Non-count Noun Determiners: Where is the Feature?

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2001

This paper attempts to locate and account for a specific *D-feature*, shared only by a handful of (D)eterminers, which seems to allow for the modification of Non-count Nouns via a Spec/Head/Comp relationship within the DP. We examine evidence in connection with a class of Determiners that leads to the assumption that syntactic constraints may restrict some items to certain expression. In examining the role the Determiner plays in projecting Non-count Nominal expressions, we conclude by saying that one can no longer adhere to previously held notions of a pure category class of lexical items, particularly among the functional categories, and an effort is made toward applying a 'finer-grained' analysis to the items themselves, placing a greater emphasis on inherent grammatico-semantic features internal to the lexical item itself. This approach coincides with recent work in Feature Theory as understood in Chomsky (1995).

0. Overview

There is no question that certain Determiners do impose tight restrictions on the selection of Nouns they can modify. Regarding non-count noun determiners, these restrictions are syntactic in nature and relate to grammatical number. Non-count Nouns, their number feature, labeled herein as [-COUNT], are said to be 'inherently singular' in number—i.e., they are nouns that never take the plural [+s] e.g., (*furniture/*furnitures*) (asterisk* marks a syntactically ill-formed sentence). Following this up, we can stake out early on in our discussion three types of selective determiners:

(a) Determiners like *The* which can modify any kind of noun [+/-COUNT]
(b) Determiners like *Enough* which can modify [+Plural] and non-count nouns
(c) Determiners like *An/A* which can modify only a singular [-Plural] count noun.

These restrictions can be readily expressed in broad terms, showing the selectiveness of number sensitive Determiners toward their Noun complements: viz., *(i)* the determiner *A* modifies a singular count Noun (*A chair/*chairs/*furniture*), *(ii) Much* modifiers a singular non-count noun (*Much furniture/*chair/*chairs*), *(iii) Several* modifies a plural count noun (*Several chairs/*chair/*furniture*), and *(iv) More* modifies either a plural count noun or a singular mass noun (*more chairs/furniture/*chair*). As stated above, non-count

nouns have no 'plural' due to their inherent singular meaning—hence, they can't be pluralized. However, as we shall see in this paper, such Non-count Nouns may be sensitive to number agreement. The distribution of such determiners has come to be captured by the following binary feature distinction [+/-COUNT]. For example, the D(eterminer) *Several* in example (iii) would contain, as one part of its lexical properties, a grammatical feature [+PLURAL] which would specify that only such nouns with the matching nominal ϕ-feature [+PLURAL] could serve as a possible complement of the D, as borne out in the following sentence: *I have [DP [D several] [N books/*book/*furniture]] in my room.* More specifically, there are only a handful of determiners that can modify Non-count Nouns (e.g., furniture/butter/milk/salt/sand etc.). They are identified herein as the following class: Determiners *the, this, that, no, some, a bit of, little, less, much, more, most, all* as well as an overlap of polarity determiners which form Question or Negative constituents *any,* and *some* (see §4). All of the aforementioned determiners may modify Non-count Nouns: e.g.,

(0) John has *the/no/some/a-bit-of/less/little/much/more/most/all* furniture.
Is there *any/some* furniture? (Polarity Question)
There isn't *any* furniture (Polarity Negation).

Many of these same determiners share the potential of being either contrastive or non-contrastive in other distributional paradigms. In this short paper, we look at recent developments in *Feature-Checking Theory* (as outlined in Chomsky 1995) and see if

(i) an already established common feature might be deduced in accounting for the highly selective nature of their Non-count-Noun modification, or if no common feature can be drawn out,

(ii) to devise a separate feature which is semantically based on referential properties which may show some sensitivity toward number.

1. Introduction: Feature Theory

In what could be seen as a natural extension of morphologically driven subcategorization features, the internal mechanism of features which underpin specific lexical items has now become the playing field for much of what goes on in syntactic theory. Whereas a certain amount of achievement was sustained early on by such traditional *categorical-based* models (i.e., word-level or lexical level subcategories), efforts to account for seemingly idiosyncratic distinctions among individual word items themselves failed. For example, categorical-based models classify words in a general class according to parts-of-speech, (noting that a word such as *joke* would take a plural [*S*] (*joke-s*) => word class: [+NOUN] [-VERB]), but not the word *jokingly*, *(*jokingly-s*) => word class: [-NOUN] [+ADVERB]). Although the models suggested that there had to be something in the internal make-up of the general lexical items (*per se*) that either allowed or disallowed certain types of inflections and/or complements, no real attempt was made to account for differing behaviors and distributions of particular words of the same class (the topic of the this paper). In other words, while a category-based model provided a broad description of the bundle of words which made up a category (N, V, Adj, Adv), it provided no outlet for describing crucial differences found between words within the same category: e.g., traditional notions of count vs. non-count nouns, etc. There seems to be no way to handle

the distinction of the two nouns without separating them into two-categories (*mass* and *count*). While the two-category approach would certainly capture this refined difference between the two, it would do so at the expense of abandoning the larger and more important 'Noun' word-class similarity between them. What seems to be needed in this case are finer gained models which *(i)* divert lexical analyses somewhat away from the actual word-class itself (but not at the expense of the class), and rather *(ii)* examine the possible arrangement of the precise lexical internal features (i.e., subcategorial features) which factor in such differences between words of the same class.

