ‘decompositional’ approach such as is advocated by Dowty (1979, 1989, 1991) and others. Rather, I’m suggesting that complex semantically based lexical structures, involving lexically ‘derived’ combinations of syntactic categories, underlie part of the syntax of lexical items that are atomic in expression as well as of those that are overtly ‘derived’. These covert lexical structures are due to the same type of ‘derivational’ processes as overt morphological structures (and do not incorporate syntactic structure). However we cannot demand that in any particular language there will be either ‘periphrases’ or overt morphologically ‘derived’ forms parallel to posited non-overt, ‘non-motivated’ (in Saussurean terms) lexical structures. See again Anderson (in press b: Parts II & III) for more explicit articulation of what is being suggested here.

#### 4. Conclusion

I’ve traced here something of my understanding of the evolution of notions of autonomy in twentieth-century American linguistics, culminating in the ‘autonomy of syntax’ principle. The earlier assertion of ‘global’ autonomy was important for the evolution of linguistics, as expressed by Bally (1952: 152):

En un mot, la définition saussurienne de la langue, et celle-là seule, confère à la linguistique le caractère d’une science autonome et une; ...

And, it seems to me, maintenance of autonomy remains appropriate, when appropriately constrained. The most important constraint is supplied by the grounding of the formal categories of linguistics in notional and phonic substance. I’ve tried to show here that the ‘autonomy of syntax’ principle, which

eschews grounding of the syntax, cannot be maintained without not just an otherwise unmotivated sacrifice of the traditional delimitation of what constitutes syntax but also not without abandoning any attempt at explanation of the basic syntax of syntactic categories.

It is not just that, as suggested by McCawley's comment cited in footnote 2 – and as confirmed by the evolution of ideas in various areas of syntax (such as 'theta-roles', reflexivisation, 'control') – that '... it is far from obvious ... that those grammatical rules that can be stated in purely syntactic terms add up to anything, let alone the whole of "syntax"'. But the categories themselves impose on syntax the requirements of their different notional characters.

Categories and their syntax are not to be established by giving equal weight to any and all distributional properties or to all potential members. Only the properties of the prototypical use of semantically prototypical members of the category are relevant to identifying the basic distribution of the category. Other aspects of distribution correlate with various sorts of non-prototypicalities of membership or use. It is not only necessary to include semantic considerations in syntax, provided they are used to interpret and evaluate distributions, but it is impossible to exclude them, if one is to be able to interpret and evaluate distributions appropriately.

I thus have argued here that categorial autonomy must be complemented by grounding: internal distribution and groundedness are individually insufficient to fully account for the behaviour of linguistic categories – specifically syntactic categories in the present instance.<sup>10</sup>

Descriptively adequate and explanatory categories are not arrived at on the basis of an arbitrary selection of observations concerning distribution; and arbitrariness is not disguised by the attribution of the selection to 'universal grammar'. There is no autonomous formal or substantive property that has been shown to be unique to language. In these circumstances, the important question concerning 'universality' is this: which of those linguistic properties that recur universally reflect the result of continuing interaction, during acquisition, of cognitive capacities with the partly routinised structures of the individual languages being learned? And which of them are genetically transmitted linguistic routinisations – that is, properties that have lost grounding, are autonomous to that extent? The set consisting of the latter properties constitutes 'universal grammar'. It is not clear that this set is non-empty.

One's position on 'autonomy' and 'universal grammar' depends on how one interprets the undeniable mismatches between semantics and syntax. Some mismatches are lexical, so that, for instance, the membership of syntactic classes may include non-prototypical examples; but others are structural. Syntax shows what I have called 'routinisations', syntactic generalisations that are not obviously grounded.

One reaction to these is to assume, despite the evident groundedness of much of morphosyntax, that syntax must be studied as autonomous. Given this, analyses of the syntax of individual languages and of its acquisition will have to appeal to formal devices of such abstractness that the positing of an innate ‘universal grammar’, as the source of such unlearnable ‘abstract principles’, becomes plausible. But there is a suspicious circularity here, or at least mutual dependence, involving ‘autonomy’ and ‘universal grammar’, as well as there being so far no systematic account in such terms of the prevalence of groundedness, or of the relative distribution among and within languages of matches and mismatches between syntax and semantics.

Suppose, on the other hand that one regards the mismatches with semantics that occur in syntax as parasitic upon a syntactic system that is grounded in semantics. These mismatches are then evidence of language-particular routinisations (or ‘grammaticalisations’) imposed on a syntax based on groundedness. The question then arises: why are some of these routinisations, such as subject-formation, so prevalent, if not universal? Do they not, after all, reflect an ‘autonomous’ ‘universal grammar’? But this prevalence may simply reflect the recurrence in languages of the same (grounded) circumstances that favour the development of the routinisations. Thus, subject-formation is favoured by the frequent coincidence of ‘agents’ and ‘topics’, as well as by the functional utility of there being a designated argument that can be identified as victim of e.g. ‘raising’ and ‘control’. Thus, the favouring circumstances are grounded and functional, not ‘autonomous’.

