'Associative adjectives: syntactically adjectives; semantically nouns?'

Referentiality and discourse participation in the binary-feature categorisation of English

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Abstract

Associative adjectives are categorically problematic: At first glance, they seem to behave morphosyntactically like adjectives while semantically denoting an entity in a "noun-like" fashion – unlike ascriptive adjectives, which semantically denote traits intersective with their head. This "hybrid status" entails either that a lexical item can belong to one lexical category in one aspect and a different category in another, or that categorisation based solely on morphosyntax and lexical semantics is insufficient.

By evaluating the semantic distinction between adjectives in attribution and predication in English (and also Russian and French), it is argued that the ascriptive nature of predication is motivated by the intersective relationship of predicate and predicand. Moreover, an adjective can be both associative and ascriptive, dynamically motivating traits of its head through a family of semantically-related concepts represented by the associated entity (e.g. all things *tropical* or *Polish*).

Finally, by comparing and constrasting associative adjectives with nouns in referentiality and accessibility to endophora, it is argued that the entities signified by the former are not accessible to discourse while those signified by the latter are. This distinction licenses a binary-feature categorisation system of discourse, wherein entities signified by adjectives are neither possible discourse participants nor actions licensing themes to these participants. This entails that categorical specification is, in the nature of discourse, dynamic and context-specific.

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Acknowledgements

1. Introduction

The unusual properties of so-called associative adjectives in English in constructions such as *medical treatment, mechanical engineer, electrical problem,* and *legal professional* have been the focus of much scrutiny, mentioned in but not limited to works by Bolinger (1967), Ferris (1993), Giegerich (2005a, 2005b, 2006), Huddleston & Pullum (2002a), Leitzke (1989) and Siegel (1980). These adjectives denote an intrinsic property of an entity associated with the item they modify, whereas ascriptive adjectives such as *big* or *green* directly denote properties of their head itself (Huddleston & Pullum 2002b: 556). Such associative constructions behave neither like prototypical [ADJECTIVE [NOUN]][1] phrases nor like single lexical items.

By comparing the syntactic behaviour of such constructions and restrictions thereof with that of ascriptive adjectives and nouns and combining this knowledge with that of their semantic structure, it will become apparent that adjectives which are exclusively associative in nature are phrasal non-heads which bear referential index like true nouns but are excluded from being a participant in discourse (unlike noun – noun[2] constructions, which differ from associative adjectives largely in the entities any noun signifies being able to serve as discourse participants: that which is signified by intra-compound nouns, such as *tooth* in *tooth decay*, is able to assume thematic roles through endophora [see section 3.3.2 below]). Furthermore, it will become apparent that the distinction of association and ascription is fuzzy in itself, where adjectives can be simultaneously denote an

entity in association with their head and a property (or properties) of their head through family resemblance (Wittgenstein 2004).

In order to determine the nature of associative adjectives and their status as being simultaneously "(morpho)syntactic adjectives" and "semantic nouns", the nature of lexical categorisation must first be established. Able to be defined in either morphosyntactic or semantic terms, a category can be evaluated in a lexicalist manner, where an item's category is self-determined and therefore is part of the lexicon (e.g. *bottle*_{NOUN} is lexically specified as a noun and either *bottle*_{VERB} exists in parallel as a separate lexical item or one item is derived from the other). Alternatively, categorisation can be defined in a constructionalist manner, where an item's category is determined by its role in a larger structure (e.g. *bottle* is either a noun or a verb when heading either an NP or a VP, respectively) (Hopper & Thompson 2004).

Lastly, it must be determined whether or not a single item can belong to multiple categories, and whether or not an item may belong to one category in one aspect of language but to another category in another aspect (i.e. a single item may bear a semantic category separate and different from its syntactic category).

It will be argued that while lexical items may (ambiguously or not) bear a lexical category specification in themselves, the role (or lack thereof) of that which they signify in discourse is a discourse-level indicator of lexical category, and this

"context-derived" category is what takes precedence. Adjectives are head
dependants signifying attributes which are not signified by their head – either
nominal or predicative (Ferris 1993: 20-22). Predication differs from attribution in
that the former licenses a differing time parameter of the trait it signifies due to
the predicate's ability to bear tense. In contrast, this is impossible with adjectives
serving as modifier of a NP – which is not tensed (e.g. in *Roman Abramovich was*
[*once*] *poor*, *poor* is not intrinsic to *Roman Abramovich* and instead refers to a
past time in agreement with the preterite copula *was*).

Although predicate time parameter is morphosyntactically ambiguous in English,
such a parameter nevertheless motivates morphosyntactic behaviour, as
exemplified by the complementary semantic distribution of short and long
morphological forms of adjectives in Russian (see section 2.3).

Due to discourse motivating the morphosyntactic behaviour and realisation of
such syntactically exogenous traits (such as through the morphosyntactic
realisation of time), it will be concluded that the best method of lexical
categorisation in English is semantic. However, by the same token, if lexical items
are defined by their role in discourse as Hopper & Thompson (2004) propose, and
adjectives do not signify a discourse participant by themselves and merely inherit
the role of their head and dynamically adapt to the semantic qualities thereof
(Peregrin 2003)**,** it may be said that the only relevant "categories" in English
discourse are VPs/predicates (licensors of thematic roles) and nominals (possible

discourse participants).

2. Lexical categories: What bears a category specification?

2.1. Introduction: Derivation and lexical categories

Before the nature of associative adjectives can be defined, adjectives must be defined as a lexical category. It will be argued that adjectives display differing behaviours in attribution versus predication not due to a (sub)categorical distinction, but due to semantic collocational restrictions of the individual adjective in question. Following Baker's (2003) definition of adjectives as being neither nouns nor verbs following the binary-feature categorisation scheme of Chomsky (1970), nouns will be defined by being able to be participants in discourse and verbs by being licensors of thematic roles. Therefore, adjectives are defined by being neither. This lack of discourse participation is crucial in distinguishing associative adjectives from semantically-similar nouns in section 3.3 below.

A significant issue in English categorisation is the ability of many similar lexical shapes to appear in either NPs or VPs, such as $run_V \sim run_N$ (*He runs every morning/I'm going for a run*) or $bottle_V \sim bottle_N$ (*He bottled me/It's in a bottle*). If categories are lexically stored, such (single) items must undergo derivation/conversion in order to surface as a different category, so that e.g. $bottle_V \rightarrow bottle_N$ and $run_N \rightarrow run_V$ through conversion and even morphologically $delivery_N \rightarrow deliver_V$ and $motorise_V \rightarrow motor_N$ (Giegerich 1999). However, not all verbs can be derived into nouns and *vice versa*.

Moreover, the argument structure of said "converted" items differs from the items from which they are (supposedly) derived. According to Huddleston & Payne (2002), nouns cannot feature verb-like syntactic objects even if they are underlyingly derived from verbs. Consider:

(1)

    a.   *the University's robbery the student

    b.   the University's robbing the student

Despite the semantic similarities, the above examples feature different internal structures – while both take the DP *the University's* in a nominal fashion, *robbery* in 1a must underlyingly be a noun, entailing its inability to take an object, while *robbing* in 1b is underlyingly a verb which is subordinate to an NP, entailing the grammaticality of an object in the example.

Morphological gerund-participle nominalisation, as featured above, is more definitively observable than non-morphological conversion, but the principle of objects being verb-only holds true even in less-overt derivation:

(2)

    a.   To journey/travel [the world] would be nice.

    b.   I would like to journey/travel [the world].

    c.   I like journeys/travels [*the world].

Alternatively, it could be said that in the case of *run* heading a nominal, the lexical item *run*$_V$ heads an NP node in a phenomenon of nominalisation, allowing it to inherit nominal inflection (Huddleston & Pullum 2002a)**.** In this way, it could even be claimed that semantically-analogous associative adjective – noun pairs such as *dental – tooth* (in addition to e.g. the more-obviously morphologically-related *optical* ['associated with optics'] – *optics*) are underlyingly related forms. However, as stated above, not all verbs are amenable to nominalisation: consider e.g. **the be*$_{NP}$ or **the shall*$_{NP}$.

Likewise, claiming the opposite – that *run*$_V$ is the result of *run*$_N$ heading a VP – is problematic: Although noun-to-verb derivation seems much more prolific in English than the opposite, it is not without its restrictions (Bauer 1983, Plag 2003). For example, ˈ*idol*$_V$ and ˈ*universe*$_V$ can exist but do not (unless used in a nonce formation permitted by context – consider: *He's going to be* ˈ*Idolling next season* [ˈ*He's going to be competing in the television show "Pop Idol" next season*ˈ])[3].

Alternatively, there exist pairs of noun – verb forms in the lexicon, entailing that the ungrammaticality of e.g. **be*$_N$ is due to its absence in the lexicon. However, the productivity of derivation/conversion in generating new forms is well-attested, entailing that a generative process of deriving multiple lexical categories from a single lexical item does exist in some form (Giegerich 1999)**.**

From a constructional perspective, it could be said that a lexical item's category is (chiefly) inherited from the construction in which it occurs (Marantz 1997) – a lexical item's category is underspecified and is inherited from its syntactic node: if it heads a VP, the lexical item is a verb; if it modifies a VP, it is an adverb. If it heads an NP, it is a noun, and if it modifies an NP, it is an adjective. This renders sets of identical lexical items differing only in category such as $run_V - run_N$ and $bottle_V - bottle_N$ redundant.