On the heels of such analyses, a methodological paradigmatic shift occurred which sought to define 'word-bundles' as 'feature-bundles'. More recently, under Chomsky's vision of a Minimalist Program for linguistics (MP), much has been written about the precise make-up of these individual (+/-BINARY) features (semantically and/or morphologically based).[i] Early explicit calls for this separation between the category item and its features, under MP assumptions, takes place when Chomsky (1995: 35) states that certain features of Nouns, (termed phi-features or ϕ-features: person, number, gender), define, to a large degree, the items' scope of selection. In essence, Chomsky's 1994 version of Merger Theory does away with fixed sets of labels for functional projections CP, IP, DP as provided by UG, and rather adopts the position that functional projections are feature bundles—their properties determined by their head-features. Exciting new proposals have been put forward suggesting how such features should be independently defined, and how they might even be extracted from out of the word itself: viz., zero allomorphic features which exist in analogy only, despite absence of phonological visibility (as shown in the structure in (3)), and conversely, overt Tense/Agr Inflections whose features may even be extracted from its lexical Verb-base stem as in feature percolation to IP (i.e., raising in English). To make matters more concrete, Nouns have two sub-classes: traditionally termed *common nouns* and *proper nouns*. Using the present terminology herein, we would state that a specific grammatical feature in the Noun signals this distinction, labeled here as [+/-COMMON]. It is this precise Noun feature which renders a given modifying Determiner acceptable or not: noting the sentences e.g., *(i)* Do you like to visit *the *New York/America?* [=Proper Noun], *(ii)* Do you like to visit *the capital/ocean/city?* [=Common Noun]. What is happening here is that Common Nouns can freely be modified by determiners *The,* whereas Proper Nouns cannot. (Note that if one so desired to treat proper nouns as having common noun features, such as the feature [+/-NUMBER] in that more than one New York may exist in the mind—one for the rich and one for the poor—then it would be conceivable to state e.g., *The New York that I know...*, etc.. The use of *The* here conjures up referentials of singular vs. plural number. (This notion of *Reference* will come up again in the context of Non-count Nouns later in this paper). Under this Feature-Matrix approach, both the specific lexical features embedded in the lexical item as well the lexical item itself partake in the particulars of syntax. Consequences of this new approach are now being played out regarding Child Language Acquisition (cf., Clahsen's (1994) *Lexical Learning Hypothesis*).[ii] In the context of child language acquisition, Clahsen (following Chomsky) states that—*there is no fixed set of labels for functional projections CP, IP,..provided by UG; rather, functional projections are features of bundles, and their properties are determined by their head feature* (ibid: 6). Questions such as how such features interact within certain syntactic spec-head-comp relations and

configurations have become the cornerstone of MP: notably, how such features interact among varying items among functional categorial phrases DP, CP, and IP

2. Determiners and Non-count Nouns: Three Conjectures

This paper attempts to locate and account for a specific feature shared by only a handful of Determiners (Det) that seems to allow Non-count [-COUNT] Nouns to sit as its complement. Determiner Referentials *the/a, this/that, these/those*; Genitive *my/your, his/her, our/their*; as well as Cardinal numbers one/two/three..., Quantifiers *no/some/less/little/more/many/every/a lot of* all of which make-up a single broad ranging functional category which predominantly serves to introduce a Noun (N) or Noun Phrase (NP).[iii] However, as indicated above, there is also a wide range of specificity that accompanies such Determiners which has often gone unnoticed in the literature. Regarding the number feature in particular, it immediately becomes clear that a certain sub-class of determiners are sensitive to number—Sing(ular) and Pl(ural). Consider the following examples below:

(1)

Singular	Plural
a. This [-pl]	c. These [+pl]
b. That [-pl]	d. Those [+pl]
a' *This books/This book	c' . *These book/ These books
b'. *That books/That book	d' *Those book/ Those books

(2)

a. A [-pl]	b. The [+/-pl]
a'. *A books/book	b'. The books/book

(* marks ungrammaticality. The feature [-pl] (minus plural) simply indicates that the determiner *A* exclusively selects for +present.)

There are many more examples where these come from. The point here is that Determiners certainly do hold certain sensitivity to number [singular *vs.* plural]. The next step is to examine a class of DP complement Nouns which likewise hold a certain sensitivity toward number, mainly *Non-count* Nouns (often termed Mass Nouns): (i.e., furniture/sand/salt/butter/mile etc.). Whereas Count Nouns refer to 'concrete' objects that are considered to be separate entities (i.e., +*Individuatable*), Non-Count Nouns/Mass Nouns refer to possibly more abstract and 'non-concrete' substances that are inseparable (i.e., -*Individuatable*). Non-Nouns cannot take certain determiners as their Specifiers that would otherwise specify and project the Head-feature of number onto the Noun. Consider the following examples below illustrating the relevant Head-features on the Determiner (=> [D'[D-Head]]) in association with a non-count noun complement such as the non-count noun *furniture*:

(3) DP — Features considered: *{ Number: [Pl(ural), Sing(ular)], [Def(initiness)], and [Gen(itive)] }.*
/ \ — The DP as shown here is reduced
D D' — in that the Noun doesn't project a
| / \ — a potentially functional phrase
| D N — (FP) as seen in (13) below.
| | | — Head-feature:

