

Beiträge aus Forschung und Anwendung

Syntax

Adjectival Constructs in Arabic

Joost Kremers

This paper discusses a particular adjectival construction in Arabic, in which an adjective is modified by a noun which is assigned genitive case by the adjective. Although the genitive noun appears to be the subject of the adjective, it is shown that this is actually not the case. Rather, the genitive noun is an internal argument of the adjective. The adjective plus noun combination is used as a predicate, and the noun specifies to which aspect of the subject the adjective specifically applies.

1 Introduction

In this paper, I discuss a specific adjectival construction in Arabic, the adjectival construct. This structure is formed by an adjectival head that is modified by a noun taking genitive case, apparently assigned by the adjective. The whole structure has the distribution of an adjective, with the genitive noun specifying in which respect the adjective applies to the noun it is predicated of.

Similar structures in Hebrew are argued to be complex adjectives in which the genitive noun is assigned the external theta role of the adjective (Hazout 2000, Siloni 2002, Kim 2002). I show that this analysis is problematic on empirical grounds. Instead, I argue that the genitive noun receives an internal theta role of the adjective, and that this internal theta role can be identified as an *attribute* (Higginbotham 1985).

The structure under consideration is demonstrated in (1):

- (1) a. imra'-at-un jamīl-at-u -l-wajh-i
 woman-f-NOM beautiful-f-NOM the-face-GEN
 ‘a woman with a beautiful face’ (lit. ‘a woman beautiful of face’)
- b. al-rajul-u -l-^cazīm-u -l-ḥazz-i
 the-man-NOM the-great-NOM the-fortune-GEN
 ‘the man who is very lucky’ (lit. ‘the man great of fortune’)

In (1a), the relevant adjective is *jamīl* ‘beautiful’. This adjective is modified by the noun *al-wajh* ‘the face’. As indicated, the noun takes genitive case. An informal paraphrase of the construction can usually be made with the phrase *with respect to*: (1a) can be paraphrased as *a woman beautiful with respect to the face*, (1b) as *a man great with respect to his fortune*.

In order to distinguish the various elements of the construction, I use the following terminology: the adjective together with its complement noun is called *adjectival construct*. I refer to the adjective simply as *adjective*, or as *adjectival head*. The noun that modifies the adjective is the *genitive noun* or *genitive complement*. Lastly, the noun that is modified by the adjectival construct is referred to as the *head noun*.

So in (1a), the head noun is *imra* ‘a woman’, the adjective is *jamīla* ‘beautiful’ and the genitive complement is *wajh* ‘face’. Similarly, the head noun in (1b) is *rajul* ‘man’, the adjective is *‘aẓīm* ‘great’ and the genitive noun is *ḥazz* ‘fortune’.

2 Adjectival genitives as construct state

Let us first look at the structure of the constructions in (1) in some detail. Two important facts stand out: first, adjectival constructs are construct states, and second, adjectival constructs are adjectives. Since both these facts are relevant for the analysis, I will illustrate them in some depth.

The Semitic construct state is the typical genitive/possessive structure in Arabic. (See e.g. Ritter 1991, Siloni 1997, Kremers 2003 and references cited therein.) It consists of a head noun that is modified by another noun that takes genitive case. In Classical/Standard Arabic, the genitive case is realised overtly, in spoken Arabic dialects and in e.g. Hebrew, which have all lost overt case marking, it seems reasonable to assume that genitive case is covert.¹

Apart from the assignment of genitive case, construct states have two salient properties. First, the head (possessed) noun of the construct state does not have any formal definiteness marking. In Arabic, for example, a noun normally takes either an indefiniteness suffix *-n*,² or a definite determiner *al-*. It cannot appear without one of these:

- (2) a. *bayt-u-n*
house-NOM-INDEF
‘a house’
b. *al-bayt-u*
the-house-NOM
‘the house’
c. **bayt-u*
house-NOM

¹ See below, where I argue that genitive case is a structural case.

² There is a class of nouns called *diptotic* nouns that do not take this suffix, but instead have different case endings when they are indefinite.

However, when a noun is the head of a construct state, neither *-n* nor *al-* can be present on the noun:

- (3) a. bayt-u -l-rajul-i
 house-NOM the-man-GEN
 ‘the man’s house’
 b. (*al)-bayt-u-(*n) -l-rajul-i
 (*the)-house-NOM-(*INDEF) the-man-GEN

Similarly, the adjective head of the adjectival construct does not allow an indefiniteness marker:³

- (4) *imra’-at-u-n [jamīl-at-u-n -l-wajh-i]
 woman-f-NOM-INDEF beautiful-f-NOM-INDEF the-face-GEN

The second property that is typical of the construct state is that no element can intervene between head noun and genitive complement. For example, adjectives in Arabic are postnominal:

- (5) al-sayyār-at-u -l-ḥamrā’-u
 the-car-f-NOM the-red(f)-NOM
 ‘the red car’

In order to modify the head noun of a construct state with an adjective, the adjective must be placed *after* the genitive complement. It cannot appear directly after the head noun, which would be the expected position:⁴