In fact, it can be said that if a lexical item's category is underspecified in the lexicon, any word suffixes which have the sole semantic purpose of determining (or in a lexical account, deriving) lexical category (such as $-ity_N$ $-ness_N$ and $-ly_{ADV.}$) are inherited from the syntactic node as well, as in Distributed Morphology (Halle & Marantz 1993). This would allow e.g. red_N, $redden_V$, $red_{ADJ.}$ and $redly_{ADV.}$ to be one lexical item inheriting derivational morphology exactly as an item inherits verbal inflection, such as $drive_{\text{PLAIN FORM}} - drives_{\text{3RD SING. PRESENT}} - drove_{\text{PRETERITE}} - driven_{\text{PAST PARTICIPLE}}$.

However, similarly to lexical accounts featuring derivation/conversion in the lexicon itself, there exists blocking of the productivity of such inheritance by certain lexical items: Such syntactic categorical motivation would productively and regularly allow largely any lexical item (or at least any open-category lexical word, such as *red* or *yellow*, versus closed-category grammatical words, such as

the or *when*) to occupy such nodes and thus inherit such categories and inflectional patterns. However, the respective inherited forms of even similar-root items are highly irregular: for instance, $red_N - red_{ADJ.} - redly_{ADV.} - {}^*red_V/redden_V$ but $yellow_N - yellow_{ADJ.} - yellowly_{ADV.} - yellow_V/{}^*yellowen_V$ and $drive_N - {}^*drive_{ADJ.} - {}^*drively_{ADV.} - drive_V$. Likewise, the productivity of supposed noun-to-associative adjective "derivation" shows little, if any, regularity.

Such ambiguities are not resolved even if other methods are used in determining lexical categories, such as semantics: It is often said that verbs denote "actions" and nouns denote "concepts", "objects" and/or "things" (Jespersen 2004) but in examples 2a and 2b, the theme of *liking* is an action regardless of whether such is a noun or verb by morphosyntactic criteria. Moreover, the barrier between being a "concept/object/thing" and being an "action" is dubious. Consider:

(3)

    a.

        i.   The journey/run/sit/sleep took an hour.

        ii. *The collision/failure/slap took an hour.

    b.

        i.   The journey/run/sit/sleep is soon.

        ii. The collision/failure/slap is soon.

    c.

        i.   *The bottle/cat/student took an hour.

  ii. *The bottle/cat/student is soon.

The examples in 3a are actions, amenable to temporal specification in a fashion similar to verbs – even showing a distinction between accomplishments (3ai) and achievements (3aii) (Dowty 1979: 60). In contrast, 3b are not actions – they are not amenable to such tests. The subjects in 3a are morphosyntactically nouns (in surface form at least[4]), having a determiner, but are able to be both actions and assume thematic roles in the way that "things" do (Hopper & Thompson 2004: 250-254):

  (4)

  a.   I liked [the journey/run/sit [which took an hour]].

  b.   I liked [the bottle/cat/student [*which took an hour]].

The journey/run/sit in 4a and *the bottle/cat/student* in 4b are both complements of the verb *liked* and the theme of the act *liking,* despite that the former is an action while the latter is not.

If these "nominal" actions can assume thematic roles, such an action must have a "thing"-like state which can undergo change: for instance, in *the journey was ruined*, *journey* undergoes a change of state from ¬*ruined* to *ruined.* This cannot happen with typical "verbal" (non-nominal) actions:

(5)

     a.   *I ruined to run/stroll/walk in the park.

     b.   *I ruined run/stroll/walk in the park.

However, such a construction using the ambiguous verbal gerund-participle is possible:

(6)

     a.   He ruined [[[running/strolling/walking [in the park]] [for all of us] [in an hour] [*for an hour]].

     b.   They ruined [[studying/reading/researching [computational linguistics]] [for me] [in an hour] [*for an hour]].

Exactly like the morphosyntactic nouns in 3a, the gerund-participle, an inflectional form of a verb (an "action"), can simultaneously express semantic properties associated with both a "thing" and an "action" – both bearing thematic roles and assigning thematic roles themselves. As shown in example 1b, the gerund-participle can unambiguously head an NP featuring a determiner, and can also unambiguously head a VP, such as in adjunct position, e.g.: *The student died studying* [*linguistics*].

However, verb-like argument structure is retained even when heading an NP: *Our studying* [*linguistics*] *killed the student.* This suggests that verbs can head NPs

through conversion which is beyond the level of (lexical) morphology: Notice that non-gerundive NPs cannot take arguments (*Our studies [linguistics]) (Scalise 1986, Spencer 1991). As VPs can be verbal complements and can assume thematic roles, and VPs are clauses (Huddleston 2002), it follows that clauses can assume thematic roles. However, the semantic distinction of nouns as "things" (i.e. an entity, which can assume a thematic role) and verbs as "actions" is blurred. Whether or not such semantic properties are lexically-specified or are motivated by the construction in which an item exists (Marantz 1997), the same problems persist regarding the ambiguousness and/or duality of being a "thing" and/or an "action", paralleling the issues presented by a morphosyntactic approach.

2.2. Discourse participants and thematic roles: a binary-feature system

The property of (semantic) "thingness" and/or "actionness" can be rephrased as a criterion of reference (rather than "being a 'thing'") and of thematic assignment (rather than "being an 'action'"): Baker (2003: 95-96) cites the criterion of identity as a determining property of nouns. While Baker's analysis is correct in this sense, lexical items other than nouns can also bear identity and referential index. Consider *The poor pay twice*: Here, referential index is borne by *poor*, an adjective: It can be said that *poor* modifies a phonologically null noun (Baker 2003: 151-152), where the thematic role is borne by the null noun but is signified by its modifiers, which have phonological content. Alternatively, it can be said that *poor* is a noun in itself. However, this de-adjectival noun *poor* does not behave like a traditional noun, e.g. being unable to reliably take a genitive -'*s* suffix (*?The poor's plight*) – the adjective is in a fused-head construction, where it fills modifier and head positions simultaneously (Huddleston & Pullum 2002b).

Similarly, it has been shown in the previous section that verb forms can bear referential index (a property of "thingness"). However, referential verb forms can be reconciled only by purporting that a single lexical item can bear multiple categories. Consider:

(7)   I like walking [the dog].

I and *walking* bear referential index, but *walking* can also take an argument of *the*

dog. In this case, *the dog* assumes a thematic role, which can only be motivated by the gerund-participle *walking*. Thus, an item bearing reference can also license thematic roles, again leading to the paradox of the simultaneous noun/verb.

An effective solution is to define an item's category by its role in the construction in which it exists: According to Hopper & Thompson (2004: 250-254), lexical categories are defined by the role they signify in discourse. A noun introduces a *participant* in the discourse – if an item does not introduce a discourse participant, it cannot be a noun. Similarly, if an item does not define the relationship between such participants through assigning them thematic roles, it cannot be a verb. Thus:

(8) I_{AGENT1} [like$_{V1}$ [baking$_{THEME1}$]].

Baking does *not* assign any thematic roles and so it cannot be a verb. However, it does signify a semantically "noun-like" discourse participant which is then assigned a theme by the verb *like.* Consider, however:

(9) $I_{AGENT\ 1}$ [like$_{V1}$ [baking$_{V2}$ [cookies$_{THEME2}$]$_{THEME1}$]].

Here, *baking* licenses thematic roles inside the clause it heads embedded inside the main clause (and thus is a verb in that clause), while the complement clause *baking cookies* itself signifies a discourse participant which takes a thematic role from the verb of the main clause: Due to locality restrictions (Manzini 1992), the

assignment of roles inside the subordinate clause does not effect the main clause (and discourse). Thus, while *baking* is a verb in the clause it heads, the entire clause *baking cookies* is the theme of *liking,* and thus has a "noun-like" function in discourse.

2.3. Adjectives

2.3.1. Attribution versus predication

Adjectives bear, in the line of Baker (2003: 267), a definition of -ɴᴏᴜɴ and

-ᴠᴇʀʙ. It follows therefrom that adjectives neither signify discourse participants

nor license thematic roles and so do not denote independent units in discourse,

being dependent on their semantic head. It will become apparent that the inherent

differences in the semantic head of a predicate and that of a noun regularly

determine the behaviour of adjectives and the traits/associations they signify.

Predication can have a time parameter identical to or different from the predicand,

while attribution inherits its time parameter from the modified entity.

It will be argued that due to inheriting its time parameter from the predicate rather

than the predicand itself, the complement of predication is forced into an

ascriptive reading while attribution does not force such a reading on its modifier.

Thus, predication cannot be (solely) associative, and so adjectives which cannot

ascribe traits are ungrammatical in predication.

Although Baker (2003) uses his binary-feature criterion to define adjectives as a

category, he also acknowledges that many languages are said not to distinguish

adjectives from stative intransitive verbs and that others supposedly do not

distinguish adjectives from nouns. Nevertheless, said "adjectival verbs" often

form a distinctive subset of verbal syntactic behaviour: Baker (2003: 3-10) cites

Mohawk as a prototypical example of a language, where verbs and adjectives

largely share inflectional morphology. However, the latter display certain syntactic restrictions which the former do not.

Not all adjectives can be used both attributively and predicatively: Some can occur in the predicative position but not in the attributive (e.g. *ready*: *?the ready dinner*[5] / *dinner is ready*) (Bolinger 1967: 10) while others can occur in attribution but not in predication (e.g. *principal*: *the principal idea* / **the idea is principal*).

Siegel (1980) asserts that attributive and predicative adjectives are two separate lexical categories, citing the existence of languages in which adjectives are only used attributively where in others adjectives are used only predicatively. Supporting this divide, some languages (misleadingly) "*seem* to show a derivational difference between attributive adjectives and predicative adjectives" (Baker 2003: 206 – emphasis mine). Baker (2003) uses Russian as an example, where there is a distinction between (morphologically-distinct) long and short forms of adjectives in predication but the short form cannot appear in attribution at all:

(10)   (Baker 2003: 206, Pereltsvaig 2000)

a.   Dom novyj   / nov.

house new$_{LONG}$ / new$_{SHORT}$

'The house is new'.

b.   Novyj   / *nov   dom   stoit   na gore.

new_{LONG} / new_{SHORT} house stands on hill.