*(a)	A ø	furniture	=> [-Def, +Sing]
*(b)	Many ø	furniture(s)	=> [-Def, +Pl]
*(c)	These ø	furniture(s)	=> [+Def, +Pl]
*(d)	One ø	furniture	=> [-Def, +Sing]
(e)	John 's	furniture	=> [+Def, +Gen., +/-Pl]
(f)	The ø	furniture	=> [+Def, +/-Pl]
(g)	My ø	furniture	=> [+Def, +/-PL]
(h)	No ø	furniture	=> [+Def, +/-Pl]
(j)	Some ø	furniture	=> [-Def, +/-Pl]

(4)

a.*A furniture	e-g. *John's/The/my furniture* is in my room
b.*Many/several sand	h. *No/this/that/most sand* sticks to my feet.
c.*These furniture(s)	i. He doesn't have *more/much/any furniture*.
d.* One furniture	j-k. There is *some/no furniture* in the house.

Clearly, in addition to positing that all the above determiners fall into a general Det-class, there must be an additional property that distinguishes the feature (indicated by the Head-Feature zero allomorph Ø) of number sensitivity. At first glance, it seems that the tale-tell feature lies somewhere between the Definiteness and Indefiniteness of *The* and *A* (4a/e) insofar that *A* is sensitive to number (the article *A* must take a singular Noun) and *The* is not (cf. 2). (There is something to the notion that Determiners that can modify Non-count Nouns typically tend to be Indefinite). On first try, a story could be devised suggesting that Definite *The* may enter into a Non-count Nouns relationship by virtue that it holds a weak sensitivity to number—this would be apparent from its selective scope found in (2b). The conjecture would go as follows:

(5) Conjecture #1: *'The wrong one'*

> Since Determiner *The* seems to bear no number sensitivity, count as well as non-count nouns can function as its complement. This is borne out in (4e). As a consequence, the determiner *A*—sensitive to number insofar that it must select for a [N, -Plural] complement—becomes illicit. In this conjecture, it would be this number sensitivity factor that would render **A furniture* illicit.

However, this cannot be the whole story. Recall, not only is *A* sensitive to number, but so too are the demonstratives *this/that, these/those* as shown in (1). Moreover, number sensitive can't be the whole story since the Determiner *Little* seems to modify inherently *Singular* Non-Count Nouns despite its inherently *Plural* properties: (cf. John has *little toys* (=a small about of) [+Pl], vs. *John has *little toy* [-Pl] vs. John has *little furniture* in his room). Hence, a potentially strong uniformity view that Non-count Noun Determiners all

have no inherent number to speak of it simply wrong. Let's flesh this out by taking a closer look at just how these number sensitive determiners play out here. Well, where one would predict ungrammatical structures for the above Demonstratives Non-count Nouns, owing to their apparent sensitivity to number, they are nonetheless acceptable in (6).

(6) a. *This/that furniture* is ours.

It appears that a still finer grained selective measure must be involved. Recall, that Conjecture #1 states that *The* is acceptable precisely because it doesn't care about the number-feature on its complement: cf. The book *vs*. The books. (It would appear that *The* contains some form of default setting for number and so is indifferent toward the feature, hence, both are permitted). If we take the same line of reasoning with e.g., *this/that* and *these/those* (since they too are sensitive to number with regards to +/-Plurality) we would wrongly predict the former's acceptability in (6) to be ungrammatically marked, but it is well formed. Moreover, recollect that it just can't be as simple as saying Singular Determiners select Non-count Nouns because, as we have already attested, the [-Pl] Determiner *A* doesn't work (cf. 4a), and in addition we have apparent possible counter example as seen in the following sentences (cf.4g/h): (e.g., I have *enough/more/some* *table/tables/*chair/chairs/furniture). Certainly, the determiners *enough, more* and *some* seem to exclusively select for either *(i)* plural count noun or *(ii)* non-count noun. What is going on here? Well, as it turns out, we must refine our story somewhat to account for the possible selection of such apparent number sensitive determiners as *this/that* over *these/those* etc. toward non-count nouns (Conjecture #2 below).

(7) Conjecture #2: *'The partially right one'*

In order to account for the number selection of determiners, we have to look to one additional selective property of determiners—namely, the subcategorial feature of Referential-Det. [+R/-Q] vs. Quantifying-Det. [-R/+Q].

(i) Determiners [+R] make-up the list e.g., *the/this/that/these/those/my/our,* and are responsible for the denoting reference of nouns.