- (6) a. *sayyār-at-u (-l)-ḥamrā’-u -l-rajul-i
 car-NOM (the)-red-NOM the-man-GEN
 b. sayyār-at-u -l-rajul-i -l-ḥamrā’-u
 car-NOM the-man-GEN the-red-NOM
 ‘the man’s red car’

Similarly, the head of the adjectival construct cannot be separated from its genitive complement in any way. Normally, for example, an adverb modifying an adjective appears directly after the adjective, as in (7a). In an adjectival construct, however, it must follow the genitive complement, in the same way that the adjective in (6) must:

- (7) a. jamīl-un jiddan
 beautiful-NOM very
 ‘very beautiful’
 b. *imra’-at-un [jamīl-at-u jiddan al-wajh-i]
 woman-f-NOM beautiful-f-NOM very the-face-GEN
 c. imra’-at-un [jamīl-at-u -l-wajh-i jiddan]

³ For reasons that will become clear below, it does allow a definite determiner.

⁴ The only exception to this is the demonstrative. But this is easily explained on the standard assumption that demonstratives are extensions of the projection of the noun, that is, the demonstrative occupies a head position c-commanding N. In Arabic, this must be a head separate from D, because a demonstrative must co-occur with a definite determiner.

woman-f-NOM beautiful-f-NOM the-face-GEN very
 ‘a woman with a very beautiful face’

Given the fact that the genitive complement of an adjectival construct is assigned genitive case, and given the fact that adjectival constructs share the two most salient properties with nominal construct states, we can conclude that they are indeed construct states. The only fact that seems to point against this conclusion is the fact that the adjectival construct state can take a definite determiner. Note, however, that it can only take the *definite* marker, not the *indefinite marker*. As I argue in Kremers (2003), the definite determiner that appears on adjectives is not exactly the same as the one that appears on nouns, so we can assume that the definiteness feature on the head of an adjectival construct is indeed not marked, in the same way that it is not marked on the head of a nominal construct.

3 Adjectival genitives as adjectives

Having established that adjectival constructs are construct states, let us now turn to their status as adjectives. Adjectival constructs share several typical properties of adjectives. First, like adjectives, they can be used attributively and as sentential predicates:

- (8) a. ’anta ʿaẓīm-u -l-ḥazz-i
 you great-NOM the-fortune-GEN
 ‘you are very lucky’ (lit. ‘you are great of fortune’)
- b. bayt-un kaṭīr-u -l-’abwāb-i
 house-NOM.INDEF many-NOM the-doors-GEN
 ‘a house with many doors’ (lit. ‘a house many of doors’)

(8b) shows an adjectival construct used attributively, modifying a noun. It is in fact no different from the examples we have seen so far. (8a) shows an adjectival construct used as a sentential predicate, in a copular sentence.⁵

Another typical property of adjectives, the ability to be modified by degree adverbs, also applies to adjectival constructs:

- (9) imra’-at-un jamīl-at-u -l-wajh-i jiddan
 woman-f-NOM beautiful-NOM the-face-GEN very
 ‘a woman very beautiful of face’

Lastly, note how in Arabic attributive adjectives always agree with the noun they modify in definiteness. That is, if the noun is indefinite, usually marked with the suffix *-n*, then the adjective also takes indefinite form, as demonstrated

⁵ Note that Arabic does not normally use an overt copula in present-tense copular sentences.

in (10a).⁶ Similarly, an adjective that modifies a definite noun takes a definite determiner, as in (10b):

- (10) a. bayt-un ḥajariyy-un
 house-NOM.INDEF stone-NOM.INDEF
 ‘a stone house’
 b. al-bayt-u -l-ḥajariyy-u
 the-house-NOM the-stone-NOM
 ‘the stone house’

As already noted above, the adjective in an adjectival construct cannot be marked for indefiniteness. However, it can take an additional definite determiner, but it only does this when it modifies a definite noun. This means that the contrast between modification of an indefinite and a definite noun also exists for adjectival constructs:⁷

- (11) a. rajul-un [ʿazīm-u -l-ḥazz-i]
 the-man-NOM.INDEF great-NOM the-fortune-GEN
 ‘a man who is very lucky’
 b. al-rajul-u [-l-ʿazīm-u -l-ḥazz-i]
 the-man-NOM the-great-NOM the-fortune-GEN
 ‘the man who is very lucky’

We see then that adjectival constructs have the properties of both construct states and of adjectives. In both there is one quirk: adjectival constructs allow an additional definite determiner, while construct states do not, and adjectival constructs cannot be marked for indefiniteness (except through the lack of definiteness marking), while adjectives can. Both quirks, however, are due to the mixed nature of the construction: the definiteness marking is due to their adjectival nature, and the lack of indefiniteness marking is due to the construct-state nature

⁶ Just as there are diptotic nouns, there are diptotic adjectives. Note that this is purely a morphological property of the noun or adjective in question. That is, a diptotic noun does not trigger diptotic inflection on the adjective, or vice versa.