We have, then, in classical terms, something like an ‘anomalist’ approach (based on the assumption of the ‘autonomy of syntax’, whereby syntax does not systematically match phonology in terms of the nature of its alphabet) vs. an ‘analogist’ one (which is based on the assumed groundedness of syntax as well as phonology). Only the former implies the necessary invocation of ‘universal grammar’ in the Chomskyan sense.

## Notes

- \* This is based on a talk given at the Institute for Logic, Cognition, Language and Information of Euskal Herriko Unibertsitatea (the University of the Basque Country), Donostia/San Sebastián, as part of ‘Perpau’, the Peripatetic Seminar on Language, Computation and Cognition, June 2004. This was organised by the Équipe de Recherche en Syntaxe et Sémantique, Universities of Toulouse-Le Mirail and Bordeaux 3, the Institut de Recherche en Informatique de Toulouse, University Paul Sabatier, the Centre de Recherche sur la Langue et les Textes Basques, Universities of Bordeaux 3 and of Pau and the Pays de l’Adour, and the Institute at Donostia. I’m grateful for the lively discussion provoked by the talk, among an audience of Kepa Korta and his colleagues which included Michel Aurnague, who coordinated the whole ‘peripatisation’. I cannot omit to register too my appreciation of the generous hospitality of the members of the Institute. The content of the talk had already benefited from conversations with Fran Colman, as usual.

A preliminary version of the talk appeared Anderson (2004b). A much fuller version of the history outlined in §1 of the present paper appears as Anderson (2005b); the material of §2 is also discussed in Anderson (2005c). The present version benefited enormously from the helpful and perceptive comments of two reviewers for *Folia Linguistica*, as well as from suggestions of Roger Böhm. None of these commentators are to blame for what I have made of their collective wisdom.

- 1 There is, apart from anything else, a discrepancy in understanding of the significance of planar dominance. For the ‘Bloomfieldian’ it was desirable, indeed necessary, that the dominant plane should be one that they could see as being grounded. This is not a desideratum for the ‘transformationalists’. Indeed, groundedness has led some to evict phonology from ‘universal grammar’ – see particularly Burton-Roberts (2000). On these issues see further Bermudez-Otero & Honeybone (2005) and other contributions to the collection they edit.

For a discussion of the changes in philosophical attitudes associated with the Chomskyan innovations see Koerner (1978: §1.3). However, it does not seem to me that the effect of these was to widen the scope of linguistics to include psychology and philosophy (*pace* Lyons 1970: 96). Rather, insistence on ‘autonomy’ has excluded from relevance to linguistics psychological studies and philosophical attitudes that do not insist on ‘autonomy’ and its consequences (‘universal grammar’, ‘innateness’ etc.).

- 2 On this arbitrariness compare McCawley (1985: 669), who comments that even if there are ‘autonomous’ syntactic regularities:

... it is far from obvious ... that those grammatical rules that can be stated in purely syntactic terms add up to anything, let alone the whole of ‘syntax’.

Autonomy from phonology can be maintained by a similar strategy to that we are discussing here. See further in this connexion note 9.

- 3 The main other set of ‘full verbs’ that take the bare infinitive is a subset of ‘verbs of causation’ in (i), as discussed in Anderson (in press a):
  - (i) a. He let the butler leave
  - b. He made the butler leave
  - c. He had the butler leave

With them we can contrast in this respect the causatives of (ii), where we find rather the periphrastic infinitive as complement:

- (ii) a. He allowed the butler to leave
- b. He caused the butler to leave
- c. He got the butler to leave

Now, these introduce other considerations than we found in the case of the direct perception verbs, including the discrepancy between (i) and (ii), and I shall not pursue these here. But at least the possibility is associated again with a further semantic class of ‘full’ verb.

For a discussion of the classes of ‘full’ verbs that take the bare infinitive and their history in English see particularly Fischer (1990: §4.6.2.3 – and also 1995, 1996). The description of the direct-perception verbs presented here is based on her observations and proposals.

- 4 This is not the place to rehearse the familiar objections to the practice of ‘traditional’, at least partially notionally-based, grammars. Part of the problem is the inconsistency to be found in many of them, their uncontrolled eclecticism. It has long been clear that these objections do not constitute an obstacle to the development of grounded syntax (see e.g. Lyons 1966, 1977: ch.11). And a notional viewpoint has surfaced more recently in such studies as Givón (1979) and Croft (1991, 2001), for instance, as well as Anderson (1989, 1991, 1997, in press b).
- 5 It has been argued that there are languages (e.g. Nootka) which lack lexical classes corresponding to noun and verb; these have a single class, of, say, ‘contentive’. However, even if

this is so, it is still possible to distinguish noun and verb as syntactic categories, associated with different structural projections; and it may be that certain lexical items prefer to occur as one or the other, even if they may occur as both. For references and some discussion see e.g. Broschart (1997), Mithun (1999: §2.3), contributions to Vogel & Comrie (eds., 2000).