'The new house stands on a hill'.

However, Baker (2003) refutes Siegel's (1980) claim, stating that adjectives are a single category – where restrictions on the possible position of an adjective are largely semantic (based on the adjective's ascriptiveness/associativity) – and that such "derivational" morphology of Russian behaves in fact more like inflection.

It will be illustrated that Baker's analysis of Russian adjectives is more correct than Siegel's, and that the distinction of the Russian inflectional long form and short form provides evidence for an important feature of predication: it, unlike attribution, can motivate a time parameter either the same as or different from its predicand, respectively motivating the morphological realisation of adjectives in Russian in complementary semantic distribution. Through such observations, it will be argued that this distribution of adjectival forms is analogous to the distribution of ascriptive and non-ascriptive (purely associative) adjectival senses.

In Russian, the usages of predication to denote transitory and non-transitory traits of the predicand as information not inherent to the noun (as opposed to attribution, which can denote only information not inherent to the noun) are morphologically distinct from one another. Similarly, traits which cannot be forced into denoting an ascriptive reading are ungrammatical in the former while they are acceptable in the latter, showing that (many) associative traits (can) signify ascriptive traits.

Baker (2003: 209) states that in "English-type languages" (as opposed to languages which restrict adjectives to either attributive or predicative position) adjectives only able to be used predicatively have a highly transitory nature. In this line of thought, the transitory nature (i.e. a quality not inherent to an object, including a beginning and/or end point) of *ready* restricts it to the predicative position. Assuming that such tendencies are universal, other languages using adjectives both attributively and predicatively would show similar constraints. However, such a supposedly "transitory" attributive construction is readily available in Russian:

(11)

    a.   'Dinner is ready'

            Obed   gotovyj / gotov.

            dinner   ready$_{LONG}$ / ready$_{SHORT}$

    b.

        i.   'A ready dinner is in the refrigerator'

           Gotovyj / *gotov   obed v xolodil'nike.

           ready$_{LONG}$ / ready$_{SHORT}$ dinner in refrigerator

        ii. 'Ready is a dinner in the refrigerator'

           *Gotovyj / gotov   obed v xolodil'nike.

           ready$_{SHORT}$ / ready$_{LONG}$ dinner in refrigerator

The short adjective in Russian can only be predicative and thus cannot be used attributively, as 11b shows. It could be erroneously said that in Russian, *gotov(yj)* is in fact not (always) transitory while its English equivalent *ready* is. However, more relevantly, **ready dinner* can be marginally acceptable in certain situations which require unnatural conciseness, like newspaper headlines or advertisements:

(12)   Ready dinner for only £3!

Bolinger (1967) states that, in many cases, predication is more transitory and "less durable" than attribution. However, consider:

(13)

    a.

        i.   The big dog is asleep.

        ii. *The asleep[6] dog is big.

    b.

        i.   The big dog is sleeping.

        ii. The sleeping dog is big.

In accordance with Baker (2003), *asleep*, being transitory, is grammatical when predicative, as in 13ai but ungrammatical when attributive, as in 13aii. However, the same act of *sleeping* represented by a gerund-participle is grammatical both predicatively (13bi) and attributively (13bii). If an item's ability to occur

attributively is dependent on its non-transitory nature, 13bii should also be ungrammatical: The gerund-participle, being a verb form, denotes an action, and actions are, in contrast with states[7], transitory by nature (Dowty 1979). However, both (transitory) variants are acceptable.

The distinction between 13bi and 13bii does not seem to be the act of *sleeping* being "less durable" in 13bi in the vein of Bolinger (1967) but rather in the focus of discourse being the participle s*leeping* in the former and and the adjective *big* in the latter (Saeed 2003: 200-202). Both *sleeping* and *asleep* are transitory by entailing an end point[8], but either syntactic variant of the former is grammatical while this is not true of the latter.

Furthermore, consider:

(14)

    a.   The sleeping dog is (now) awake.

    b.   The running dog is (now) sitting.

The examples in 14 seem to be contradictory: $[[sleeping \rightarrow \neg being('awake')] \wedge [being('awake') \rightarrow \neg sleeping]]$ and $[[running \rightarrow \neg sitting] \wedge [sitting \rightarrow \neg running]]$[9] – nevertheless, they are acceptable. The trait ATTRIBUTE of *the dog*(x) is old information which has been "updated" with the new information of PREDICATE (as in this case $[\text{ATTRIBUTE}(x) \wedge \text{PREDICATE}(x)]$ is logically impossible). Both

predicates feature a (transitory) gerund-participle (regardless of *sleeping* being able to be considered "more" of a state and "less" of an action than *running*, featuring minimal agentivity) but non-transitory analogues are also grammatical:

(15)

    a.   The yellow dog is (now) red.

    b.   The big dog is (actually) small.

Red and *small* are non-transitory but are able to supply "contradictory" information in 15 just as *awake* and *sitting* do in 14.

Moreover, it appears that Russian short- and long-form adjectives in predication are in complementary semantic distribution:

(16)

    a.   Devuška krasivaja.   (personal experience)

          girl   beautiful$_{\text{LONG}}$

          'The girl is beautiful [in general/at this moment]'.

    b.   Devuška krasiva.

          girl   beautiful$_{\text{SHORT}}$

          'The girl is beautiful [*in general/at this moment]'.

(Present-time[10]) long-form adjectives, as in 16a, can denote either a trait inherent to its semantic head or a "temporally-relevant" trait to it while short-form, as in

16b, always emphasise such temporal relevance (Wade 2000 187-189). Thus, while a trait's time parameter is relevant to and motivates predication (in Russian even motivating inflection), it does not directly equate to an adjective's (non-)transitory nature (in the sense of entailing an end point) but rather to its status as a general trait or as a trait temporally relevant to the focus (as opposed to the theme).

Therefore, adjectives comprise a single category, but predication seems to license a trait less "dependent" on its predicand than attribution depends on its head, which, regardless of a predicative adjective's (non-)transitory nature (as e.g. *awake* and *sitting* are transitory while *red* and *small* are not), nevertheless takes precedence as new information in discourse, allowing traits to take on an aspect of time not available to attributes – even if not all adjectives occur in both positions.

2.3.2. Lexically-specified syntactic restrictions on attribution/predication

As discussed above, there are lexical restrictions on both attribution and predication. Some items, however, can be used in either construction:

(17)　　　　The smart/stupid dog is (being) stupid/smart.

This shows that some traits signified by adjectives are non-transitory as either attributes or predicates while being parsed as if they were "transitory" when used in the gerund-participle construction. However, not all adjectives feature this ability:

(18)

　　a.

　　　　i.　The *awake/*asleep/*alive/dead dog

　　　　ii.　The dog is (*being) awake/asleep/alive/dead.

　　b.　　The dead dog is (*being) alive.

Asleep, awake and *alive* are transitory while *dead* is not, congruous with the former group's ungrammaticality as attributes. All are grammatical as predicates, while, in 18b, *alive* can co-exist in predication with attributive *dead* in the same clause, analogous to 14 and 15 above. However, none are grammatical in the progressive tense, signified by the gerund-participle *being*.

This suggests predication motivates new, relevant information which can "override" old information provided by the predicand, while the gerund-participle motivates a transitory nature (entailing an end point) which is blocked by certain lexical items – namely verbs which are lexically transitory (e.g. *asleep*). It can be said that attribution, on the other hand, motivates a non-transitory nature which is also blocked by lexically-transitory items.

Thus, predication would seem to be able both to motivate new information over old and temporally-relevant over general in application of adjectives. In the case of such transitory adjectives, they typically cannot signify old information and likewise cannot occur in attribution. In conclusion, the lexical specification of a transitory nature motivates the syntactic restriction of a given adjective in attribution, and so the semantic properties of an adjective governs its morphosyntactic behaviour.

2.3.3. Predication as head-intersective

Due to (non-)transitory nature not directly motivating (un)grammaticality in attributive/predicative traits (as both *sleeping* and *asleep* are transitory but only the latter is blocked in attribution), Enç's (1986) argument of time parameter is more effective: instead of the attributive/predicative distinction being of (non-)transitory nature, attribution inherits the same time parameter of its head while predication does not inherit the time parameter of its predicand in the same way.

Also, Siegel (1980) explains that attribution need not have an intersective relationship with its head; the set of entities denoted by the attribute need not intersect with the set of entities denoted by the head: an attribute may instead denote a subsective trait associated with the head, such as in *beautiful dancer* ('dancer who dances beautifully') or *self-styled genius* ('genius by his own assertion') (Giegerich 2005a). On the other hand, predication needs to be in an intersective relationship with its predicand within the time parameter specified (i.e. in *the student was* [*once*] *hopeful*, *the student* and *hopeful* need not be intersective at the time of utterance but do need to be intersective at some point in the past due to the preterite copula *was*).

Accordingly, it can be said that the meaning of predication is much less dependent on and influenced by the properties of its predicand than attribution is by those of its head, and thus the former is semantically much less dynamic than the former

(Peregrin 2003):

(19)

    a.

        i.   The Socialist Revolution is (now) not socialist.

        ii. The Socialist Revolution is (actually) not socialist.

    b.

        i.   Our biological engineer ('engineer of biological sciences') is (now) mechanical [being a robot].

        ii. Our biological engineer ('engineer which is biological') is (actually) mechanical [being a robot].