⁷ Hebrew adjectival constructs also agree in definiteness with their head noun, but they do it in a way that is more consistent with nominal constructs. In Hebrew, definiteness agreement is marked on the genitive noun:

- (i) a. na'ara šxorat se'ar
 girl black hair
 ‘a girl with black hair’
 b. ha-na'ara šxorat ha-se'ar
 the-girl black the-hair
 ‘the girl with black hair’
 c. *ha-na'ara ha-šxorat se'ar
 the-girl the-black hair
 ‘the girl with black hair’
 (Hazout 2000)

In an adjectival construct modifying an indefinite noun, the genitive noun does not take the determiner *ha-*, while a definite head noun requires the presence of *ha-* on the genitive noun, but still excludes it from the adjective. Note that in Arabic, the genitive noun is always definite.

of the construction. In short, the two quirks can be explained, and do not contradict the conclusion that adjectival constructs are both construct states and adjectives.⁸

4 Hebrew adjectival constructs

Let us now look at the analysis that has been offered for Hebrew adjectival constructs. A typical example is (12):

- (12) yalda yefat 'eynayim/se'ar
 girl beautiful.CS eyes/hair
 'a girl with beautiful eyes/hair'

The structure is discussed by Hazout (2000), Siloni (2002) and Kim (2002). The gist of the analyses they offer is the same, so I will focus on the common idea of their analyses, rather than discuss them each in detail.

In the analysis offered by these three authors, adjectival constructs are complex adjectives that are formed in syntax. This is shown by the fact that adjectival constructs always have a transparent meaning. Although most nominal construct states have a fully transparent meaning and can therefore be assumed to be formed in syntax, some construct states in Hebrew (and likewise in Arabic, although the lexicalisation effect is usually not as strong) can have a lexicalised meaning that cannot be deduced from the component parts:

- (13) beyt ha-sefer
 house the-book
 'the school'
 (Hazout 2000, p. 38)

(13) shows a typical example of a construct state with an unpredictable meaning, which suggests that it is formed in the lexicon rather than in syntax. Adjectival constructs, however, never show such a lexicalised meaning, and instead have all the characteristics of syntactic formations. (For a full discussion, see Hazout 2000.)

Second, Hazout, Siloni and Kim all argue that the genitive noun must be an inalienably possessed noun, and that the head noun must be its possessor. So while (14a) with body-part nouns is grammatical, (14b), with alienably possessed nouns, is not:

- (14) a. yalda yefat 'eynayim/se'ar
 girl beautiful.CS eyes/hair
 'a girl with beautiful eyes/hair'
 b. *yalda yefat 'ofana'im/mexonit/bayit

⁸ This of course does not answer the question why Arabic does not use the same method for definiteness agreement in adjectival constructs as Hebrew does. Unfortunately, I have no idea why this would be the case.

girl beautiful.CS bicycle/car/house
 'a girl with a beautiful bicycle/car/house'
 (Siloni 2002, p. 5)

One essential point in Hazout, Siloni and Kim's analysis is that the genitive noun is claimed to be the subject of the adjective, and as such is assigned the *external* theta role of the adjective. This assumption, however, raises a serious question. A predicate can only function as a predicate by virtue of the fact that one of the arguments in its argument grid has not been assigned. For example, an adjective such as *red* has one argument, its subject, i.e., the thing of which it is predicated. In the lexical entry *red*, this argument is not saturated. It is this open argument position that allows *red* to be predicated of a noun: in the predicational structure, the noun is assigned the theta role of the open argument.

In the analysis proposed by Hazout (2000) and the other authors, the genitive noun in the adjectival construct is assigned the external, open, argument position of the adjective; e.g. in *yefat se'ar* 'black of hair', the open argument position of *yefat* 'black' is saturated by the noun *se'ar* 'hair'. As a result, the construction no longer has an open argument position, and therefore it would not be possible to use it as an adjective. Nonetheless, adjectival constructs *are* used as adjectives, as the examples above clearly show.

Hazout, Siloni and Kim seek the answer to this problem in the claim that the genitive noun must be an inalienably possessed noun. Inalienably possessed nouns have a typical property: they can normally only occur when there is a possessor, either overtly present or understood:

(15) #the hair is black

Uttering (15) out of the blue is inappropriate (and in fact a hearer will try to find a possible possessor for *hair*). This property of inalienably possessed nouns is accounted for by assuming that they have a lexical possessor argument, which means that they always have a possessor role that must be assigned.⁹

In adjectival constructs, a possessor is not available for the genitive complement, which means that the lexical possessor role is not assigned. In Hazout, Siloni and Kim's analysis, it is exactly this fact that enables adjectival constructs to be used as predicates: the possessor role of the genitive noun, which is necessarily present as it is a lexical role, is not filled, hence remains open. It is this argument that gives the construction its open argument position.

