The universality of lexical categories: Comments on Chung

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1 Introduction

By way of a careful empirical investigation, Chung aims to show that contrary to the received descriptive wisdom, Chamorro actually has sets of words belonging to all three major lexical categories of noun, verb, and adjective, rather than a language-specific system with only two classes—transitive and intransitive predicate, as proposed by Topping (1973). Confusion arises, Chung claims, because the language has a robust system of unmarked derivational relations between the categories, much in the way English allows for the productive derivation of verbs from a wide range of nouns (Clark and Clark 1979). The empirical argument that Chung makes is convincing and I will have little to say about it. What I want to focus on instead are the implications she draws from it. I first consider whether her proposed Distributed Morphology (DM) analysis actually adequately captures the kinds of contrasts she is careful to document. I then consider the extent to which her extrapolation from Chamorro to category systems more broadly is justified. I close with some remarks on what exactly it would mean for the lexical categories to be universal, highlighting not only the way in which this question is generally posed in recent literature, but suggesting another way in which the question warrants investigation, by considering the interface between lexical categories and lexical semantics.

2 The analysis of Chamorro

While Chung’s facts and broad interpretation of them are convincing, I am less convinced by the proposed analysis, which is framed in DM, in the spirit of Arad’s (2003) analysis of similar facts in Hebrew. The DM analysis takes as its point of departure the idea that lexical categories are created in the syntax, from precategorial roots and functional heads. In this way, lexical category is really a misnomer on this theory—there are, in fact, no lexical categories. There are roots that merge with functional heads to create phrase markers of particular categories. Given the DM tenet of precategoriality, then, the null hypothesis is that any root can merge with any of the category-forming functional projections, so that all roots are predicted to appear in noun, verb, and adjectival contexts.

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1 I do think there are some minor problems around the edges. For example, incorporation is claimed as a diagnostic for nounhood at the same time that it is made clear that the only incorporating verbs are two meaning ‘have’ and ‘not have’ (Chung, 21). As Chung notes, however, these two “verbs” are actually prefixes. It is therefore unclear to me how strong the argument that this is a case of incorporation really is, and as a consequence whether this is really a good diagnostic for nounhood or not. Of course, it could well be that this is not incorporation, but the phenomenon still is a good diagnostic for nounhood, but then why exactly it is a good diagnostic would need to be made clear with reference to a definition of nounhood more generally.

Chung’s second nounhood diagnostic, ability to be prefixed by mì, to form a word meaning ‘having lots of’ (Chung, 24) also raises some questions. The way the meaning of this prefix is described makes it sound like it will require either a mass or plural type noun meaning as its argument. And indeed, all of the examples Chung gives in (22) look potentially like mass-type meanings. This makes one wonder whether prefixation by mì isn’t actually a diagnostic for mass nounhood, rather than for nounhood generally.
As Chung is careful to point out, however, this is not what happens. Two different things happen—firstly, there are some roots that are genuinely restricted to particular environments. The data in (57), repeated in (1), show, for example, that there are roots from which it is not possible to form verbs, while those in (64), repeated in (2) show that some fail to have adjectival derivatives.²

(1) a. *Ha baina i paki/se’si’.
   AGR sheath the gun/knife
   ‘He sheathed the gun/knife’
   b. *Ha háyu yu’si Juan.
   AGR stick me Juan
   ‘Juan hit me with a stick.’

(2) a. Asiga na’-mámí.
   AGR.salt food-AGR
   ‘Our food was salt.’ (Not: *Our food was salty.)
   b. Asukat na’-m-ámi.
   AGR.sugar food-AGR
   ‘Our food was sugar.’ (Not: *Our food was sugary.)

Secondly, other roots, while they are seen in more than one environment, by hypothesis only merge initially with a particular categorizing head, with the appearance that the root takes other categorizing heads due not to the root merging with those heads, but rather due to word (as opposed to root) derivation (in the spirit of Kiparsky 1982; Arad 2003). Chung draws on convincing lexical semantic evidence for this conclusion, showing, e.g., in (69) and (71) repeated in (3) and (4), that there are certain verbs and adjectives that inherit the meaning of the noun she claims them to be word-derived from, as evidenced by the fact that the denominal verbs require an instrument of a kind named by the noun they are derived from, and for the denominal adjectives, that predication of the adjective entails possession of the noun.³