This corresponds to Giegerich's (2005a) claim that adjectives in predication are forced into an ascriptive reading while they are not so in attribution. The syntactic and semantic "distance" of the predicate from the predicand allows for a comparatively regular semantic modification, with the complementary distribution of short and long forms in Russian (present-time) adjectives. Such inflectional motivation provides evidence that the time reference of the adjectival trait is underspecified and so is inherited from its head (either a noun in NP attribution or a verb/tense in VP/TP predication). The time parameter of the predicate is, as stated above, variable – and so is the interpretation of the adjective.

Such time dynamics are analogous to tense in VPs, suggesting that lexical

categorisation is determined by a syntactic unit's role in a larger structure; that category determination is "top-down" rather than "bottom-up" as in more lexicalist theories. In fact, from a constructional perspective, predicative nominal complementation could easily categorised as verbs rather than as [[VERB] [ADJECTIVE]] constructions. Consider the seemingly-complementary distribution of adjectives and adverbs[11]:

(20)

    a.   The (quick/*quickly) graduate was/became unemployed.

    b.   The (quick/*quickly) graduate was/became quickly unemployed.

    c.   The (quick/*quickly) graduate worked [quickly/*red].

20c illustrates that adjectives cannot modify verbs. Similarly, adverbs cannot modify nouns. In fact, in the vein of Distributed Morphology (Marantz 1997), it can be claimed that adjectives and adverbs are essentially the same lexical category respectively specifier to an NP and a VP/AP which motivate surface form in complementary distribution (in the case of most adverbs, [ADJECTIVE]#*ly*]: e.g. *hopelessly*ADV. → *hopeless*ADJ.). If this is in fact the case, it follows that an AP modifying a VP exists in surface form as an adverb rather than the adjective seen in predicative complementation. If this is not the case, the ungrammaticality of an AP modifying a VP still entails that predicative complementation functions as a unit in itself (at least from a top-down perspective).

Thematically, such a phrase functions exactly like a stative verb, lacking true

agentivity, and as stated in Baker (2003: 206) many languages do use stative verbs

to denote such properties. Finally, such a subordination of adjectives to their

superior lexical category supports the argument that adjectives are defined by

having no category (Baker 2003: 267): an adjective/AP must, at the level of the

clause, typically be merged (in the fashion of Bare Phrase Structure[12] [Chomsky

1995]) into a superior category (as adjectives cannot be either predicates or

discourse participants in themselves – consider e.g. *I like

depressed/happy/hopeless and *Depressed/happy/hopeless is nice[13]).

2.4. Conclusion

Nouns are characteristic in that they denote discourse participants. Verbs summarily denote actions which assign thematic roles to said discourse participants. While adjectives behave differently depending on their usage as either attributes or predicates, they can be characterised as being neither discourse participants nor licensors of thematic roles. Due to their lack of binary category distinction, they inherit their context-specific category from their syntactic head: in the case of attribution, (ultimately) a noun; in the case of predication, a verb.

Thus, attributive adjectives can be seen as traits of a discourse participant realised noun-exogenously while predicative complementation can be seen as an extension of typical predication, licensing an intersective time envelope from verbal/inflectional tense. While the distinction between adjectival attribution and predication is blocked by lexically-specified collocational restrictions, the two constructions themselves motivate the realisation of the adjective, exemplified by the complementary distribution of Russian short adjectival inflection in time-intersective predication.

However, in the vein of binary distinction, the true distinction is of lexical items which denote entities able to participate in discourse (traditionally nouns) and items which denote actions licensing thematic roles (traditionally verbs). As phrases can take assume thematic roles at the same time that noun-like items (e.g. gerunds) can assume thematic roles inside the syntactic construction they head,

phrases themselves can assume a category and entities can also be actions.

3. Ascription versus (non-ascriptive) association

3.1. Introduction

A distinctive subset of adjectives exist in English which motivate properties of an

entity associated with the item they syntactically modify rather than the head

(Huddleston & Pullum 2002b: 556). Giegerich (2005a) argues that the semantic

function of such adjectives associative rather than ascriptive in nature (such as

medical and *legal* as opposed to *big* or *dead*) is almost identical to that of nouns,

citing the synonymy of *dental decay* and *tooth decay* as a prototypical example

(Giegerich 2005a: 4) – both *dental* and *tooth* indicate *what* is *decaying*, rather than

how it is *decaying* (as in *slow decay*). Nevertheless, the two are not entirely

identical and interchangeable, as *tooth fairy* ≠ **dental fairy*.

It will be argued that such adjectives are morphosyntactic adjectives which bear

referential index to an entity which is not a participant in discourse, discerning

associative ADJNs from NN constructions (in which either nominal component or

both together can be a discourse participant). Otherwise, as claimed by Giegerich

(2005a), the two are identical in behaviour.

Furthermore, association can dynamically motivate common ascriptive traits

through family resemblance (Jackendoff 2004). Adjectives which are only

ascriptive are structurally regular in their semantic content while exclusively

associative adjectives are highly dynamic and dependent on encyclopaedic

information of the item with which they are in association. Ascription is not

absolute, however, and in associative adjectives, the more closely related the family denoted by the adjective, the more regular the relation between modifier and head is and the more available the ADJN is to syntax.

This phenomenon is not unique to English, shown by parallels in French predication. Furthermore, French shows an interesting distribution in the position of attribution pre- and post-nominally and the ability of such senses to exist in predication. However, just as it will be argued that associative adjectives can motivate ascription, in French, associative adjectives seem to ascribe traits when appearing post-head while this is not necessary in pre-head association.

3.2. Phrase versus lexical item

3.2.1. Criteria: stress and lexical integrity

Giegerich (2005a) claims that such associative AᴅᴊN constructions as *dental decay* or *tropical weather* can simultaneously feature characteristics typical of syntactic phrases and lexical compounds. More relevantly, it seems that associative adjectives feature syntactic properties of adjectives while semantically behaving like nouns.

Like lexical compounds, many associative AᴅᴊNs feature fore-stress, which is considered unique to lexical compounds (Giegerich 2004, Marchand 1969). However, just like lexical compounds, many associative AᴅᴊNs feature end-stress, so this by itself is not a reliable determiner of lexical status (Giegerich 2004). Secondly, lexical integrity is often cited in determining lexical status (Di Sciullo & Williams 1987, Scalise & Guevara 2005). Giegerich (2005b: 47) cites this in explanation when finding *??this decay is dental*[14] to be unacceptable, but *this weather is tropical* acceptable (personal experience, "weather is tropical" - Google Search), suggesting that the former is lexical and the latter phrasal. However, many phrasal AᴅᴊNs are also ungrammatical in the predicative position:

(21)

    a.   The principal idea

    b.   *The idea is principal.

Furthermore, both the presumably "lexical" and "phrasal" group are (in certain cases at least) amenable to the pro-*one* operation:

(22)   (Giegerich 2009: 16)

    a.   Is this the medical appointment or the dental one?

    b.   Is this a cold-water fish or a tropical one?

Notice that both *medical appointment* and *dental appointment* bear fore-stress, presumably indicative of compounds/lexical items, but nevertheless do not conform to lexical integrity criteria as defined by Di Scuillo & Williams (1987) and Scalise & Guevara (2005). Such constructions not only are pro-*one* amenable, but seem fully accessible by the syntax, with few or no restrictions:

(23)

    a.   Is this the medical or the dental building?

    b.   Is this a cold-water or tropical fish?

By these criteria, one could purport that such compounds are "syntactically phrases" due to their syntactic transparency while being "semantically lexical" due to the idiosyncratic, non-structural relationship between modifier and head.

It could be said that *this weather is tropical* features an ascriptive (non-associative) reading of the adjective which in attribution is (non-ascriptively)

associative, and *??this decay is dental* cannot have this reading. However, it will be argued that the same sense is motivating both readings, and that *tropical* ascribes traits to its semantic head through association rather than in spite of it.

3.2.2. Criteria: productivity

The productivity of the constructions in which many associative adjectives occur is greatly restricted, which might suggest that they are actually lexical: *dental appointment/building/cavity/hygiene/professional* is grammatical but #*dental cat/cloud/*"*mug*" (Giegerich 2005b: 47) is not. Associative attributes are not "free forms" semantically, in that their semantic content and grammaticality is highly dependent on their head – unlike fully-productive ascriptive adjectives like *big/green/hard* (Giegerich 2005a: 11). However, such restrictions are collocational in nature and are not limited to lexical items, analogous to phrasal and ascriptive *happy bunny/dog/kid/movie/*#*desk/*#*rock*[15].

One caveat of this analysis is that if all instances of associative ADJN e.g. [*dental* [NOUN]] are indeed (fully) lexical in the traditional sense, the lexicon would be infinitely large: *dental expert* and *dental professional* are attested but !*dental magician* is not. Nevertheless, !*dental magician* is a possible word, plausibly referring to a magician who specialises in applying magic (whether real or metaphorical) to teeth in analogy to *medical magician*.

Dental is indeed productive in creating new forms, despite its productivity being frequently blocked by semantic collocational restrictions and the semantic relationship between *dental* and its head being irregular and dependent on encyclopaedic knowledge and context (Giegerich 2005a). It may be that such adjectives undergo lexical compounding to create new forms: Just as in obvious

cases of NN compounding, the semantic relationship between modifier and head may be either regular and structural or irregular and non-structural.

Alternatively, such (restricted) productivity could be seen as creativity, where non-productive lexical forms create new formations through analogy (Bauer 1983). However, even creativity motivates a (somewhat-)regular and structural semantic structure, and *dental* is not syntactically productive in any semantically-regular/structural sense; forms using *dental* do not (often) share a analogous semantic structure: *dental decay* ('decay of teeth') ≈ *dental building* (*'building of teeth'). Contrast this with the creative re-analysis of -*dar* in *radar* / *sonar* as a semantic head denoting: 'ability to detect complement', spawning e.g. *gaydar* ('ability to detect gay(s)'), *gothdar* ('ability to detect goth(s)') and even "*morphemedar*" ('ability to detect morpheme(s))' (Liberman 2006).