⁹ In Hebrew and other languages, inalienably possessed nouns actually have special syntactic properties:

- (i) ha-rofe badak l-o 'et ha-'ozen
 the-doctor examined to-him ACC the-ear
 'the doctor examined his ear'
 (Siloni 2002)

An inalienably possessed noun in Hebrew, such as *ha-'ozen* in (i), can occur with a possessor external to the noun phrase, as the PP *l-o* 'to-him'. Other types of nouns do not allow this type of construction.

5 Problems for the analysis

One thing that the analysis sketched above should account for is how the internal argument becomes the open argument position of the predicate formed by the adjectival construct. Under standard assumptions, the open argument of an adjective is its external argument. The lexical possessor, however, is an argument of the genitive noun, and therefore certainly not the external argument of the adjective.¹⁰ The analysis therefore needs to explain how an argument of the genitive complement becomes the external argument of the adjectival construct. Hazout (2000) argues that this happens through the interaction of morphology and syntax, but the account is not entirely convincing. Assuming that the morphological and the syntactical representation of a phrase freely exchange features, Hazout claims that “(...) the morphological rule of A+N compound formation involves as one of its components the externalization of the internal argument of N. The internal possessor argument of [the genitive complement] therefore passes up its index to the dominating node.” In other words, Hazout claims that the promotion of the genitive complement’s possessor argument to the external argument is a process that takes place in morphology, and because of the fact that morphology and syntax share features, the argument is externalised in syntax as well.

The idea that the morphological and syntactic structures of a given phrase share information (an idea that Hazout adopts from Sadock 1991), obviously makes sense, but the idea that A+N compound formation involves externalisation of the internal argument of N seems rather *ad hoc*. Argument structure is part of the lexicon and is subject to lexical and syntactic processes (saturation/assignment, passivisation, applicative formation, causativisation, etc.) but morphological processes do not affect it.¹¹ So it seems unlikely that an internal theta role can be externalised through a morphological process.

Kim (2002) and Siloni (2002) do not discuss the process through which the internal argument of the genitive noun becomes externalised, other than mentioning that it happens. Siloni states (p. 8): “I propose that the inalienable noun and the adjectival head form a complex predicate – an unsaturated expression due to the empty slot of the inalienable noun – which is saturated by the external noun.” Kim does work out the semantics of the construction,¹² but does not

¹⁰ And given the assumption that the external argument of a noun is its referential argument *R* (Higginbotham 1985, Zwarts 1992), the possessor is not even the external argument of the noun, but an internal one.

¹¹ Obviously, the lexical and syntactic processes that affect argument structure may induce morphological effects, such as passive marking, but this is not the same thing as a morphological process having an effect on argument structure.

¹² In short, it looks like this:

- (i) a. $\text{TR}(\text{eyes}) = \lambda u \lambda v [\text{eyes}(u)(v)]$
 b. $\text{TR}(\text{pretty.CS eyes}) = \lambda x [\text{pretty}(t_y [\text{eyes}(x)(y)])]$
 c. $\text{TR}(\text{pretty.CS}) = \lambda R_{\langle \text{eet} \rangle} \lambda x [\text{pretty}(t_y [R(x)(y)])]$

describe how this operation takes place syntactically. In other words, the analysis of Hazout, Siloni and Kim leaves this important question open.¹³

Another fact that should receive an explanation under the analysis of Hazout, Siloni and Kim but does not, is the lack of agreement between the adjective and its genitive complement. If the genitive complement is indeed the subject of the adjective, agreement would normally be expected, at least in Hebrew and Arabic, where a predicate usually agrees with its subject in ϕ -features. However, both in Hebrew and in Arabic, the adjective agrees in ϕ -features with the head noun, not with its genitive complement:

- (16) a. ha-ne'arot [šxorot / *šxor ha-se'ar]
 the-girls [black(f.pl) / *black(m.sg) the-hair]
 b. na'ar [yefe / *yefot eynayim]
 boy [pretty(m.sg) / *pretty(f.pl) eyes(f)]
 (Hazout 2000, p. 36)

The Arabic facts show the same. The adjective agrees in gender (17a) and in number (17b) with the head noun, not with its genitive complement:

- (17) a. al-mar'-at-u [-l-^cazīm-at-u / *-l-^cazīm-u
 the-woman-f-NOM [the-great-f-NOM / *the-great(m)-NOM
 -l-ḥazz-i]
 the-fate(m)-NOM]
 'the very lucky woman'
 b. al-bint-u [-l-jamīl-at-u / *-l-jamīl-at-āni
 the-girl(f)-NOM [the-beautiful-f-NOM / *the-beautiful-f-DU.NOM
 -l-^cayn-ayni]
 the-eyes-DU.GEN]
 'the girl beautiful of eyes'

Lastly, and most importantly, the analysis proposed by Hazout, Siloni and Kim is in fact observationally incorrect. All three authors claim that the class of nouns that can appear as genitive complement is restricted to inalienably possessed nouns. This would follow from the assumption that the possessor argument of the genitive noun must be lexical and cannot be syntactic.