(3) a. Bai hu apága i hau yi apagá-hu/ #lomu-hu.
   AGR AGR shoulder the wood LOC shoulder-AGR thigh-AGR
   ‘I’m going to shoulder the wood on my shoulder/#my thigh.’
   b. Hu adába i aparadot ni adába/ ni #talí.
   AGR padlock the cabinet OBL padlock OBL rope
   ‘I padlocked the cabinet with a padlock/#a rope.’
   c. #Bai hu átbidun i magági ni waks.
   AGR AGR starch the clothes OBL wax
   ‘I’m going to starch the clothes with wax.’
   d. Hu aikiya i gaputilu-hu ni aikiya-mu/ #ni goma.
   AGR hairpin the hair-AGR OBL hairpin-AGR OBL rubber.band
   ‘I pinned up my hair with your hairpin/#the rubber band.’
   e. #Hu bereya i petta ni atchu’.
   AGR crowbar the door OBL rock
   ‘I crowbarred the door with the rock.’

(4) a. #Máñum si Antonio, lao t'ai mañum.
   AGR.fever NM Antonio but AGR.not have fever
   ‘Antonio is feverish, but he has no fever.’

²Chung calls these “arbitrary lexical gaps”, a notion whose status is not clear to me in DM, which lacks a lexicon as conventionally understood.
³These are diagnostics of the kind discussed in more detail by Kiparsky (Kiparsky 1982, 1997) and Arad (2003).
b. ?#Mantika i empanāda, achuka’ tai mantika.
   AGR.fat the empanada although AGR.not.have fat
   ‘The empanada is fatty, although it has no fat.’

c. #OKsu’ i tano’-mu, lao tai oksu’.
   AGR.hill the land-AGR but AGR.not.have hill
   ‘Your land is hilly, but it has no hills.’ (Chung, 60)

So, even in these cases, where on the surface there would seem to be some flexibility in what categorizing heads a root can take, the (empirically quite justified) analytical claim is that actually, there is no such flexibility.4

In short, Chung uncovers two facts that any analysis has to account for. First, some roots (e.g., those in (1) and (2)) lack the multifunctional behavior previously assumed to exist generally, and cannot be used as words with the full range of lexical categories. Secondly, even in cases where there is multifunctionality attested, in many of these cases, e.g., (3) and (4), the facts support an analysis where one form is word-derived from the other, rather than both forms being root-derived. Both of these facts show that roots do not freely merge with categorizing functional heads; rather, there is some kind of restriction. Some roots merge directly only with some functional heads.

What do/can these restrictions follow from on Chung’s DM analysis?5 I am not certain, but I will venture some guesses. One possibility might be to have some kind of syntactic feature stipulation or functional head selection such that particular roots are syntactically able

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4 Chung also highlights cases where particular roots can, in the terms of her analysis, merge directly with different categorizing heads, taking varying lexical semantics of the root in the varying lexical category contexts as an argument for this behavior (following Arad’s 2003 analytical claims). Such is the case with the verbs in (70) (repeated in (i)) which share their root with nouns and kaskara in (72) (repeated in (ii)), which has both nominal (ia) and adjectival (ib) uses that are semantically unrelated to one another.

(i) a. Hu aketyu’ i gaputulu-hu ni goma.
   AGR.topknot the hair-AGR OBL rubber.band
   ‘I knotted my hair with the rubberband.’

b. Hu asəda ni atchu’.
   AGR.plow OBL rock
   ‘I plowed it with the rock.’

c. Ha bəlas yu’ ni hayu.
   AGR.whip me OBL stick
   ‘He whipped me with a stick.’ (Chung, 59)

   almost EMP all the WH[NOX].AGR-have shell L animal LOC ocean AGR-hard scale-AGR
   ‘Almost all the shellfish (lit. the animals that have shells) in the ocean have hard scales.’

b. I asaiteri kəskara sa’ si Florine ha latchai um-usa i laña.
   the cruet AGR.empty because Florine AGR.finish.up INFIN-use the oil
   ‘The cruet is empty because Florine used all the oil in it.’ (Chung, 61)

My point is that absent some additional explanation, the null hypothesis is that direct merger with any categorizing functional head is predicted to be possible in the general case.