3.2.3. Criteria: semantics

The semantic relationship between modifier and head in associative compounds may not be regular in a structural sense, but patterns of relationship are nonetheless present. Systematic differences exist between direct attribution and predication in the relationship between the acceptability of the construction in question and its semantic interpretation.

Giegerich (2005a) states that gradation and/or modification of an (originally solely) associative adjective is only grammatical when an ascriptive interpretation of the adjective – noun relationship is present. Consider:

    (24)

        a.   A very mechanical engineer

        b.   An amazingly electrical engineer

An ascriptive reading is forced upon *mechanical engineer* and *electrical engineer,* leading to the interpretation that *the engineer* is *mechanical* or *electrical*.

Similarly, Giegerich (2009: 12) illustrates that the pro-*one* operation forces an ascriptive interpretation. Observe:

    (25)   [#]Is that the mechanical engineer or the electrical one?

It follows that the syntactic behaviour of an adjective is motivated by the semantic relation it shares with the noun it modifies.

According to Jespersen (1942), an irregular (or, rather, non-transparent) semantic relationship between modifier and head is another determiner of a lexical compound. However, if all associative ADJN constructions were considered compounds, adjectival compounding would exist side-by-side with roughly the same (extreme) productivity of phrasal adjectival constructions. Moreover, obvious NN compounding exhibits semantic syntactic restrictions similar to associative ADJNs:

(26)

    a.

        i.

            1. The credit/government/state crisis

            2. #The crisis is (a) credit/government/state.

        ii.

            1. Material/paper/rubber goods

            2. The goods are material/paper/rubber.

    b.

        i.

            1. Dental/muscular/radioactive decay

            2. ??The decay is dental/muscular/radioactive.

        ii.

            1. The federal/fiscal crisis

            2. The crisis is federal/fiscal.

With the same restrictions governing the distribution of attribution versus predication applying to both noun – noun and noun – adjective structures, it is apparent the distinctions are motivated by attribution and predication themselves. However, while some adjectives and nouns are subject to restrictions in ascription, this restriction is imposed by the semantic head rather than the modifier:

(27)

    a.

        i.   The Chechen/Gazan/Sudanese village/conflict

        ii. The village/#conflict is Chechen/Gazan/Sudanese.

    b.

        i.   The awful/dangerous/massive village/conflict

        ii. The village/conflict is awful/dangerous/massive.

27aii is unable to be ascriptive when the semantic head is *conflict* but is acceptable when the head is *village* – suggesting that predication forces an ascriptive (but not necessarily non-associative – discussed below) adjectival sense and is ungrammatical when no traits associated with the adjective can be collocationally ascribed to the semantic head. *Chechen/Gazan/Sudanese* cannot ascribe any traits to *conflict* and so are ungrammatical, while they can ascribe traits to *village,* e.g. regarding *culture*(x), *ethnicity*(x) – compare:

(28)

    a.   This Polish city/dish/tradition was once German.

    b.   This architecture/music/university is Baroque/Byzantine.

Here, the distinction between ascription and association is blurred: Constructions such as those above as well as Giegerich's (2009) *cold-water fish* and *tropical fish* are ambiguously associative or ascriptive – or both.

While this "associative ascription" does not regularly motivate a trait in the same way that *big* in *big elephant* and *big problem* does, similar traits can be inferred from family resemblances connected with the associative entity (Jackendoff 2004): For instance, instances of both *tropical fish* and *tropical fruit* feature ¬*tolerate*(*x*, '*cold*'), even if instances of *tropical weather* do not. However, instances of both *tropical weather* and *tropical climate* feature *humid*(*x*) and *warm*(*x*).

Similarly, while *Polish* associates its head with the entity *Poland*, it also can ascribe *traits associated with Poland* to entities such as *sausage* (e.g. *flavourful*(*x*)), *beer* (e.g. *strong*(*x*)) and so on. Thus, common traits are motivated by association. Such collocation regularly follows ontological relations of the semantic head in question: For instance, instances of *tropical life* possesses the trait ¬*tolerate*(*x*, '*cold*') and thus the intersective subset(s) of things which are both *life* and *tropical* reliably inherit this trait:

(29)

    a.

        i.   [[*palm tree*(*x*) ∧ [ISA^{16}(*x, tree*) → ISA(*x, plant*) → ISA(*x, life*)] ∧ ISA(*x, tropical*)] → ¬*tolerate*(*palm tree*, '*cold*')]

        ii. [[*angelfish*(*x*) ∧ [ISA(*x, fish*) → ISA(*x, animal*) → ISA(*x, life*)] ∧ ISA(*x, tropical*)] → ¬*tolerate*(*palm tree*, '*cold*')]

    b.   [[*hurricane*(*x*) ∧ [ISA(*x, storm*) → ISA(*x, weather*)] ∧ ISA(*x*,

$$tropical)] \; \neg\rightarrow [\neg tolerate(hurricane, \text{'}cold\text{'})]]$$

Similarly, the converse is possible: $[(\text{'}monkey\,fish(x) \wedge \text{ISA}(x, fish) \wedge \neg tolerate(x,$
$\text{'}cold\text{'}) \rightarrow \text{ISA}(\text{'}monkey\,fish, tropical)]$, whether or not knowledge exists of !*monkey*
fish's habitat concretely being *tropical/the Tropics*.

In fact, through associative ascription, adjectives can even denote a separate
(albeit related) sense, such as *Baroque/Byzantine* in 28b. In this case, the
properties of the semantic head determine collocation with one (or even more than
one) possible sense:

(30)

    a.   This house is Baroque/Byzantine ('associated with the

             Baroque/Byzantine era/period'/[?]'excessively complex').

    b.   This computer programme is Baroque/Byzantine ([#]'associated with

             the Baroque/Byzantine era/period'/'excessively complex').

    c.   This architecture/university is Baroque/Byzantine ('associated with

             the Baroque/Byzantine era/period'/'excessively complex').

The two senses could be considered separate lexical items, but they are
undoubtedly related and so, at some level, there would be much copied semantic
information otherwise redundant if the two senses were not entirely independent
of one another (Pustejovsky 1995). Likewise, while some items may be *Baroque*
('associated with the Baroque era/period') but not *Baroque* ('excessively complex')

(such as *house*) and some 'excessively complex' but not 'associated with the Baroque era/period' (e.g. *computer programme*), many can be both simultaneously (e.g. *architecture* – much Baroque architecture is very ornate and non-utilitarian/minimalist). This observation accounts for the more-abstract senses of associative adjectives like *Herculean* in e.g. *Herculean effort*: while *Herculean saga* quite directly associates *saga* with *Hercules* (e.g. 'saga about Hercules'), *Herculean effort* ('mighty effort') (vaguely) associates the effort with Hercules (~ 'effort made like Hercules would') but the usage is primarily ascriptive. Even less associated is e.g. *Pyrrhic victory*, where in modern usage there is no (synchronic) association with *General Pyrrhus* except by speakers extremely well-educated in etymology and/or history.

Thus, adjectives typically held to be associative can in fact (also) be dynamic vessels of loosely related ascriptive traits which motivate different specific traits depending on the semantic content of the head they modify. Similarly, an associative adjective's ability to infer such ascriptive traits is entailed by its ability to occur in predication in an interpretable manner. In fact, it seems that nearly all associative adjectives can denote ascriptive traits through family resemblances, assuming satisfaction of collocational requirements of their semantic head and any pragmatic limitations of discourse. Consider, for instance: *The dancer moved with serpentine grace across the ballroom floor – The dancer's skill seemed almost serpentine* or *The [fat] man [swimming at the beach] heaved his phocine form out of the water – That [fat] man [lying on the beach] looks rather phocine.*

Due to the fact that associative adjectives can ascribe traits to their head, it may be better to distinguish ascriptive from non-ascriptive adjectives, either of which may be associative or not: While *big* in *big man* is ascriptive but not associative and *tropical* in *tropical fish* is both associative and ascriptive (through family resemblances), *principal* could possibly be classified as able to be neither associative nor ascriptive – note that items generally unavailable to predication like *main*, *other* and *principal* (cf. **This idea is main/other/principal*) do not denote intersective traits in the same way that e.g. *big* or *happy* or even *tropical* can do. Therefore, ascriptiveness and associativity is in fact merely the description of the relationship between lexical semantics and syntactic behaviour and not an inherent property of lexical items themselves.

3.2.4. Comparison with French pre- and post-head attribution

Although the examples here are in English, other languages also seem to show

such "associative ascription" which behaves differently to pure ascription.

While the position of attribution in French is highly complicated (Bouchard 2002:

57-106), French features many adjectives which differ in semantic structure

according to either pre- or post-head position:

(31)   (*Fickle French Adjectives...*)

i. [[HEAD]x]	Interpretation	ii. [x[HEAD]]	Interpretation
a. *homme grand*	'tall man'	a. *grand homme*	'great man'
b. *homme brave*	'brave man'	b. *brave homme*	'good/decent man'
c. *garçon maigre*	'skinny boy'	c. *maigre repas*	'meagre meal'

In the post-head examples in column i, modification is traditionally said to be

intersective, denoting a property of a subset of the entities signified by the head.

In those in ii, however, the property seems to denote a property of only a subpart

of the head itself (Bouchard 2002: 64-66). This corresponds to the former having

predicative analogues (which inherit intersectiveness from predication) while the

latter do not:

(32)   (Guillaud 28 Jan 2009)

   a.

      i.   l'homme grand ~ L'homme est grand.

      ii. le grand homme ~ *L'homme est grand.

   b.

      i.   l'homme brave ~ L'homme est brave.

      ii. Le brave homme ~ *L'homme est brave.

   c.

      i.   le garçon maigre ~ Le garçon est maigre.

      ii. le maigre repas ~ *Le repas est maigre.