(ii) Determiners [+Q] make-up a semantic gradient list (basically quantifying a semantic scope of 'None-to-all'): e.g., *A/no one/some, two/any, (a)couple/a bit of, (a)few/little, none/much, many/more, several/most every/less*

All determiners in *(i)* make-up a class of R(eferentials), and, except for the determiners *these/those* marked for [+Plural] number, can by default modify non-count nouns. Regarding the demonstrative determiners (*this/that, these/those*), although they make-up what is often referred to as system morphemes (i.e., functional categories), they nonetheless share a general deictic function which may be seen as highly lexical in nature (hence, their [+R] status). Demonstratives are generally deictic in that they are ostensive and 'point directly' so that their values are determined locally and are context specific. The determiners in *(ii)* are responsible for denoting a somewhat less ostensive role: a sub-class of these less deictic Q(uantification) nouns promote number sensitivity toward D which will come to affect the selection of Non-count nouns. (Note above that the Determiner *A*

has been reorganized as a [+Q] Determiner, and not an [+R] Determiner, for reasons having to do with its semantics of quantity—the indefinite determiner *A* semantically shows gradient opposition towards *some,* unlike *the* which only pertains to referential aspects). Out of the Determiner [+R] class, all default [+singular/-pl] Determiners *the* and *my/our* etc. can select a non-count mass noun precisely because—

> *(i)* their general notion of referentiality doesn't place any condition on number, and among the [+R] determiners *this/that/these/those*, only *this/that* apply because
> *(ii)* the feature [+singular,-pl] acts somewhat as a default setting which closely correlates with the conditions placed on inherently singular non-count nouns.

So, in a limited sense, number sensitivity does apply, but only after we have substantially sifted through an entire range of other D-feature specificity. It may be that core Referential Determiners don't include as part of their D-feature specificity the notion of number. (Hence, the grammatical function of number found in determiners *this* vs. *these* may have more to do with Agreement features on the Head of D and not Referential features *per se*)—the sole semantic function of Det.[+R] is to express entities (e.g., objects and concepts). Out of the Det.[+Q] class above, (and the list is by no means exhaustive), it becomes apparent that only select (underlined second order) grades of quantifiers can take non-count nouns: specifically—

> *(i)* only the second determiner of each gradient pair can modify non-count nouns: (e.g., *-/no, -/some, -/a bit of, -/much, -/more*, etc.). Why this is will be briefly addressed in §§3, 4).

All this leads to our third and final conjecture:

> (8) Conjecture # 3: *'The correct one'*
>
> The following rules apply to the acceptability of determiners with non-count nouns:
> (a). Any [-Pl] Determiner that is marked for [+R] can select a Non-count noun: their semantic referential properties place no conditions on number.
> (b). Only second order gradient Determiners marked for [+Q] can select Non-count nouns.

It is at this point that we can now rightly shift out focus of attention to more overriding problem of defining exactly what these 'second order' gradient determiners are.

3. Gradient Determiners

In one of Eric Lenneberg's later classic papers,[iv] an early attempt was made—using what would become a modern day linguistic framework—to sort through the convolution of semantic grades of class determiners. One of the first claims to be made was that an ordered overlap exists in certain determiners. For example, the semantic scopes of the paired determiners e.g. *a couple* vs. *a few* are said to overlap—the prime determiner *a couple* merging with the next semantically nearest determiner *a few* bringing about semantic extension. That is, since their semantic fields do not distinctly intrude upon the

other, an overlap of sorts prevailed (cf. 7*(ii)*). He later went on in the paper to discuss notions of how verbs such as *add, join, increase,* etc. were quite transparently related to singularity and plurality (Ibid: 31). This early observation that a unified part-of-speech, such as the structure-class category of determiner, could take on very different selective properties, I believe, was pioneering work of his day; his working insights capture what I believe to be the central core of Feature Theory within the Minimalist Framework (Chomsky 1995). One of the most striking descriptions come with Lenneberg's statement that there may be hidden (binary-driven) common denominators behind words. Exercising etymology, he goes on to suggest that the binary distinction between the determiners *one* vs. *none* stems from a more robust feature of *[Existence]* versus *[Non-Existence],* and from out of this proto-feature derived the feature specificity of *[+/-Quantifying]* whereas the concept of existence is neutral with respect of quantity—viz., the state of being (*Existence*) applies to *one* as well as to *many*.

Today, it is not too far off the mark to suggest that this is what is exactly happening with regards to Feature Theory (see Chomsky 1995 Ch.4). As was shown above, it is no enough to simply categorize words into general Lexical or Functional categories (e.g., Nouns *vs.* Verbs, Determiners *vs.* Complementizers, etc. respectively). But what one needs is a finer grained measure to spell out the precise features of such items in order to account for their distributional properties. We certainly would fail here if we were to say that all determiners could equally select for Non-count Nouns randomly. Similarly, so too would we fail if we were to stipulate for only a select handful of determiners, paying no attention to the specific grammatical features of the words themselves, and only acting on prescriptive impulse driven by traditionally broad division of the class item. (In our case of determiners, this would mean by the presciption of say possessive determiners *my/he*r, or cardinal number determiners as in *one/two,* etc.). This is not a viable option. As we quickly discovered, the selective properties of the determiners to select for Non-Count Nouns are broad and sweep well across the whole spectrum of class determiners—choosing one while skipping another in apparent randomness. Turning next to specific feature specification among Determiners, we can begin to make some headway and construct an account for the permissiveness of some over others, turning randomness into a coherent theory.