5 Of course, one way of approaching this problem might be to opt for a different kind of analysis entirely. After all, the facts under discussion are, at root, semantic, not syntactic. Data that supported this particular DM analysis to the exclusion of others would need to be data supporting the existence of the particular structures and constituency Chung assumes. But these data are simply about interpretations and amenable to any kind of syntactic analysis that has a distinction between root and word derivation. So, for example, there is nothing in the facts that would suggest that the right analysis is not a lexicalist one, with root and word derivation in the lexicon (viz., Kiparsky 1982; 1997). And in fact, if anything, the evidence that Chung provides showing that not all roots are attested as words of all categories, can easily be taken as counterevidence for the DM analysis and as evidence in favor of the lexicalist one. On the lexicalist analysis, there is idiosyncrasy in the lexicon, so it is expected that not all words will be attested with all categories. On the DM analysis, however, as explained above, the prediction, absent further discussion, is that all roots appear in all contexts. But as Chung shows, they do not.
to merge only with particular functional heads. In essence, this would be building the lexical categories into the roots, which does not seem consistent with the DM claim that they are built syntactically. A more palatable theory, I think, would derive the restrictions from compositional and lexical semantics. On such a theory, there would have to be, as is already proposed in some corners of the literature (Rappaport Hovav and Levin 1998; Harley 2005; Levinson 2007; Koontz-Garboden 2011; Beavers and Koontz-Garboden 2012), different classes of root meanings, such that composition is possible with only those categorizing functional heads that each of the roots is attested with. This would be accomplished, presumably, by giving the categorizing heads denotations that could combine with just the right, and only the right, classes. Further, it would also entail a typology of roots by lexical semantic classes that lined up with just the right lexical categories. Whether this is possible or not is not at all obvious, and no such analysis of lexical categories in any language or of the lexical semantics/lexical category interface more broadly is currently on offer, so far as I am aware, though some very preliminary thoughts on the basis of current work by Francez and Koontz-Garboden are offered in §4. What I hope to have highlighted here is simply the fact that Chung’s DM analysis presupposes the existence of a successful analysis of one of these types. Otherwise, there is no explanation in the context of her analysis for the crucial cases of non-multifunctionality that she rightly claims are so important to the understanding of the Chamorro lexical category system and lexical category systems more broadly.

3 Flexible versus rigid languages

On the basis of the facts that she discusses, I believe that Chung is correct in her conclusion that there is little evidence from a language like Chamorro for a lexical category system unlike the familiar one with nouns, adjectives, and verbs. Her jump from the Chamorro observations to the claim of the universality of these categories in all languages, however, seems less well-supported, since, as I discuss below, Chamorro is representative of only one particular kind of the languages that have been claimed to have non-canonical category systems.

In his investigation of languages with (it is claimed) fewer than the four canonical lexical categories, Hengeveld (1992:63–68) makes a distinction between languages with what he calls a flexible category system and those with a rigid category system. Simply put, flexible languages are those where a lexical category distinction is collapsed, and words in the collapsed class appear in a wider range of distributional environments than would otherwise be expected for a word of that class. For example, if we think about a language claimed to lack an adjective/verb distinction, words in the category encompassing what are adjectives and verbs in other languages have the distribution in their unmarked form of both adjectives and verbs, e.g., ability to attributively modify nouns and ability to appear as a predicate without a copula. Notwithstanding Chung’s compelling arguments that there actually is a distinction between the various categories, Chamorro is a language that would be categorized in Hengeveld’s typology as flexible, since there is great flexibility in the ways in which words of various types can be used in the language. Indeed, Topping’s claims about the Chamorro system fit this characterization, as the claim is that e.g., property concept words have the distributional behavior not only of adjectives, appearing in attributive modificational contexts as in Chung’s (9c) repeated in (5a), but also that of nouns and verbs, since they can be used in their unmarked form both as predicates (5b) and arguments (5c) (Chung’s (9a,b) respectively).6

(5) a. Hu li’i i dangkulu na tātātoa.
   AGR see the big L person

6Of course, as Chung goes on to show, these data are more complicated. They are parallel, however, to the kind of data Hengeveld uses to motivate the distinction and in any event, as seen immediately below, it is not so much the behavior of flexible-type languages that I want to highlight, but rather the rigid ones.
I saw the big person.’

b. Dångkulu si Juan.
AGR.big NM Juan
‘Juan is big.’

c. Hù li’i i dångkulu.
AGR see the big
‘I saw the big one.’ (Chung, 14–15)

Chamorro, then, might be claimed to lack a category of adjective, not because it lacks any words that appear in the canonical position of adjectives as universally defined, but rather because it lacks words that appear exclusively in those positions.