Bouchard (2002: 107-126) claims that the pairs in 31 in fact feature the same adjectival lexical item, albeit that post-head modification affects the entire head while pre-head affects only a subpart thereof. However, syntactic differences exist: for instance, post-head modification is typically gradable and modifiable while pre-head modification is typically not (Bouchard 2002: 150-151). This is analogous to Giegerich's (2005a) claim that association is not modifiable/gradable while ascription is ("#A very electrical engineer"). However, while many meanings signified by a pre-head modifier cannot be replicated in predication, some can be:

(33)   (*Fickle French Adjectives…*, Guillaud 28 Jan 2009)

    a.

        i.   le pull cher ('the expensive jumper') ~

           Le pull est cher. ('The jumper is expensive')

        ii. le cher ami ('the dear friend') ~

           L'ami est cher. ('The friend is dear')

    b.

        i.   la femme jeune ('the youthful/vibrant woman') ~

           La femme est jeune ('The woman is youthful/vibrant')

        ii. la jeune femme ('the young woman') ~

           La femme est jeune ('The woman is young')

33b shows that in predication, the distinction between traits signified by pre- or post-head attribution is not as robust – *jeune* in predication can mean 'youthful/vibrant' and/or 'young'. It can be argued that this is again due to predication's more-distant and -abstract relationship with its predicand, forcing an ascriptive reading (in addition to association). However, it seems that while in English associative adjectives can readily be in predicative position (see section 3.2.3), in French predication of association is highly restricted:

(34)   (Guillaud 29 Jan 2009)

      a.   "poisson/tempête tropical(e)" ('tropical fish/storm') ~

             "*Ce(tte) poisson/tempête est tropical" (cf. 'This fish is tropical')

      b.   "maladie/problème dentaire" ('dental disease/problem') ~

             "*Ce maladie/problème est dentaire" (cf. 'This disease is dental')

Therefore, it seems that while meanings signified by pre-head adjectives often cannot be signified by predication, certain associative adjectives used in post-head attribution (e.g. *tropical/dentaire*) also cannot be used predicatively, despite being in the more semantically regular post-head position. It seems that traits ascribed in association are distinct from traits directly ascribed to their head, even when the relationship between modifier and head is relatively structural (i.e. in post-head position). Also, many instances of associative adjectives in predication appear to be metonymous extension of the sense into another one: consider e.g. *L'homme est cardiac* ('The man has heart problems'/[#]'The man is associated with the heart') (Guillaud 28 Jan 2009).

If ascription versus association is related to intersection versus non-intersection, French attribution shows that assigning qualitative (ascriptive) traits to heads is syntactically motivated – even when the ascribing item is also associative (such as *poisson tropical* as opposed to *poisson gros*). The semantic distinction between post-head, structural modification and pre-head, non-structural modification and the corresponding distribution of senses in each position corresponds to an

adjective's ascriptiveness or lack thereof[17] Likewise, it seems that predication in French is more strongly linked to non-associative ascription than in English, including many associative adjectives being barred from predication. It seems that while both languages show distinction between the (possible) behaviour of associative and non-associative adjectives in predication and attribution, this distinction is much more prominent and less ambiguous in French than in English – motivating a difference even in attribution, in which the distinction is most often ambiguous in English.

3.2.5. Conclusion

The behaviour of associative AᴅᴊNs can only be described by assuming that they are syntactically productive even if their syntactic nature does not regularly motivate semantic structure, just as many NN compounds do. They do not affect the semantic structure of their semantic head structurally and need not be solely associative to behave in such a way: association indicates an associated entity which is structurally separate from the semantic head. When associative AᴅᴊNs do also motivate ascriptive traits, the modifier dynamically motivates traits from a "pool" of loosely-associated traits filtered by collocational requirements set by the entity signified by the head. Similarly, the "degree" of association is variable, ranging from direct (e.g. *dental decay*) to very indirect, where the sense is largely ascriptive and only marginally associative (e.g. *Herculean effort*) – even to the point that association is almost entirely encyclopaedic (e.g. *Pyrrhic victory*).

The motivation of ascriptiveness in predication and the potential blocking thereof shows that any given adjective's ascriptiveness is determined both syntactically and lexically. While the syntactic structure of associative AᴅᴊNs does not motivate semantic structure, the converse is not true: the semantics of associative AᴅᴊNs *do* affect the syntactic associative AᴅᴊN construction through collocational grammaticality restrictions, just as ascriptive AᴅᴊNs do (Pustejovsky 1995).

3.3. Associative adjective – noun parallels

3.3.1. Similarities

The properties of associative adjectival constructions and NN constructions are virtually the same, to the point that many are interchangeable such as *dental decay – tooth decay* (Giegerich 2005a). While they are semantically equal, it will be shown that the distinction between the two is the latter being able to denote a participant in discourse while the former is not able to do so.

Just as with associative ADJN constructions, the semantic relationship between the constituent parts of a lexical compound need not be structural (Minkova & Stockwell 2001):

(35)

    a.   slow decay/work = *slow*(HEAD)

    b.

        i.   dental decay/[#]expert = *teeth*(HEAD)

        ii. iron gate/[#]mine = *iron*(HEAD)

35a is an ascriptive ADJN while 35bi is associative and 35bii is a nominal compound.

Secondly, both compounding and association are productive but not in a regular, structural fashion such as in ascription:

(36)

    a.   big man/idea

    b.

        i. ˈdental magician/#cat

        ii. university incompetence/#kidney

36a is an ascriptive ADJN while 36bi is associative and 36bii is a nominal compound. Note that there are significant collocational restrictions on both associative ADJN and NN compounding.

Many associative ADJNs and NNs can have both an ascriptive (structural) and (largely) associative interpretation (Giegerich 2009):

(37)

    a.   legal battle ('battle allowed by law'/'battle in law')

    b.   military police ('police of the military'/'police composed of the military')

Due to associative adjectives' ability to ascribe traits, the distinction of association versus ascription is more of a description of usage than a lexically-specified category of adjectival items. Nevertheless, as shown in section 3.2.3, a fundamental difference does exist between traits ascribed through association and those ascribed directly by the corresponding item.

However, just as with associative ADJNs (discussed in section 3.2), NNs show varying degrees of ascriptiveness depending on the relationship between modifier and head:

(38)

    a.

        i.   girl thief ('thief which is a girl')

        ii. girl thief ('thief which steals girls')[18]

    b.

        i.   #girl magazine ('magazine which is a girl')

        ii. girl magazine ('magazine for girls')

38ai and 38bi are both ascriptive, which is unacceptable in 38bi in modification of *magazine* (as *magazine* cannot semantically have the trait *girl* [unless such semantic restrictions are overridden in e.g. fiction]). Only a purely non-ascriptive interpretation is possible in 38b.

Thus, from a merely syntactic and semantic viewpoint of language, there would seem to be no difference between the usage of associative ADJNs and NN compounds.

3.3.2. Differences

While associative A<small>DJ</small>Ns and NN compounds seem remarkably similar in behaviour, some crucial differences exist. Firstly, (purely) associative adjectives are neither gradable nor modifiable (Giegerich 2005a):

(39)

    a.   very/happily slow/strenuous/tedious work

    b.   *very/*happily dental/electrical/technical work

However, either an entire NN compound or a local head thereof may be modified (albeit by a [surface] adjective instead of an adverb [see section 2.3.3]):

(40)

    a.   [advanced [research [facility]]]

    b.   [[advanced [research]] facility]

Despite both *dental/electrical/technical* and *research* signifying an entity in association with their respective syntactic head, the entity signified by an associative adjective, as in 39b, cannot inherit traits from a modifier while that signified by a noun, such as in 40, can do so.

Baker (2003: 201-204) claims that truly syntactic constructions (as opposed to lexical) are comprised of syntactic units which must bear the same referential

indices:

(41)   That is a big mistake $\rightarrow \exists x[big(x) \wedge mistake(x)]$

Associative adjectives do not share the same reference but intersection in this way is still acceptable:

(42)   That is dental decay/That decay is dental $\rightarrow \exists x[dental(x) \wedge$

                  $decay(x)]$

Dental associates the head it modifies with the entity *tooth*. However, it does not share reference with its head, *decay* – contrast:

(43)   That is tooth decay/#That decay is a tooth $\rightarrow {}^{\#}\exists x[tooth(x) \wedge$

                  $decay(x)]$.

While the nouns *decay* and *tooth* intersect in *tooth decay*, the two items do not share the same reference, as the unacceptability of the predicative version shows.

Similarly, while shared reference also applies to certain, ascriptive NN compounds, this largely fails in non-ascriptive uses of nominal compounding:

(44)

    a.   That is a boy thief → $\exists x[boy(x) \wedge thief(x)]$

    b.

        i.   That is foundry work → $*\exists x[foundry(x) \wedge work(x)]$

        ii. That is a girl magazine → $^{\#}\exists x[girl(x) \wedge magazine(x)]$ (cf. 38bi)

Each item composing the compound in 44a bears the same identical reference, just as in 43, but in 44b they cannot do so. Note that 40 and 42 are analogous: While NN compounds and ascriptive AᴅᴊNs are modifiable, non-ascriptive (purely associative) AᴅᴊNs remain unmodifiable.