4. Polarity Items

Edward Klima (1964) first proposed the notion that certain items or expressions contained an inherent formal feature referred to as an *affective polarity* feature. These Determiners (DPs) that hold such features are restricted to occurring within the scope of an appropriate affective constituent. One well understood polarity has to do with *negative, interrogative* and *conditional* constituents. (What we would like to add here to this association is a *number sensitivity expression* constituent as having a bearing on the distribution of D(P) and Non-Count Nouns. (See (12) below). Consider the syntax of the Quantifier Determiner *Any* along with its compounds *any*-one, *any*-thing, etc. (keeping in mind that these compounds can be reduced to their inherent D+N constructs—
cf., $[_{DP}\ [_{D}$ The/this/some-/any-$]\ [_{N}$ one$]]$). There are two different grammatico-semantic types of uses for *Any* here: one as a *Univ(ersal) Q(uantifier*) with a meaning similar to *Every*, the second as an *Exis(tential) Q(uantifier*) with a meaning similar to that of *Some.*

Consider the following uses:

(9) a. *Any* (=every) batsman could have hit that pitch. (=Univ-Q)
b. Are there *any* (=some) players left to bat? (=Exist-Q)

Regarding the subtle semantico-grammatic feature here, it turns out that it is only the Existential version of *Any* [Exist-Q] (and not the Universal *Any*) that seems to be allowed to co-exist with negative (as well as interrogative or conditional) constructs:

(10) a. He hasn't hit any-thing (=some-thing) all game. (Exist-Negative)
b. *He hasn't hit any-thing (=every-thing) all game. (Univ-Negative)
c. He has hit *any-thing/some-thing today.

Following this carefully, it seems that we can demonstrate here that even within the same lexical item, in this case the determiner *Any*, there may be two opposing features that are sufficiently different to bring about the disparity in distribution—a subtlety that could only be pinned down to one specific feature within the same lexical item. What we believe regarding the distribution and modification of non-count nouns is that Exist-Q determiners have an inherent quasi-formal property, the affective Polarity feature being but one manifestation, and, as a consequence, notions of formal checking enter into the picture (see §8). It will be our claim herein that the formal feature, be it linked to a kind of polarity expressions or number sensitivity expression linked to Agreement, is responsible for the particulars of distributions found among the D+N configuration of Non-count Nouns: i.e, only those determiners which can exclusively modify Non-count nouns are to be associated with the polarity number sensitivity expressions.

Taking this one step further, consider the example of the distributional properties of the determiner *any*, and compound *anyone* (as opposed to *some, someone*) below:

(11) The Determiner *Any*	vs.	The Determiner *Some*
a. Is there any bread on the table?		i. Is there some bread on the table.
b. *There is any bread on the table.		j. There is some bread on the table?
c. Is anyone going to the meeting?		k. Is someone going...?
d. *Anyone is going to the meeting		l. Someone is going...
e. I don't believe anyone will say anything.		m. I don't believe someone will...
f. *I believe anyone will say anything.		n. I believe someone will say...
g. If anyone should ask why, say nothing!		o. If someone should say...
h. *Anyone should ask why.		p. Some should say...

The meaning of the two determiners is basically the same. Notwithstanding close semantic overlap (as Lenneberg suggested), in the first example (a/b) *any* can only occur in the interrogative sentence, as opposed to the declarative sentence, whereas the determiner *some* is unrestricted in its distributions (cf. 10c). The restricted distribution of *any* (in complementary distribution to *some*) is said to stem from the notion that the lexical item *any* contains, as one of its many sub-category components, an Existential-Quantifier D-feature. This quantifier feature is a *Polarity Feature* that renders certain expressions illicit (viz. only negation, interrogative and condition expressions are permitted, as cited above). Note that regarding this particular feature specification, the determiners *some* and *any* line-up in opposition to each other. However, as cited in §1 above in the case of Non-count Noun distributions, they both would share in the same distribution, being triggered by an identical D-feature: (cf. Is there *any furniture/milk/butter*? and/or Is there *some furniture/milk/butter*?). In order to tackle the '*any-some*' paradox, clearly an added D-feature has to be employed to capture the essence of this affective constituency.

5. The *'Any-Some'* Paradox: stipulations for a new D-feature [+R]

The following stipulation attempts to locate the precise D-feature involved in restricting a certain class of Determiners from interacting with a Non-count Noun complement. As was sketched out above, and eluding to in the brief discussion herein on Feature Theory, we believe that the only viable D-feature available to do the job would be a potential Referential Feature on D, labeled here as an [+R]-feature. This [+R]-feature was brought to light above as being one deciding feature, sensitive to number, which could signal the Non-count Noun acceptability. We saw this feature in opposition to the [Q]-feature. In accordance to this newly created stipulation on D-features, the bundle of Determiner sub-categorization could be viewed as having the following elements. (This is by no means an exhaustive list):

(12) Determiner Features => *(i)* [+/-Nominative], [+/-Def], [+/-Pl], etc., etc. and
(ii) [+/-R] *vs.* [+/-Q]:
(iii) [Q] -Interpretable (=Existential, +Polarity)
(iv) [Q] +Interpretable (=Universal, -Polarity)

Although we might initially be led into considering all semantically-based [R]s as having at least some property associated with -Intrep(retability)—so as to account for the acceptable modification of Non-count Nouns—we find that such modification is achieved only via a default measure. We conclude that all [R] Determiners are +Interp and have semantic material. We further conclude that only certain first order gradients of [Q] share this +Interp property, other second order grades contain an additional formal feature and are therefore labeled as having the following [+Q, -Interp] properties. Since we conclude that Non-count Nouns have some quasi-formal [-Interp] property perhaps linked to AGR(eement) and/or INFL(ection)—e.g., regarding how their number specificity interacts with the determiner—only [-Interp] Existential Determiners can abide by the affective constituent conditions placed on Non-count nouns.