- 6 Indiscriminate use of distribution leads Gary-Prieur (1994) to declare that (proper) names have the distribution of (common) nouns. Anderson (2003: 390) observes “names” can occur in many such positions only by virtue of undergoing conversion into less typical name-types or into common nouns’ (as in *I liked the Brahms*), and he argues that the basic syntax of names and nouns is very different (see too Anderson 2004a). As with determining the status and syntax of other categories, we need to look at the distribution of prototypical names used prototypically.
- 7 It is immaterial to object that the anomalies in (17) simply reflect our perception of the ‘real world’, rather than syntactic categorisation. Syntactic categories are grounded in this experience. Moreover, different languages carve up the ‘real world’ in different ways; our perceptions cannot be said to be completely determined by properties of the ‘real world’ or their interaction with our innate capacities. This is basic to a notional grammar.

Baker (2003: 290) contrasts the notional view assumed here and advocated in e.g. Anderson (1997) (as well as other alternatives) with his own view, which ‘is syntax-centered, defining verbs in terms of having a specifier, nouns in terms of C-commanding something with a referential index, ...’. But even if these ‘definitions’ are adequate, they are clearly based on grounding: ‘having a specifier’ is a reflection of the relationality of verbs, and the definition of nouns is overtly based on reference.

- 8 Sequencing of co-occurring pre-nominal attributives, such as those in (i) is also governed by rules that have no parallel in the syntax of verbs:
- (i) many other strange traditional American academic customs

For some discussion and references see Anderson (2005a). Of course, we can always (again) declare such phenomena ‘not syntax’. Given the pervasiveness of grounding and its syntactic consequences, pursuit of this strategy leads, however, to an ‘autonomous syntax’ that is almost empty of content.

- 9 I stress again that this does not involve the attribution of internal syntactic structure to individual lexical items. For such phenomena as we have considered, what is required is simply that lexical items involve hierarchies of categories (where the complexity may or may not be signalled); we need not appeal to internal sequencing (see again Anderson in press b).

Formal ‘associations’ on the content plane may also be expressed by what Bloomfield (1933: 163) calls ‘modulations’, which is the use of ‘secondary phonemes’, ‘phonemes which do not appear in any morpheme, but only in grammatical arrangements of morphemes’, i.e. grammaticalised intonation. Of course, one may decree that this is unrelated to syntax. But the same content category may be expressed by modulation or by construction (plus modulation). Consider e.g. (i), where *John* bears ‘contrastive intonation’ (to be no more precise):

- (i) (It’s) John (that) loathes the cat

*John* is the ‘tonic syllable’, to put it another way. This suggests that as well as lexico-syntax we need to allow for ‘lexico-syntactic phonology’: intonational phenomena are lexicalised to combine with the structures projected by (other) lexical items in the formation of sentences. Some semantic distinctions are expressed by a combination of syntax and phonology. Failure to recognise this arises at least in part from the obsession of many syntactic theorists with formal written language, which reinforces the ‘autonomy’ assumption.

10 I have concentrated here on evidence for grounding that is incompatible with the ‘autonomy of syntax’ assumption, particularly as developed within transformational grammar. But as a consequence of the treatment of (problems arising from) the transformation that has been suggested over the last few decades, there has evolved a still more radical claim to autonomy. In the transformational frameworks current over the last quarter of a century the presence of transformations is accompanied by the positing of ‘empty categories’. These are categories that are not associated with a Saussurean sign: they belong to units of content form that do not enter into a ‘sound–meaning correlation’; there is no correlated unit of sound. Unlike the ‘virtual’ verb discussed in §3.2, they are not associated with a correlated unit: the verb is associated with such a unit, even though its presence is not overtly expressed. They involve recognition of a new unit of form, one that is not correlated with form in the other plane. They thus weaken the role of the sign in regulating the establishment of units: there are units of content that are uncorrelated.

Moreover, though the ‘empty categories’ play a role in semantic interpretation, they are allegedly established independently of this role; they are ‘autonomous’. Thus, given the absence of a sign relation, they belong to – or are – units of content form (syntax) that involve a radical autonomy, rather than merely the categorial autonomy I have described here: these are syntactic elements that have no phonology (and so no phonetic grounding) as well as no semantic grounding. In this respect, their adoption goes beyond any notion of autonomy that we can associate with Bloomfield or de Saussure. It represents a major step in the further development, or rather deterioration, of twentieth century structuralism. As suggested in Anderson (2005a), it is a step that is unnecessary, as well as being incompatible not only with grounding but with the Saussurean restrictions on sound–meaning correlation embodied in the concept of the sign. – But that is another story.

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