This might support Baker's (2003: 201-202) claim that lexical (i.e. non-syntactic) constructions bear reference collectively, and that 40a above is a syntactic compound (Minkova & Stockwell 2001: 13-15) while 40b is lexical. Similarly:

(45)   This bridge is iron → $\exists x[bridge(x) \wedge iron(x)]$

It seems predication confers traits to the same referent x when nouns are in predication – however, predication is undoubtedly syntactic and not lexical. Similarly, associative adjectives do not bear the same reference as their semantic head but can appear in predication. However, because adjectives can typically only modify nouns, associative adjectives must always have a semantic head and cannot be heads themselves. Furthermore, despite that associative adjectives and

nouns both signify similar entities, the former cannot be modified exogenously in the same way as the latter (cf. [*conservative*~A~ [*politics*~N~]]~NP~ ≈ *[[*conservative*~A~ [*political*~A~]]~AP~ [*machine*~N~]]~NP~). Moreover, modification of an associative adjective forces (a degree of) an ascriptive reading (cf. #[[*conservatively*~ADV,~ [*political*~A~]]~AP~ [*machine*~N~]]~NP~).

Both associative adjectives and nouns (whether individually or as compounds) bear reference, whether it be identical to their respective head or not. However, an adjective must have a syntactic head while a noun need not, serving as a head itself. Although predication is not (syntactically) headed by a nominal (while attribution ultimately is), adjectival predication, as described in section 2.4 above, functions in fact like a (stative) verb in accordance with BPS (e.g. *being*(*x*, '*public*') entails *being*). Adjectives in predication are thus complement to their head verb and signify traits of the predicand through the predicate – predicand relationship, licensing the differing behaviour of predication (a forced ascriptive/structural reading) versus static modification (which does not force such a reading) (Huddleston 2002).

However, it could also be said that predication must have a phrase as a complement, while attributive modification need not, featuring e.g. simply [ADJECTIVE[NOUN]] instead of [AP[NOUN]] (Giegerich 14 Nov 2008): If it is said that an adjective's prototypical reading is ascriptive, and this must be maintained in an AP while it need not be when the adjective is a phrasal non-head, it follows that

predication's forced ascriptive reading is due to predication requiring a phrasal complement. Therefore, constructions like *criminal lawyer* can feature either an (ascriptive) AP modifier or a(n associative) bare adjectival modifier:

(46)

    a.   [[[criminal$_A$]$_{AP}$] [lawyer$_N$]]$_{NP}$ → 'lawyer who is criminal' (ascriptive)

    b.   [[criminal$_A$] [lawyer$_N$]]$_{NP}$ → 'lawyer of criminal law' (associative)

Due to an adjective's dependence on a head noun (regardless of its ascriptiveness or associativity), associative adjectives signify referents which entail and are dependent on another referent. NN compounds, being composed of two (or more) nouns, also comprise a referent entailing another referent. However, nouns can serve as semantic heads while adjectives cannot. Consider:

(47)   [Tom$_{AGENT1, 5}$ [has$_{V1}$ [bad [tooth$_3$ [decay]]]$_{THEME1}$]]. [I$_{AGENT2}$ [wonder$_{V2}$ [which ones [he$_{REF5, AGENT6}$ [has [lost$_{V6}$ [<ones>$_{REF3,}$ $_{THEME6}$]]]]]]].

Tooth is in compound non-head position: English typically features right-head compounds with a few systematic lexical exceptions, such as French borrowings like *court martial* and certain proper noun compounds like *the River Clyde* (Giegerich 2009, Plag 2003: 135-137). Nevertheless, *tooth*'s referent serves as a participant in discourse and inherits a thematic role from the verb *lose* through

one(*s*) referring anaphorically to *tooth*$_{(PLURAL)}$. Such behaviour shows that *tooth*, despite being a syntactic non-head, is fully accessible by the syntax. Contrast:

(48)

    a.   *[Tom$_{AGENT1, 5}$ [has$_{V1}$ [bad [dental$_3$ [decay]]]$_{PATIENT1}$]]. [I$_{AGENT2}$ [wonder$_{V2}$ [which ones [he$_{REF5, AGENT6}$ [has [lost$_{V6}$ [<ones>$_{REF3, PATIENT6}$]]]]]]]].

    b.   [Tom$_{AGENT1, 5}$ [has$_{V1}$ [bad [dental [decay$_4$]]]$_{PATIENT1}$]]. [I$_{AGENT2}$ [wonder$_{V2}$ [how painful [it$_{REF4}$ [is$_{V6}$ [<painful>$_{THEME6}$]]]]]]].

Despite 48a being semantically equivalent to 47, which features an NN construction, the associative adjective *dental* cannot denote a participant in discourse and cannot be referred to by *one*(*s*). As shown in 48b, the signified entity of the whole NP [*bad*] *dental decay* can be a discourse participant (being the theme of *having*) but the internal components remain invisible to discourse. Consider:

(49)   Tom has bad *dental* hygiene [not bodily]!

Although *dental* is highlighted by stress as the focus and new information of the sentence, it does not have a thematic role itself, modifying *hygiene*, that which it signifies being a discourse participant (being the theme of *having*). The new information provided is traits (or in the case of *dental*, an entity) associated with

an entity already introduced in discourse (and thus old information). The pragmatic effect of 49 is analogous to:

(50)   Tom's clothes are clean [not dirty].

Here, syntactic predication denotes new information as opposed to stress doing so in 49. Likewise, the new information of *Tom has bad dental/tooth decay* in 48 is (assuming non-marked phrasal stress) *having*(*bad dental/tooth decay*).

In fact, the ability of that which a noun signifies to serve as a discourse participant is entirely unaffected by the given noun's status as either a compound head or non-head. Consider:

(51)

    a.   My neighbours are classic-car buffs. I hate them.

    b.

        i. My neighbours are classic-car buffs. I hate them – They make a mess in the drive every weekend.

        ii. My neighbours are classic-car buffs. I hate them – They're so clunky and primitive.

        iii. My neighbours are classic-car buffs. I hate them – All that type can talk about is old Aston Martins and the like.

        iv. My neighbours are classic-car buffs. I hate them – They're always

obsessed with one thing in the whole world, no matter how obscure

or pointless.

The theme of *hating,* can be interpreted as *my neighbours*, *classic car*(PLURAL),

classic car buff(PLURAL), or even (marginally) as *buff*(PLURAL) in anaphoric reference

through *them*.

It seems endophora can refer to almost any entity signified by a noun but often

cannot refer to that signified by an associative adjectives[19]: they seem to denote

entities in a cognitive background which cannot be easily referenced in discourse,

while those signified by nouns are accessible to endophora in discourse (Ariel

1999) and can readily assume thematic roles. Consider:

(52)

    a.   I'd like to be a pianist but I can't afford one (*piano/ #pianist).

    b.   #I'm not political because I hate it (*politics*).

    c.   I'd like to be the captain of an ice-hockey team but no one plays it

        (#*captain*/#*ice-hockey team*/*ice hockey*) around here.

Despite that the entity signified by the NP *ice hockey* is embedded in a compound

embedded in a PP serving as adjunct to an NP, it can assume a thematic role in

discourse (nearly) as reliably as that signified by a less-deeply embedded NP (cf. *I*

don't like the captain of the ice-hockey team – he's so conceited). In conclusion, it

seems that a noun's defining characteristic as defining a participant in discourse (Hopper & Thompson 2004) is inviolable regardless of its syntactic (non-)headedness. An adjective, being defined as neither a noun nor verb (see section 2.2 above), lacks this defining characteristic and cannot denote a discourse participant in itself, regardless of whether the adjective bears referential index or not. Of course, adjectives can nevertheless signify new information about an existing discourse participant, such as in examples 49 and 50. However, only those entities denoted by nouns may be discourse participants and take thematic roles issued by verbs, reinforcing the claim that the only lexical category bearing thematic roles are nouns (Hopper & Thompson 2004: 250-254).

3.3.3. Conclusion

Both associative adjectives and nouns bear referential index and can exist in association with a superior semantic reference in the case of modifier – head constructions. Both are syntactically transparent and are amendable to syntactic motivation of semantic properties, such as ascriptive traits from predication. However, associative adjectives ultimately differ from nouns in that that which is signified by associative adjectives cannot be a participant in discourse while the entity referred by a noun can do so.

Thus, at sentence level, *dental decay* and *tooth decay* are identical sans the morphosyntactic differentiation of adjective and noun in non-head position. However, from the level of discourse, each noun of a nominal compound as well as the compound in itself signifies an entity which can be a participant in discourse, assuming thematic roles and able to be the target of pronominal reference in endophora. The entity signified by an associative adjective, on the other hand, does not inherit the ability to participate in discourse, only existing in an association dependent on the entity signified by the associative adjective's head noun.

4. Conclusion: referentiality, discourse and categorisation

As discussed in section 3.2 above, the distinction between ascription and (non-ascriptive) association motivates morphosyntactic behaviour, including the (in)ability of the item in question to appear in predication and pre- and/or post-head attribution as well as (un)gradability/modifiability. However, this distinction arises from the differing sense(s) of the lexical item used rather than differing lexical items themselves. While Giegerich's (2005a) claim that ascription is mandatory in predicative usage of adjectives is true, his division of associative readings from ascriptive is too simple, and he underestimates the frequency of associative adjectives used in an ascriptive sense. In actuality, almost any associative adjective can denote ascriptive traits when in the proper context. Likewise, while adjectives can be both or either ascriptive or associative, some like *main* and *principal* seem unable to be neither.

Furthermore, while Giegerich (2005a) acknowledges semantic parallels between nouns and associative adjectives, he does not acknowledge the pragmatic distinction between the two in discourse. This distinction brings forth an interesting situation where morphosyntactic forms are governed by features which extend beyond the level of the clause in which they exist: Namely, the non-participation in discourse of the entities which associative adjectives signify shows that a distinction exists in the metalinguistic representation of entities signified by different lexical items. Those which denote participants (and thus bear a thematic role) are in the "foreground" of discourse while those which are

not (and bear no thematic role) are in the "background". Entities in the

background signified are able to be brought to the fore in discourse and take

thematic roles, but while the entities signified by nouns (even those inside

compounds) are accessible to such a function, those signified by associative

adjectives are not, not being represented:

(53)

    a.   Tom has bad tooth decay. I wonder which ones he has lost.

    b.   *Tom has bad dental decay. I wonder which ones he has lost.