An inalienably possessed noun such as *eyes* (the words here should be read as glosses for the Hebrew words) is a two-place predicate: the internal argument denotes its possessor, the external argument denotes its referent, as in (ia). The construct state adjective *pretty*.CS turns a two-place predicate such as *eyes* into a one-place predicate with the possessor argument remaining open, as in (ib-c).

¹³ In general, whenever a predicate does not have an open external argument position but only an internal one, a movement operation is assumed to take place in syntax; e.g., passivisation, ergative verbs, so-called *tough*-movement. For the analysis proposed by Hazout, Siloni and Kim, *tough*-movement would seem like a possible solution. However, if the genitive complement is indeed the subject of the adjective, we are most likely dealing with noun-phrase predicate inversion structures. (See Bennis, Corver & den Dikken 1998 and den Dikken 1998.) If this is the case, it is not possible for an operator to move from an argument position inside the genitive complement to a specifier position of the adjective (which would be required to externalise the argument), because such movement is ruled out in predicate inversion structures. (See den Dikken 1998 for details.)

However, this claim cannot be correct, for the following two reasons. First, like inalienably possessed nouns, kinship terms also have a lexical possessor argument. The analysis would therefore predict that they can appear in adjectival constructs, which, however, they cannot:¹⁴

- (18) *yalda yefat 'axot/'em/savta
 girl beautiful.CS sister/mother/grandmother
 'a girl with a pretty sister/mother/grandmother'
 (Siloni 2002, p. 5)

Second, it is simply not the case that alienably possessed nouns do not appear in adjectival constructs. Inalienable possession is usually restricted to body-part nouns, and as (19) shows, non-body part nouns can easily occur in adjectival constructs:

- (19) a. zo dira rexavat xalonot
 this apartment wide(f.sg) windows
 'this is an apartment with wide windows'
 (Siloni 2002, p. 6)
 b. 'erec merubat 'oxlusin
 country plentiful population
 'a country whose population is big'
 (Hazout 2000, p. 29)
 c. ha-yeled mešubac ha-xulca
 the-boy plaid the-shirt
 'the plaid-shirted boy'
 (Hazout 2000, fn. 3)

The nouns *xalonot* 'windows', *'oxlusin* 'population' and *xulca* 'shirt' are not normally considered to be inalienably possessed. Similar examples abound in Arabic:¹⁵

- (20) a. bayt-un kaḫīr-u -l-'abwāb-i
 house-NOM many-NOM the-doors-GEN
 'a house with many doors' (lit. 'a house many of doors')
 b. al-rajul-u -l-^cazīm-u -l-ḫazz-i
 the-man-NOM the-great-NOM the-fate-GEN
 'the man who is very lucky' (lit. 'the man great of fate')
 c. 'aḫār-un bālīḡat-u -l-ḫuṭūrat-i
 effects-NOM extreme-NOM the-danger-GEN
 'extremely dangerous effects' (lit. 'effects extreme of danger')
 d. al-šarikāt-u -l-muta^caddidat-u -l-jinsiyyāt-i

¹⁴ Kim (2002) does offer two possible explanations for this fact, which are based on the intuition that the genitive complement must somehow be a part of the head noun. I believe that this observation is indeed correct, as I explain below.

¹⁵ In fact, it is my impression that by far the majority of adjectival constructs in Arabic are formed with alienably possessed nouns.

b.	ḥall-u	-l-ṭālib-i	
	solution-NOM	the-student	
	‘the student’s solution’		(subject)
c.	ḥall-u	-l-muškilat-i	
	solution-NOM	the-problem-GEN	
	‘the solution of (to) the problem’		(object)
d.	ḥajm-u	-l-ġurfat-i	
	size-NOM	the-room-GEN	
	‘the size of the room’		(property-carrier)
e.	ʿamal-u	-l-šāʿir-i	
	work-NOM	the-poet-GEN	
	‘the poet’s work’		(agent)
f.	madrāsāt-u	ʾah-ī	
	school-NOM	brother.GEN-my	
	‘my brother’s school’		(belonging-to)

The variety of theta roles that the genitive noun can receive clearly shows that there is no relation between genitive case and theta role, which means that we must consider it a structural case.¹⁸

Furthermore, it is obvious that the genitive in the noun phrase must be assigned to an internal argument. First, note that genitive *can* be assigned to the internal argument: a deverbal event noun, as for example *ḥall* ‘solution’ in (21c), can assign genitive case to the noun that would receive accusative from the corresponding verb. Furthermore, on the standard assumption that the external argument of a noun is its referential argument *R*,¹⁹ the argument that is assigned genitive case not only *can* be, but in fact *must* be internal.

The fact that event nouns such as *ḥall* ‘solution’ can assign genitive case also to the subject of the corresponding verb (as in (21b), for example) does not contradict this conclusion. It does mean that the external argument of a verb is internalised in the formation of a deverbal event nominal. Since for example Grimshaw (1990) argues that it is the event argument²⁰ of a verb that becomes the external argument of the corresponding event noun, this conclusion should not

¹⁸ See also Kremers (2003), where I argue that genitive case (at least in Arabic) is indeed assigned to a specific structural position in the noun phrase, as would be expected if it is a structural case.