The situation is the opposite for languages that Hengeveld calls rigid languages—taking as an example again the case of property concept words, these are languages where words with such meanings, rather than occurring flexibly in a range of distributional contexts, appear in a restricted range of contexts, and fail to appear in canonical adjectival contexts. Hengeveld (1992:63) cites Mandarin Chinese as such a language, since property concept words, or at least some of them, cannot attributively modify nouns, but rather (like verbs in the language) appear as the predicate of a relative clause in order to do so. The point is simply that Chamorro is representative of one type of language that has been claimed to lack one or more of the major word classes. At least for the data she discusses, Chung shows that the familiar contrasts do exist in the language, if in a subtle way. However, the situation will not be similar in languages of the rigid type; there is no issue in these languages of mistaking cases of zero derivation for multifunctionality. In these languages, rather, words are found not in more environments than expected, given their meanings and the pretheoretical association between particular meanings and word classes, but rather in a restricted or different set of contexts. Stated another way, Chung’s analysis is an analysis formulated to explain multifunctionality and there simply is no multifunctionality (of the relevant kind) in these languages to explain.

Consider, for example, property concept words in Hausa. These fall into two different classes. Firstly, there is a small, closed set of morphologically simple property concept words that have the distributional behavior of adjectives (Newman 2000:23ff.), most notably in that they can attributively modify nouns in their morphologically unmarked form, as shown in (6), and that they take a copula in predicative constructions (7a) as is the case with other non-verbal predicates, like normal predicative nominals (7b).

(6) a. gidá fart
house white
‘white house’ (Newman 2000:30)

b. furšánà kànjàmmàñë
prisoner thin
‘thin prisoner’ (Newman 2000:30)

(7) a. Audù dògò nê.
Audu tall COP
‘Audu is tall.’ (Jaggar 2001:457)

b. Audù dàřaktà nê.
Audu director COP
‘Audu is/was the director.’ (Jaggar 2001:457)

A larger set of PC words, however, behaves differently. Since at least Parsons (1955), the Hausa descriptive literature has recognized a class of “abstract nouns of sensory quality” (ANSQs). As Newman notes “grammatically, ANSQs are abstract nouns, i.e., they have intrinsic gender and all other normal nominal properties. They often are used, however, in constructions where in English they correspond to and translate as attributive or predicative adjectives” (Newman
2000:14). Crucially, however, as hinted at by Newman, the distributional behavior of words in this class is nothing like that of adjectives. They neither attributively modify nominals in an unmarked form nor predicate as normal adjectives or nouns. Attributive modification involves either derivation of a morphologically complex adjective from the noun itself (Newman 2000:15) or use of a syntactically complex construction (8a) otherwise implicated in the derivation of certain kinds of noun-noun modification expressions (with obliquely possessive-like meaning), as shown in (8b).

(8) a. këkë mài kyâù
   bicycle having goodness
   ‘a good bicycle’ (Newman 2000:323)
b. ａkuyù mài kàhô daya
   goat having horn one
   ‘a one-horned goat’ (Newman 2000:323)

Predication does not involve the use of a copular element, as with adjectival and normal nominal predication in (7), but rather entails the use of morphosyntax otherwise implicated in possession. For example, predication of PC words in this class like ～karfì ‘strength’ (9a) make use of the same comitative PP construction used for predicative possession (9b).

(9) a. Munà dâ ～karfì.
   we.CONT with strength
   ‘We are strong.’ (Newman 2000:224)
b. Yàrinùyà tanà dâ zòbè.
   girl she.CONT with ring
   ‘The girl has a ring.’ (Newman 2000:222)

The large class of Hausa ANSQs, therefore, does not behave like adjectives in their unmarked form. And zero derivation, quite obviously, cannot be the explanation for why this is the case, since they don’t appear in their unmarked form in canonical adjectival contexts (e.g., attributive modification). We are dealing instead with a completely different type of situation. In the Chamorro-type cases, it is flexibility in the distributional behavior of words that has led analysts to claim that there is no unique category of adjective. In a language like Hausa, it is not flexibility that leads to the conclusion that ANSQs are not adjectives, but rather lack of flexibility. Words in this class are simply not used in the way in which they would be expected to if they were adjectives, given generally accepted notions of the way in which adjectives are identified. Of course, it does not follow from this that Hausa has no class of adjectives—as already mentioned, it is generally accepted that there is indeed a small closed class of adjectives in the language. What is important is that the way in which Hausa ANSQs have been claimed not to be adjectives is entirely different from the way in which Chamorro property concept words have been claimed not to be adjectives. While the latter have been so analyzed as a consequence of their ability to occur not only in adjectival contexts, but in others as well, the former are so analyzed as a consequence of a failure to occur in adjectival contexts at all. By contrast with Chamorro, then, where there is justification in analyzing property concept words as adjectives, with the rest of their distributions a consequence of zero derivation, this is not a possible analysis for the Hausa ANSQs, which given their limited distribution (in their morphologically unmarked forms), do genuinely seem nominal, as the descriptive literature consistently claims.