Although an adjective (ascriptive or not) may be highlighted in discourse as new

information, such new information is dependent on the semantic head of an entity

in the foreground, which therefore bears a thematic role. This semantic "lack of

identity" and dependence on a head parallels the morphosyntactic lack of

adjectival categorical distinction proposed by Baker (2003). However, Baker

limits this distinction to inherent properties of lexical items, while in fact this

distinction is a description of the (possible) behaviour of lexical items which is

dependent on context.

Interestingly, with adjectives' non-nominal/discourse participant, non-

verbal/action status and the behavioural distinction between associative adjective

and noun limited to the signified entity's place in discourse or lack thereof, the

status of lexical categories in the traditional sense is tied not to morphosyntactic

criteria, which would discern adjectives from nouns or verbs but not associative adjectives from non-associative; nor is it dependent merely on the semantic signification of entities and thematic-role licensors, which would discern associative adjectives and nouns from non-associative adjectives or verbs but would not allow clauses to behave like entities in discourse. Rather, the binary categorical distinction of ±NOUN/±VERB is irrelevant in English discourse – although it retains its relevance in sentences removed from discourse. In the flow of discourse, the distinction is instead of entities able to participate in discourse and assume thematic roles (discourse heads) and actions which license such roles.

In this line of categorisation, the utterance *Bob likes walking his loud dog slowly in the park* is analysed as one action, *liking,* and two discourse participants – *Bob* (an agent) and *walking his loud dog slowly in the park* (a theme). *Walking his loud dog slowly in the park* in isolation, however, is comprised of the action *walking* (*slowly*) and the discourse participants *his loud dog* (a theme) and *the park* (a location). Likewise, consider:

(54)   Bob slowly walks his loud dog in the park every Sunday morning.
         I hate that.

The first sentence is composed of the action *walking* (*slowly*), the participants *Bob* (an agent), *his loud dog* (a theme), *the park* (a location) and *every Sunday morning* (a time). The second sentence is composed of the action *hating* and the

participants *I* (an agent) and *that* (a theme). However, the antecedent of *that* is *Bob slowly walking his loud dog in the park every Sunday morning* – the phrase is now a theme.

In this line of thought, an entity signified by a noun inside an NN compound can assume a discourse category even if it is not assigned a thematic role locally, while those signified by an associative adjective can never do so.

Together, these sentences provide the actions *having*, *wondering*, *losing* and the participants *Tom*, *I*, *tooth*(PLURAL) and *bad tooth decay*. The same morphosyntactic form *tooth* is "recycled" in *bad tooth decay* by the ability to associate an entity (*tooth*(PLURAL)) with another (*decay*) without entailing it being in the "foreground" of discourse – even if it is brought to the fore in a later utterance. The distinction between associative adjectives and nouns is that the entity signified by the former cannot be brought to the fore, as example 53b shows.

Thus, categorisation (of well-formed speech at least) comprises the relationship between actions and the entities they entail, dynamically affected by the application of discourse effects. Whether it be in morphosyntax, semantics, or discourse, adjectives remain distinct in being essentially "non-categories" – associative adjectives fill the niche role of allowing entities which would otherwise have to be signified by a noun to be signified by such non-categories.

These -NOUN -VERB items, unlike nouns, have the ability to ascribe traits to their semantic head through fuzzy groups of related traits even in predication. Nouns, on the other hand, exhibit significant restriction in this function due to their inherent reference (e.g. *iron bridge* ~ *This bridge is iron / tooth decay* ~ **this decay is* (*a*) *tooth*). It can be said that virtually any adjective which is associative can be forced into an ascriptive reading in this sense without entailing identical reference.

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Notes

1 Henceforth abbreviated as AᴅᴊN.

2 Henceforth abbreviated as NN.

3 Interestingly, morphological restrictions apply to conversion as well: *[reduce$_V$+(t)ion$_N$]$_V$ (*reduction$_V$) is ungrammatical. If nominalisation/verbalisation was purely syntactic in the same way that e.g. subject – object inversion is, *reduction$_V$ should be possible – however, it appears that morphologically-derived items are often unavailable to such processes of conversion. Interestingly, there need not already be a verb formed from its morphological root (such as reduce$_V$ in the above example): For instance, destruction$_V$ can be analysed as destruct$_V$+(t)ion$_N$ (in the same fashion as self-destruct$_V$ – analysed as self$_N$+destruct$_V$) but *destruct$_V$ is ungrammatical in some forms of English (including the author's) (although it is in fact listed in the Oxford English Dictionary – albeit as a back-formation of destruction). This, along with the argument-structure changes required, shows that derivation in this form is too powerful.

4 In the vein of Chomsky (1965, 1970) it is possible that such "action" nouns are transformationally derived from verbs in deep structure, such that deliverance$_N$ (realisation) → deliver$_V$ (deep structure). However, this evaluation presents numerous problems, including but not limited to different restrictions on argument realisation of nouns and their verbal counterparts as well as the simple fact that not every verb has a nominal counterpart. For an in-depth evaluation, see Scalise (1986) and Spencer (1991).

5   The universal unacceptability of *ready dinner* is challenged below**.**

6   Some speakers (notably of Scottish English) find *asleep dog* to be grammatical
    (personal experience) – it is unknown whether this is a difference in syntactic
    grammaticality of lexically-transitory adjectives in modifier position or simply
    differing semantic structure of the item *asleep*.

7   Such a distinction between actions denoted by the gerund-participle
    construction and states is fuzzy, due to the propensity of gerund-participle
    forms used to denote states: for instance, *living* can (marginally) be considered
    an action, but there is little if no agentivity present prototypical of an action.
    While agentivity is not necessary (such as in *raining*), actions are also
    discerned from states by (typically) having an end point (Dowty 1979).
    Nevertheless, in such "state-like" uses of a gerund-participle, such as *This
    plant is living* [*unlike the other one*], the supposed action's end point is not
    necessarily relevant in discourse. It will be discussed in section 2.4 that such a
    nature of being a "state" without an end point (or, more appropriately, non-
    transitory) is in fact inherited from the congruity of the time parameter of the
    semantic head and its syntactically exogenous traits.

8   It could also be said that *being*('*asleep*') and/or *sleeping* need not have an end
    point, such as in:

    (1)   Nebuchadnezzar sleeps under the desert sands.

    However, (in non-metaphorical usage) an end point is present by default.

Consider when a parent tells a child that a recently-deceased relative is "only sleeping" to shield the child from the reality of *being*('*dead*') (typically without an end point): both *being*('*dead*') and *being*('*asleep*') → ¬*being*('*awake*'), but the former does not (typically) have an end point while the latter does. Thus, the parent's consolation entails that the deceased person will once again be *awake* in the undefined future. Thus, ¬*being*('*awake*') does not entail an end point (as *being*('*dead*') → ¬*being*('*awake*')), but *being*('*asleep*') (typically) does.

9 This excludes the metaphorical extension of *running* applied to machines such as *cars* and *computers*.

10 Predication in non-present time is more complicated but discussion thereof is not necessary for illustration of the distinction of Russian short-form adjectives from long-form. For further information see Wade (2000: 179-180).

11 According to Giegerich (14 Nov 2008), "*The recent arrival of...*" and [‰]"*The arrival recently of...*" are both possible – however, the latter seems much less acceptable (personal experience)

12 Henceforth abbreviated as BPS.

13 According to Huddleston & Pullum (2002b), in some cases, APs can indeed exist at the clause-subordinate level – consider: *Pessimistic is the best strategy.* However, this is very uncommon and peripheral and could be explained by nominalisation similar to: *The pessimistic are always either proven right or pleasantly surprised* (see section 2.1).

14 Some contexts allow such a predicative use of *dental*, however. Consider:

(2)   This decay is dental in nature.

In fact, in certain contexts, almost any associative adjective can be "ascriptivised" intersectively:

(3)

    a.   Q: "What sort of [bodily] tissue are we looking at here?"

        A: "Cardiac".

    b.   Q: "What sort of [legal] case are we dealing with?"

        A: "It's civil, sir; I don't do criminal any more".

15 Constructions like *happy desk* and *happy rock* are grammatical when associative – compare *happy place* ('place which makes one happy') – suggesting that certain ascriptive adjectives can be forced into an associative interpretation, mirroring the function of "associative ascription" in section 3.2.1.

16 Abbreviation of "is an instance of" (Hudson 2005).

17 Interestingly, some parallels exist in English post-head attribution – consider:

(4)

    a.

        i.   A driver asleep at the wheel is a great danger at night.

        ii.   A student depressed is a poor student indeed.

    b.

    i.   #An engineer mechanical by education can also do civil

        engineering.

    ii.   #An epidemic moral is the worst epidemic of all.

Post-head modification like this is relatively marked and of a low frequency in English while being commonplace in French.

18 Some NN compounds derived from verbs synthetically feature arguments (Plag 2003: 149-150) which can be considered another type of "structural" compounding (as opposed to non-structural, associative compounding like *armchair commander*). Nevertheless, such synthetic compounding still defies the structural relationship discussed in this paper.

19 A notable, marginal exception is word-internal endophora, such as in self-hate, self-destruction and autopilot, available to both nouns and adjectives:

(5)

    a.   Student/academic self-hate is alive and well.

    b.   The government/Yugoslavian self-destruction was unexpected.

    c.   Car/automotive autopilot would be fantastic.