¹⁹ As a predicate, a noun predicates over entities. The referential argument *R* is similar to the event argument of a verb, in that it denotes the entity of which the noun is predicated. See, e.g. Higginbotham 1985 and Zwarts 1992.

²⁰ A verb can be considered a predicate that predicates over events (Davidson 1967). For example, a sentence such as *John kicked Bill* can be treated as in (i):

(i) $\exists e$ [kicked(John, Bill, *e*)]

That is, *John kicked Bill* expresses that there is an event and this event is *John kicking Bill*. The event argument *e* of the verb denotes the event that it predicates over.

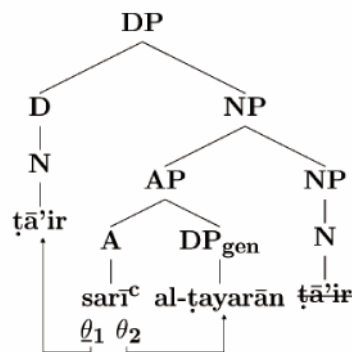
be surprising.²¹ And given that genitive case in the noun phrase is assigned to an internal argument, it stands to reason that the same thing is true for the adjective phrase.

So to summarize, we have two observations:

- The genitive complement of an adjectival construct must name some property or inherent part of the head noun.
- The genitive complement of an adjectival construct is assigned genitive case, and therefore must be an internal argument.

As noted, the second observation solves the problem of the open argument position. If an adjective has an internal theta role and it is this theta role that is assigned to the genitive noun, then it still has its external theta role to assign to the head noun. In other words, the structure of adjectival constructs is roughly like in (22):

- (22) a. *ṭā'ir-un sarī^c-u -l-ṭayarān-i*
 bird-NOM quick-NOM the-flight-GEN
 'a bird quick of flight'
 b.



This analysis means that adjectives must have an internal theta role that specifies in what respect they apply as predicates. Such an argument seems readily available in the *attribute* argument described by Higginbotham (1985).

According to Higginbotham, the attribute is an argument present in the thematic grid of an adjective. This attribute is used to account for the well-known contrast between the following two phrases:

- (23) a. that is a big butterfly
 b. that butterfly is big

²¹ It is not that the external argument of the verb cannot become the external argument of a noun. It is just that this noun would not be an event nominal but an agentive noun, which, for obvious reasons, cannot be modified by a noun that expresses the subject of the underlying verb.

As Higginbotham explains, it is possible that for an object *X* the statement in (23a) is true while the one in (23b) is not. Suppose that *X* is a rather large butterfly. Now, (23a) would (by definition) be true, but (23b) may still be false, for instance if we were to interpret *big* in relation to animals or even objects in general, because even a big butterfly is still a small animal or object.

Higginbotham accounts for this in semantic terms by saying that the adjective has an attribute argument that provides a dimension along which the adjective is graded. In (23a), this attribute is the property of being a butterfly, which means that (23a) can be paraphrased as ‘it is a butterfly and it is *big for a butterfly*’. In (23b), on the other hand, the attribute is contextually defined (or simply arbitrary), which yields a different paraphrase: ‘it is a butterfly and it is *big for an A_{arb}* ’. Here, A_{arb} may stand for any contextually defined dimension that applies to *butterfly*.

Formally, Higginbotham argues, in noun-adjective combinations such as *a big butterfly*, the attribute theta role is assigned to the noun being modified, but in a special manner, which he calls *autonomous*. To see what this means, let us first consider standard theta marking.

Normally in theta marking, it is the referent of the element being theta-marked that fills the argument position in the theta marker; i.e., in *John swims*, the referent of “John” becomes the value of the external argument of the verb. In current syntactic terms, it is the DP that introduces specific reference into the structure, so we can say that in normal theta-marking, it is the DP that is theta-marked.

In the case of the attribute, however, Higginbotham argues that “what is theta-marked, the phrase marker with root *N*, is itself the value” (Higginbotham 1985, p. 564). This means that it is not the DP but rather the NP that is theta-marked. In current syntactic terms, the NP is thought to introduce a *property*, as opposed to the DP, which as just mentioned introduces specific reference, picking out an entity for which the property denoted by the NP is true.²²

The fact that the attribute role is assigned to an element naming a property of the head noun is revealing, since we have just seen that the genitive noun in an adjectival construct must name a property of the head noun.²³ Let us therefore say that the attribute picks out a property from the set of properties of the head noun. Then we can say the following:

- in (23b) a “hyperonym” property is chosen (*animal, entity*)
- in (23a) the property of being a butterfly is chosen
- in (22) the property of flying is chosen

In other words, when the attribute has an arbitrary interpretation, as in the case where the adjective is used as a sentential predicate (e.g. *that butterfly is big*), the attribute picks out a property that denotes a hyperonym category to which

²² In set-theoretic semantics, the NP denotes the set corresponding to the property it names, and the DP picks out an individual from that set.