The overall consequence of this, then, is that Hausa seems much closer to being a language that lacks adjectives than does Chamorro, on the assumption that Chung is correct about Chamorro. Of course, it is saved by its small class of adjectives, but my larger point is that Chung’s analysis probably can actually generalize to other languages with flexible category

7See also the discussion of Chichewa in Baker (2003) highlighted below.
systems. It will not generalize to languages with rigid systems, however, and special attention should therefore be given to such systems in future investigations of category universality, since it is certainly plausible that there could exist e.g., a rigid-type language like Hausa that lacks its small, closed class of adjectives.

4 Concluding remarks: What does it mean for lexical categories to be universal?

I close by considering in a more general fashion the central question of the paper and the nature of its investigation, i.e., “whether all languages have the same system of lexical categories, or even whether their lexical categories are chosen from the same limited inventory” (Chung, 1). Embedded in this question are two hypotheses, a weaker one and a stronger one. The weaker hypothesis is that there might be some small set of categories (e.g., noun, adjective, verb, and adverb) defined on structural grounds, independent of any language, from which all languages select one or more categories. In this way, all languages would, in some sense, “have the same system”, even if there is variation around the edges. The stronger hypothesis is that all languages have exactly the same system. But what exactly would it mean for all languages to have the same system? If we limit ourselves for the sake of discussion to nouns, verbs, and adjectives, it could be said that all languages have the same system if noun, adjective, and verb are each instantiated in all languages. I.e., that there is at least one word of each of these categories in each of the world’s languages, as in (10).

(10) For any language $L$, there exists in the lexicon of $L$ at least one word of lexical category noun, verb, adjective, etc.

This does seem to be what is intended by Chung and in other prominent corners of the literature when it is claimed that lexical categories or some particular lexical category is universal. E.g., in his discussion of adjectives in Chichewa, Baker (2003:247) points to the existence of a class of 5 adjectives in the language as evidence that Chichewa does not counterexemplify the claim that all languages have a class of adjectives. Dixon (2004) likewise puts forward the quite similar hypothesis that “an adjective class can be recognized for every language” (Dixon 2004:12), while at the same time noting that “whereas the noun and verb classes are almost always large and open, the adjective class shows considerable [crosslinguistic—AKG] variation in size” (Dixon 2004:9). Like Baker, then, for Dixon, an important, perhaps the central, question is whether particular classes are attested across all languages or not, independent of whether they are attested by a class with even a single member.

While accepting that this is a question worth pursuing, I would like to raise a related, but separate question that is to some degree the flip side of this issue in this literature. While Baker, Chung, and Dixon are largely focused on understanding the degree to which languages are similar in their category systems, I believe it is also worth not losing sight of the differences, and understanding what exactly these mean for lexical categories and the nature of grammar more broadly. Consider again the case discussed above of property concepts in Hausa. As already illustrated, in Hausa much of the morphosyntax involved in attributive modification and predication of property concept nouns involves possessive-like constructions. Given that adjectival PCs in Hausa do not behave in this way, there must be some difference between the adjectival ones and the nominal ones such that this contrast follows as a consequence. Further, there must be some difference between the nominal ones in Hausa and their adjectival translational counterparts in other languages, e.g., English, in which these are generally encoded adjectivally rather than nominally. Similarly and more generally, as discussed in §2 above, there must be some differences among roots in Chamorro that leads to e.g., some of them being able to merge directly and exclusively with nominal categorizing functional heads, others adjectival,
and yet others verbal.

Examining the Hausa facts and facts like them, Francez and Koontz-Garboden (2011) suggest that this behavior, and indeed crosslinguistic contrasts in predicational behavior in PCs of this type, is a consequence of variation in the lexicalization of property concept notions. While sometimes they are lexicalized as predicates of individuals, in other cases, e.g., Hausa ANSQs, they are instead lexicalized as properties, where these are understood as structured sets of abstract matter (in the spirit of Link 2002), as suggested by the English mass nominalization translations for many of these words (e.g., goodness, strength, etc.). In the same way, then, that normal copular predication cannot be used with e.g., English beauty to indicate that someone has it, as shown by (11), the same is true more generally for Hausa ANSQs.

(11) #Kim is beauty.