At closer look, the story here gets convoluted. The question is as follows: Why should it be

that substantive [+Interp] R-Determiners may modify formal [-Interp] Non-count Nouns, but not [+Interp] Q-Determiners? We attempt to sort this out below.

In addition to such finer-grained distinctions placed upon Determiners, Chomsky has also come clean and further suggested that certain features (such as D-features) may be either Interpretable [+Interp], or Uninterpretable [-Interp] to semantic conditions having to do with logical form (LF)) (1995: 278). Chomsky labels such semantically based features as (phi) ϕ-features. As a further classification, it is not too unlikely that [R] features do contain [+INTERP] semantic material, whereas [Q] features don't. At this level, we could tentatively conclude that what drives the acceptability factor in determining whether Determiners can work with apparent Non-count Nouns is thus the dual distinction of [+R], and [+INTERP]. The claim that these two features apparently hold a default status towards Non-count nouns helps to extent the role of features beyond the mere lexical-categorial level and into the scope of syntax proper.

6. Summary

Let's pause here and examine what has been said thus far. It seems that any attempt to capture this unique and sensitive distribution of determiners to Non-count Nouns**,** we need to split [Q] Determiners into two sub-classes: +/-Interp. The best scenario here is that the nature behind this sub-division is somehow associated with a particular formal feature having to do specifically with Agr(eement), or more general with notions of INFL(ection): e.g., *Partitive case/agreement* (=Existential, [-INTERP]) vs. *Universal default case/agreement* (=generic, [+INTERP]) might come to mind first. (E.g., Partitive determiners might be used in this case to modify mass nouns in order to indicate that the noun refers to only a part of a whole, cf. *some furniture*). In sum, it is suggested above that only one class of [Q] determiners with relevant Agr/Infl conditions can modify Non-count Nouns, while the second [Q] determiner cannot. One way to approach this split is by looking into finer subcategorial analyses of semantic features *(per se).* Semantic features are crucial for proper LF interpretability; hence they are stated as being [+Interp(retable)]. Other more formal features not needed for LF representation are thus [-Interp(retable)].

> Stipulation 1: What we are suggesting is that there is one branch of [Q-Det] which is marked for [+INTERP] and that such determiners needn't necessarily check-off features. For this reason, these determiners cannot modify more formal [-]count nouns since such nouns do have formal features which require checking-off. This formal non-count feature seems to correspond to an *Existential Partitive Case and or Agreement*—thus, [-]count nouns need appropriate Q-Dets which contain this formal [-INTERP] feature so as to motivate proper checking.

> Stipulation 2: What we are suggesting is a number sensitivity to feature relation:
> (a) [-]Count (+FORMAL) number sensitivity)=> Existential [-INTERP] adaptation,
> (b) [+]Count (-FORMAL) no number sensitivity)=>Universal [+INTERP] adaptation.

Thus, Non-count nouns place a sort of Agr/Infl condition, while Count nouns place no such condition (as it relates to its semantic reference). In sum, a split Q-feature distributions

looks like the following:

(a) Q: ϕ-nominal Features => +Interp [Number, Person, etc. & Universal Q]
(b) Q: Case/Agr-Features => -Interp [+/-Nominative, Partitive, & Existential Q]

The number sensitivity that contains referential material is thus Universal, while the number sensitivity feature, which is agreement driven, is Existential. Only those determiners that carry this [-INTERP] on the number feature can enter into a checking relation and modify non-count nouns

7. Minimalist Optimality: A Formal N-Feature?

Economy We assume that this added formal feature attached to Q [-Interp], for reasons having to do with the affective expression of Partitive Case and/or INFL, like all formal features, must delete (via checking) before arriving at LF. A minimalistic treatment toward this checking configuration would be to stipulate that a corresponding Det with similar case features must enter into that same checking relation. If, say, a [+INTERP] Det. were to enter into such a checking relation, its +Interp feature would nevertheless remain undeleted, calling into question the totality of the checking environment. Conditions stemming from MP assumptions would rather stipulate that the totality of the checking relation be optimal, placing strict conditions on Spec-Head configurations. Such conditions would satisfy considerations placed on *Economy*. Without these conditions, while a [+INTERP [Q-D]] Determiner could theoretically check such nouns, its D-feature would not be deleted. A much more optimal account would be to stipulate for a [-INTERP [Q-D]] Determiner to enter into the checking arrangement—this would ensure that both formal D and N ϕ-features would delete. (This would in any event prevent superfluous steps in derivation, both D & N are checked within the same checking domain simultaneously). This notion that Non-count nouns have a formal case [-INTERP] would likewise predict that child English stage-1 language acquisition would be exempt from such mass noun expressions, and words such as *furniture* might be rather treated as a count noun by default: *e.g., Me have two furnitures, etc., etc.*.