²³ In actual fact, I said “a property or integral part of the head noun”, but we can interpret *naming integral part X* as *naming the property of having X*, and thus subsume both parts of the disjunction under “property of”.

the head noun belongs. This property will be contextually or pragmatically chosen, the only restriction being that it is appropriate within the context.²⁴

When an adjective is used attributively, i.e., to modify a noun, its attribute will not have an arbitrary interpretation. Instead, the attribute theta role will be assigned autonomously, and obtain as value the property of being N (N being the head noun). The result is that *a big butterfly* refers to something that is a butterfly and big for a butterfly.

Lastly, it is also possible to express the attribute overtly. In this case, a noun is generated that occupies an internal argument position of the adjective, and is thus appropriately assigned genitive case. It refers to a property of the head noun, but specifically not to a hyperonym property, nor to the property of being N, but to what could be called a *subproperty*. This is what happens in adjectival constructs.

The assumption that the genitive noun of an adjectival construct refers to a property is supported by the fact that the noun is not referential:

- (24) ha-yalda yefat ha-'eynayim; higi'a. #hen; hayu šxorot va-'acuvot
 the-girl beautiful the-eyes; arrived. they; were black and-sad
 (Siloni 2002, p. 12)

The first phrase in contains an adjectival construct with the genitive noun *eynayim*. In the second phrase, the pronoun *hen* attempts to refer to this noun, but as indicated, this reference is infelicitous, indicating that *'eynayim* is non-referential.

Arabic shows the same effect:

- (25) dahalat al-ğurfat-a bint-un jamīlat-u
 entered.f the-room-ACC girl-NOM beautiful-NOM
 -l-ša^cr-i.
 the-hair_i.m-GEN.
 #kāna; ṭawīl-an wa 'aswad-a²⁵
 was_i.3msg long-ACC and black-ACC
 'A girl with beautiful hair entered the room. It was long and black.'

Here, too, referring to *ša^cr* 'hair' with an appropriate pronoun (the *pro* subject of *kāna*) is not possible. This obvious non-referentiality of the genitive complement indicates that it names a property here, which would be expected if it indeed fills the attribute role.

²⁴ In fact, it does not necessarily have to be a hyperonym property:

(i) THAT butterfly is big!

According to my intuition, can be read as an exclamation that the butterfly referred to is big for a butterfly, not for an animal or object in general. So given the right pragmatic context, the arbitrary interpretation of the attribute can in fact use the property of being a butterfly.

²⁵ Note that copulas in Arabic, such as *kāna* 'to be' in (25), assign accusative case to the predicate.

7 The attribute role

The paraphrase with which Higginbotham introduces the attribute argument is *for an X*; e.g., *a big butterfly* corresponds to *something that is a butterfly and that is big for a butterfly*. At the same time, an adjectival construct can usually be paraphrased as *<A> with respect to <N>*; e.g., *a girl beautiful of eyes* corresponds to *a girl beautiful with respect to the eyes*. The fact that the two paraphrases are different raises a question: what is the exact meaning, the semantic contribution, of the attribute role?

First, we must keep in mind that these paraphrases are merely informal ways of understanding the intended semantic analyses, and they only work in limited contexts. Note, for example, that the *for an X* paraphrase really only works for scalar adjectives: *a black book* is fine, but *an object that is a book and black for a book* is odd; *his alleged communism* is fine, but *something that is communism and that is alleged for communism* makes no sense at all. Yet Higginbotham assumes that the attribute is an argument present in the argument grid of all adjectives, including adjectives such as *alleged*.²⁶ In other words, although we can expect these paraphrases to tell us something about the meaning of the attribute in specific contexts, we should not expect one paraphrase to be applicable in any and every context.²⁷

Second, it should be noted that the semantic contribution of a theta role is not fixed. That is to say, it will vary within certain bounds, depending on context. For example, in *John felled the tree* vs. *the wind felled the tree* the external theta role of the verb is interpreted in different ways: in the former we assume volition on the part of the subject, while the latter lacks this inference. In order to capture this fact, we can say that a theta role has some basic meaning and that its exact interpretation is partially filled in by context. In the case of a verb such as *to fell*, we could designate that basic meaning as CAUSE, and have the volition component filled in pragmatically.²⁸

A similar basic meaning for the attribute argument would be that it defines to which property of the subject the adjective specifically applies. In the case of a scalar adjective (without a genitive complement, of course), the attribute can

²⁶ Higginbotham makes this claim because he wishes to show adjectival modification reduces to conjunction, even in cases where this is not obvious, such as with adjectives of the type of *alleged*

²⁷ This is also the reason why we cannot rely on a test such as *Mary is tall for a girl* vs. *Mary is tall of stature for a girl* or its Hebrew/Arabic equivalent to determine if the genitive noun is really an attribute: it is not at all certain that the *for an X* adjunct really saturates the attribute argument in the way that e.g. a *by*-phrase saturates the agent argument. In fact, I would argue that it is quite unlikely, since in passives there are reasons to assume that the agent argument is suppressed, reasons which are independent from the occurrence of a *by*-phrase. There is no reason why the addition of an adjunct such as *for an X* to an adjective would suppress the normal process of saturation/assignment of the attribute, especially considering the fact that the *for an X* adjunct can only be applied to a subset of adjectives.