Rather, the intended meaning can be generated either with predication of the adjectival (and predicate-denoting) derivative beautiful or with possession of the property-denoting word, as in (12).

(12) Kim has beauty.

The idea is that the nature of the denotation of these PC words is intimately linked to what Francez and Koontz-Garboden (2011) call a possessive strategy of predication, which is needed to attribute PCs lexicalized as properties to entities, as is evidenced by the possessive morphosyntax on display in their predication.

The question for the lexical category literature is whether it is meaningful that e.g., Hausa’s property-denoting PC words are lexicalized as nouns, rather than as words of some other lexical category. Francez and Koontz-Garboden (2011) suggest that there does seem to be a link between the lexical category of property concept words and the kind of denotation they get lexicalized with—property denotations seem to appear for property concept words only when these are lexicalized as nouns, and predicate denotations seem to get lexicalized as a category other than noun, though this observation requires much additional empirical work to substantiate.

Taking as granted that there are some universal morphosyntactic definitions and associated diagnostics of lexical categories (as given by both the weak and strong hypotheses above, though see Croft 2001 for a different view), then the question raised by Francez and Koontz-Garboden’s (2011) observations, and similarly by the gap in Chung’s analysis of the Chamorro facts raised in §2, is whether the mapping between lexical semantics and lexical category is universal. I.e., whether there are generalizations about which kinds of meanings are expressed by words of which category and further, why that might be the case. More specifically, assuming that the model, in a model-theoretic sense, is universal:

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8This is a bit of an oversimplification, since the lexeme can also be a precategorial root, as with Ulwa property concept lexemes (Koontz-Garboden and Francez 2010). So, the generalization is really that if a property-denoting property concept lexeme has a lexical category, then it will be nominal. Of course, if one were to take a DM view like Chung’s, then it might be that Ulwa is transparently what the other languages are covertly like, so that what one really needs to talk about is variation in the lexicalization of roots rather than words, and that variation in the lexicalization of the roots triggers crosslinguistic variation in root-merger with particular categorizing functional heads, given (a) the kinds of meanings that the roots have, (b) the kinds meanings that the categorizing heads have, and (c) compositionality.

9As Chung points out, something appearing to resemble this question is raised by Jackendoff (1990) in the context of a conceptual semantics. Lieber (2004) poses similar hypotheses about the mapping between conceptual and lexical categories. What I intend here is different; the questions are about possible denotations in the context of a model-theoretic semantics of words with particular lexical categories, not about possible conceptual meanings of words with particular lexical categories. In this way, the idea is to understand the consequences for compositional semantics and morphosyntax, which is something different to the aims of e.g., Jackendoff and Lieber in making their proposals about the mapping between concepts and lexical categories.

10This is a non-trivial assumption, of course, and one that is not obviously correct. Even if it is incorrect, however, forms of the questions below still make sense for investigation.
(13) a. Do words in different languages with the same denotations belong to the same lexical category?
b. Are there denotations that must be those of words of a particular lexical category?

(13a,b) are questions about whether there are any generalizations about the mapping between model-theoretic denotation and lexical categoryhood. Suppose, for example, that red and a predicate glossed into English in the same way in some other language both can be diagnosed as having predicate denotations. As per (13a), one question is whether there are, then, any generalizations that follow about the nature of the lexical category that these words have. As already mentioned above, Francez and Koontz-Garboden (2011) make the very preliminary empirical observation that property concept words with predicate denotations are never lexicalized as nouns, but only as verbs or adjectives. Whether this is really empirically true, and if so why, requires investigation. Alternatively, consider (13b) by supposing that e.g., wealth and its counterpart in this other language both have property denotations (i.e., denote in the mass domain). Can we be certain, given this kind of denotation, that the lexical category of this word in each of these languages will be that of noun, rather than adjective or verb? Or, stated in the context of DM, assuming that we have a root with a property denotation, is there something about the nature of this kind of denotation and the nature of nominalizing, adjectivizing, and verbalizing functional heads that would ensure that the root can merge only with the nominalizer and never with the verbalizer? If so, why? At the heart of these questions lies the nature of the lexical categories themselves and the kinds of meanings that they can and cannot express. From this perspective, the question of “universality of lexical categories” has as an important subquestion whether this link between meaning and category is a universal one or not. Understanding the answer not only to the better discussed aspect of universality raised by Chung, but also to this particular question, seems certain to shed light on the nature of lexical categories and of the nature of Universal Grammar more generally, and is also, as discussed in §2, an urgent issue in the context of modern treatments of lexical categories in the syntactic literature.

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