8. Restating Features: Lexical-D, Functional-N

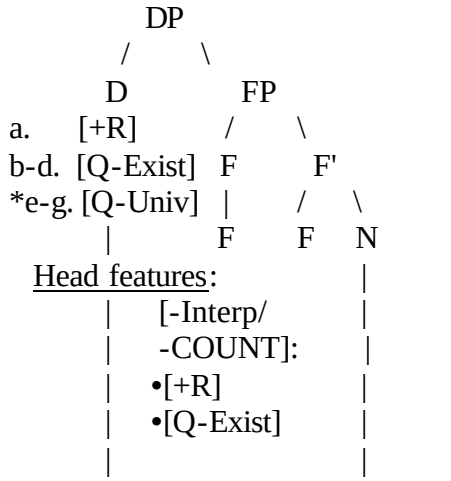
The twin checkers of Determiner & Noun are indeed exceptional in this situation since Nouns are traditionally categorized as a lexical (non-formal) categories void of any formal features that would require checking. It is our view that Non-count Nouns must be considered as an aspect of a functional DP. In other words, they are functional categories. Similar treatments which sought to strip down an otherwise categorial D(P) replete of its functional features rendering the Determiner category more-or-less a 'nominal-like' default in nature has been suggested in the literature (see Galasso 1999). A claim could be made that certain Determiners (presumably acting as defaults) may be void of any real formal features (particularly having to do with case) and hence take-on Objective default settings. Chomsky (1995: 288) discusses the possibility that a DP could, in theory, be void of formal case if its associate likewise bears this out. This is evident in the early stages of child English. For example, consider the following stage-1 utterance: the sentence *[$_{VP}$ Me want [$_{DP}$ [-Interp] the/a car*]] contains no evidence of functional projections (cf. Radford 1990). Yet, a DP here indeed projects, albeit without its fully- fledged set of formal

features. Meisel (1990, 1995) has likewise suggested that (seemingly default) DPs associated with a lexical VP lower down in the syntactic tree may not contain the full array of functional material otherwise attributed to that same DP as associated with the higher INFL. For instance, in the sentence [IP *The boys like [DP the ball*]], only the first *the* in associated with the functional category IP would contain all relevant functional material. The second *the* may simply have a default status—say, regarding case. In fact, Meisel attributes this default DP status to early language mixing/switching between Determiners and Nouns that fall below INFL (the second *the*), or among utterances that contain no fully emerged INFL. He goes on to claim that it is only with the full emergence of INFL that we find a DP worthy of its formal functional status. In other words, at an early stage of language acquisition (as well as with bilingual code-switching), a DP may be void of certain formal features—features of which are then said to be linked to the maturation of an associative functional category IP. In an ironic twist of faiths, it turns out that what we have striped and pruned away in functional features, from the otherwise formal Determiner leaving a category DP shell intact with only lexical default features, we have conversely furnished to the Noun, playing havoc with what one traditional understood as a Lexical-Noun vs. Functional-Determiner categorial distinctions and labels. A case in point: it seems that this newly clad Noun, replete with at least one formal feature now in its repertoire may out-rank the deprived Determiner of its class. As stated above, categories, lexical vs. functional have now taken the back seat to feature distributions, and features can find themselves in an array of combinatory environments, a predicament that would have been theoretically inconceivable before the demise of the 'categorial label' DP, VP, etc. brought on by MP.

Returning to Chomsky's suggestion cited just above (op.cit: 288), reflect on the dualist of Expletives *It* and *There*. (The former takes ϕ and case features while the latter lacks ϕ and case). It may be that both determiners enter into a formal Head-Complement checking relationship in order to erase relevant features such as Agr (viz., *There is/are...vs. It is/*are*); however, there would be no [-INTERP] features on the 'pure expletive' *there* in need of checking. This duality is somewhat analogous to the distinction we are making with count vs. non-count nouns. It may be that the same feature [-INTERP] found in the Expletive *It*, though not in *There*, may be associated with the [-INTERP] feature found in Non-Count Nouns: namely, the Exist(ential) Feature, recalling that expletives may take proper case via association with the adjacent noun.

Consider the optimal twin-checking domain below:

(13)



a'. This/the/my furniture
b'. Some
c'. A bit of
d'. More
Feature Crash => *e'. One
*f'. (A) couple of
*g'. Several

What the tree above shows is that the Non-count Noun lexical item *furniture* contains the [-Interp] Head features of [-COUNT] & [Q-Exist] along with the default [R]—hence, a formal Functional Phrase must project from out of the Noun. Sentence (e-g) crash because the formal Non-count N-feature doesn't have a compatible D-feature in which to erase the relevant features, while sentence (a-d) are compatible with feature easing: viz., Q-Exist instigates checking whereas Q-Univ doesn't In one sense, we could say that Non-count Nouns in fact do contain strong features—the type of formal feature that, for example, has been reserved for only Inflectional verbs (T/Agr) and Case marked Nouns and Pronouns (Partitive, Nominative, Accusative, Genitive). It is clear, however, that proto-typical lexical nouns and verbs don't have strong features. Keeping in agreement with MP, we must say that non-count nouns are somewhat similar to Pronouns (which fall under DP) only in the strict sense that its agreement properties seem to be of a functional nature—all other lexical vs. functional distinctions pertaining to nouns and verbs hold.