²⁸ This, of course, on the assumption that the theta roles a verb assigns are fixed, i.e., specified in the lexicon, and that distinctions between theta roles are categorial. The implementation of the theta system that Reinhart (2000) develops meets these requirements.

become a measure against which the adjective is graded; e.g., in *a big butterfly*, it is in a way the “butterflyness” of the butterfly in question that is considered big: it is a butterfly that has the property of being a big butterfly. In an adjectival construct on the other hand, the attribute will not take this particular nuance: *a girl black of hair* is a girl with the property of having black hair. Similarly for a non-scalar adjective: *a black book* is a book that has the property of having a black cover.²⁹

8 Conclusion

In Arabic and Hebrew, there is a specific adjectival construction in which the adjective is modified by a genitive complement. In this paper, I have argued that this genitive complement, even though at first sight it appears to be the subject of the adjective, is in fact an internal argument. Specifically, I have argued that it is assigned the theta role that Higginbotham (1985) calls the *attribute*. This attribute basically picks out a property from the set of properties of the adjective’s subject, and thus indicates to which aspect of the subject the adjective applies specifically.

References

- Bennis, H., Corver, N. & den Dikken, M. (1998). Predication in nominal phrases, *The Journal of Comparative Germanic Linguistics* 1: 85–117.
- Davidson, D. (1967). The logical form of action sentences, in N. Rescher (ed.), *The Logic of Decision and Action*, Pittsburgh: University of Pittsburgh Press.
- De Wit, P. (1997). *Genitive case and genitive constructions*, PhD thesis, Utrecht Institute of Linguistics OTS.
- den Dikken, M. (1998). Predicate inversion in DP, in A. Alexiadou & C. Wilder (eds), *Possessors, predicates and movement in the Determiner Phrase*, Amsterdam/Philadelphia: John Benjamins, pp. 177–214.
- El-Ayoubi, H., Fischer, W. & Langer, M. (2001). *Syntax der Arabischen Schriftsprache der Gegenwart. Teil I, Band 1: Das Nomen und sein Umfeld*, Wiesbaden: Reichert Verlag.
- Grimshaw, J. (1990). *Argument structure*, Cambridge, Mass: The MIT Press.
- Hazout, I. (2000). Adjectival genitive constructions in Modern Hebrew: a case study in coanalysis, *The Linguistic Review* 17: 29–52.
- Higginbotham, J. (1985). On semantics, *Linguistic Inquiry* 16(4): 547–539.
- Kim, J.-y. (2002). Adjectives in construct, In: G. Katz, S. Reinhard & P. Reuter (eds.): *Sinn und Bedeutung VI, Proceedings of the Sixth Annual Meeting of the Gesellschaft für Semantik*, University of Osnabrück, 185–200.
- Kremers, J. (2003). *The noun phrase in Arabic: a minimalist approach*, PhD thesis, University of Nijmegen. LOT Dissertation Series 79.
- Lindauer, T. (1995). *Genitivattribute: eine morphosyntaktische Untersuchung zum deutschen DP/NP-System*, Reihe germanistische Linguistik, 155 edn, Tübingen: Niemeyer.

²⁹ This example actually shows that even when the attribute is not explicit, it can still be assigned to a “subproperty”.

- Longobardi, G. (1995). A case of construct state in Romance, In: R. Ajello & S. Sani (eds): *Scritti linguistici e filologici*, Pisa: Pacini Editore, 293–329.
- Reinhart, T. (2000). The theta system: syntactic realization of verbal concepts. UiL OTS Working Papers, University of Utrecht.
- Ritter, E. (1991). Two functional categories in the noun phrase: evidence from Modern Hebrew, in S. Rothstein (ed.), *Perspectives on Phrase Structure: Heads and Licensing*, San Diego: Academic Press, 37–62.
- Sadock, J. (1991). *Autolexical Syntax*, Chicago: The University of Chicago Press.
- Siloni, T. (1997). *Noun Phrases and Nominalizations: Thy Syntax of DP*, Dordrecht: Kluwer.
- Siloni, T. (2002). Adjectival constructs and inalienable constructions, In J. Ouhalla & U. Shlonsky (eds): *Themes in Arabic and Hebrew Syntax*, Dordrecht: Kluwer Academic Publishers, 161–187.
- Zwarts, J. (1992). *X'-syntax – X'-semantics: On the interpretation of functional and lexical heads*, PhD thesis, Utrecht Institute of Linguistics OTS.

Frankfurt am Main

Joost Kremers

Johann Wolfgang Goethe Universität, Graduiertenkolleg “Satzarten”, Varrentrappstraße 40-42,
D-60486 Frankfurt am Main, j.kremers@em.uni-frankfurt.de