9. Summary and Conclusion

In summary, we believe Non-count Nouns can be characterized in terms of a semantic feature (+/-Count /+/-Individuatability) which effects a particular distributional phenomenon regarding what kinds of determiners will be allowed to act as a modifier. This distributional phenomenon share a common link to formal verbs—hence, we come to attribute Non-count nouns with having a formal feature similar to INFL-related verbs (found projecting under IP). For this reason, we conclude that Non-count Nouns should be considered as a quasi-functional projection, labeled above as projecting / extending an FP from out of the noun (as shown in (13) above).

In sum, the distributions of Non-count Nouns to their Determiner counterparts are arranged

as follows:

> 1. We conclude that all [R] Referential determiners—e.g., *the/this/that/those/my/our* etc. are to be considered as having a semantically rich [+Interp] D-feature (and contain no polarity association) and hence may only as a default measure, in connection to referentiality, come to modify Non-count Nouns. (They don't instigate any formal checking).
> Though [R] determiners *these/those* are equally considered as [+Interp] for referentiality, they are nonetheless banned from Non-count Noun modification due to their exclusive Plural Agreement markings, as shown in opposition to their singular counterparts *this/that* (respectively), being that non-count nouns are inherently singular). (If it were the case that non-count nouns be inherently plural, the opposite distribution would have taken course).
>
> 2. Q-Universal Determiners *a/one/a-couple-of/a-few/many/several/every* etc. can't modify Non-count Nouns because they are *(i)* theoretically considered to hold [+Inter] features and therefore don't instigate checking, and are *(ii)* as opposed to [R] determiner, not to be considered as holding a default status. Given that their counter-part [-Interp] Q gradients step-in to fulfill the requirements put on checking, in an economical manner, Universal determiners don't have [-Inter] formal capacity and thus are excluded from engaging in a formal checking relation.

As a final verdict, we believe that the basic mechanism behind the so named *'Any-Some'* paradox, as spawn by an affective constituency factor, can similarly account for what we see regarding the number sensitivity found with Non-count Nouns. Furthermore, we suggest that a formal polarity feature which is attributed to [-INTERP] & [Q-D] determinacy was behind this number sensitivity. As we saw in (§4), Polarity items must contain a separate feature that restricts the item from occurring in only those structures that contain the 'affective' construct. We conclude that a similar affective feature may also be behind what we find regarding the restrictiveness of D+N configuration among Non-count Nouns. What this suggests is that Non-count Nouns should perhaps be thought of more-or-less along the same lines as a Functional category in view that they share with their Determiner counterpart at least one specific formal features. The notion that categories such as Nouns and Determiners no longer can be simply labeled as Lexical vs. Functional (respectively) and that the item's features have more of a say regarding how one should interpret the item syntactically goes to the heart of what Chomsky believes to be the cornerstone to syntactic theory within the Minimalist Program.

References

Chomsky, N. (1994) 'Bare Phrase Structure'. *MIT occasional papers in linguistics* 5.

Chomsky, N. (1995) *The Minimalist Program.* MIT Press.

Clahsen, H. (1994) 'Underspecification and lexical learning in early child grammars'. *Essex Research Reports in Linguistics* 4. University of Essex, U.K.

Galasso, J. (1999) *The Acquisition of Functional Categories: A Case Study*. unpublished Ph.D. Dissertation. University of Essex, U.K.

Klima, E. (1964) 'Negation in English'. In J.A. Fodor & J.J.Katz (eds) *The Structure of Language*, pp. 246-323. Prentice Hall, N.J.

Koppe, R. & Meisel, J. (1995) 'Code-switching in bilingual first language acquisition'. In Milroy, L. & Muysken, P. (eds) *One speaker, two languages.* Cambridge University Press.

Lenneberg, E. (1975) 'The concept of language Differentiation'. In *Foundations of Language Development*. vol.1. Lenneberg, E. & Lenneberg, E. (eds). The UNESCO Press: Paris

Meisel, J. (1990) INFL-ection: subject-verb agreement. In J. Meisel (ed) *Two first languages: Early grammatical development in bilingual children.* Foris: Dordrecht.

Myers-Scotton,C. (1995) 'A lexically based model for code-switching'. In *One speaker, two languages*. Milroy, L. & Muysken, P. (eds) Cambridge University Press: Cambridge, U.K.

O'Grady, W. (1999) 'The acquisition of syntactic representations: a general nativist approach'. In *Handbook of Child Language Acquisition*. Ritchie, W. & Bhatia, T. (eds). Academic Press

Radford, A. (1990) *Syntactic Theory and the Acquisition of English Syntax*. Blackwell Press: Oxford.

---(1997) *Syntactic Theory and the Structure of English*. Cambridge University Press: Cambridge.

Notes

[i] Chomsky (1965) suggested early on that a binary feature specification could work with regards to phonology—for example, between [± Nasal], and [± Plosive].

[ii]. See also work currenlty being done on 'Underspecification of Feature Theory' by Wexler (1994), Hoekstra & Hyams (1998), Radford & Galasso (1998) (among others).

[iii] We follow Abney (1986, 1987) concerning the analysis of DP.

[iv] Lenneberg (ed) (1975) The concept of langauge differention. In *Foundations of Language Development.* Vol.1. (pp.17-33).