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CHAPTER 12

Passive in Arabic and English

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1. Introduction

In this chapter, the morphological expression of passive in Classical Arabic, modern Lebanese Arabic, and English is compared. Passive participles in English are shown to be morphologically composed in the same way as in Arabic, entailing a novel analysis of passive in English and exposing a previously unnoticed cross-linguistic similarity.

2. Classical Arabic

The chart below shows the ten possible forms of the Arabic verb in the perfect and imperfect (the stems are slightly different in the two tenses) in the active and passive, and the related active and passive participles. The shaded areas are relevant later.

(1)	Perfect active	Perfect passive	Imperfect active	Imperfect passive	Active participle	Passive participle
I	faʕal	fuʕil	ya-fʕal	yu-fʕal	faʕil	maʕʕul
II	faʕʕal	fuʕʕil	yu-faʕʕil	yu-faʕʕal	mu-faʕʕil	mu-faʕʕal
III	faaʕal	fuʔʕil	yu-faaʕil	yu-faaʕal	mu-faaʕil	mu-faaʕal
IV	ʕafʕal	ʕufʕil	yu-fʕil	yu-fʕil	mu-fʕil	mu-fʕil
V	tafaʕʕal	tufuʕʕil	ya-tafaʕʕal	yu-tafaʕʕal	mu-tafaʕʕil	mu-tafaʕʕal
VI	tafaʕʕʕal	tufuʕʕʕil	ya-tafaʕʕʕal	yu-tafaʕʕʕal	mu-tafaʕʕʕil	mu-tafaʕʕʕal
VII	ʕinfaʕal	ʕunfuʕil	ya-nfaʕil	yu-nfaʕal	mu-nfaʕil	mu-nfaʕal
VIII	ʕiftaʕal	ʕuftuʕil	ya-ftaʕil	yu-ftaʕal	mu-ftaʕil	mu-ftaʕal
X	ʕistaʕʕal	ʕustuʕʕil	ya-staʕʕil	yu-staʕʕal	mu-staʕʕil	mu-staʕʕal
IX	ʕifʕall		ya-fʕall		mu-fʕall	

The prefix *ya/yu-* in the imperfect is accompanied by a suffix *-u* (not notated). These together form a default third person singular subject agreement circumfix. A suffix *-a* (also not notated) has the same role in the perfect. A striking aspect of the chart in (1) is the morphological expression of passive. It is expressed entirely in the vowel tier. /*u_i*/ appears in the perfect and /*u_a*/ in the imperfect. In what follows, I will refer to this morpheme using its perfect tense allomorph /*u_i*/.

2.1 Participle formation

The chart in (1) shows that participle formation is regular for the non-form I verbs. They are formed by prefixation of *mu-* to the imperfect stem. Since the active/passive distinction is expressed through the vowel melody of the stem, participle formation preserves the expression of active and passive in the stem.

The form I participles are not so transparent. The participles of the form I verbs seem to contain neither the participle forming prefix *mu-* nor, in the case of the passive participle, either of the allomorphs of the passive morpheme /*u_i*/ or *u_a*/. Instead, both participle formation and the active/passive distinction seem to be expressed non-transparently in the prosodic template itself: *faafil* for the active participle and *mafiuul* for the passive. Neither of these forms preserve the prosodic structure of the verbal stem. The following section investigates the differences between Classical Arabic and modern Lebanese Arabic and shows how these differences elucidate certain important properties of the morphemic composition of passivization.

3. Lebanese Arabic

The shaded areas of the chart in (1) do not exist in Lebanese Arabic — all the passives except the passive participle of form I. The absence of the passive participles of forms II–X is explained by the absence of the passive imperfect, since the former are derived from the latter. But the absence of the passive imperfect seems to just be a lexical gap. The disappearance of it and the passive perfect indicate that the passive morpheme /*u_i*/ is missing from Lebanese Arabic.

Lebanese forms passive verbs using the prefixes *t-* and *n-* coopted from the Classical Arabic resultative and inchoative templates II and VII.

- | | | |
|--------|-------------------------|-------------------------------|
| (2) a. | <i>keteb</i> (write) | <i>nketeb</i> (be written) |
| b. | <i>kasar</i> (break) | <i>nkasar</i> (be broken) |
| c. | <i>na'al</i> (copy) | <i>nna'al</i> (be copied) |
| d. | <i>badal</i> (replace) | <i>nbadal</i> (be replaced) |
| (3) a. | <i>HaDDar</i> (prepare) | <i>tHaDDar</i> (be prepared) |
| b. | <i>ballaT</i> (pave) | <i>tballaT</i> (be paved) |
| c. | <i>kassar</i> (smash) | <i>tkassar</i> (be smashed) |
| d. | <i>xarrab</i> (destroy) | <i>txarrab</i> (be destroyed) |

3.1 Participle formation

Lebanese also expresses passive through auxiliary-plus-passive-participle constructions inherited from Classical Arabic. Participles can be formed from the morphologically complex expressions in (2) and (3) by prefixation of *mi-*, the Lebanese descendant of Classical Arabic *mu-*. Here, like in Classical Arabic, the active/passive distinction is expressed internal to the participial morpheme.

- | | |
|--------|-----------------------------|
| (4) a. | <i>mHaDDar</i> (preparing) |
| b. | <i>mkassar</i> (smashing) |
| (5) d. | <i>mitHaDDar</i> (prepared) |
| e. | <i>mitkassar</i> (smashed) |
| (6) a. | <i>minketeb</i> (written) |
| b. | <i>minkasir</i> (broken) |

The participial template *mafiuul* is retained from Classical Arabic, and, like in Classical Arabic, forms passive participles of form I verbs. So in addition to the participles of the *n-* derived passive of form I, *mafiuul* builds passive participles of form I with the same function.

- | | | |
|--------|------------------------|---------------------------|
| (7) a. | <i>keteb</i> (write) | <i>maktuub</i> (written) |
| b. | <i>kasar</i> (break) | <i>maksuur</i> (broken) |
| c. | <i>na'al</i> (copy) | <i>man'uul</i> (copied) |
| d. | <i>badal</i> (replace) | <i>mabduul</i> (replaced) |

The internal structure of *mafiuul* is not as transparent as *minfefil*. The following section teases apart the internal structure of *mafiuul* by comparing it to other classes of verb-related adjectives in Lebanese Arabic.

3.1.1 The structure of *mafiuul*

Mafiuul does not display the vowel melody /u_i/ or /u_a/, which the very fact of its existence in Lebanese Arabic corroborates (this morpheme is missing in Lebanese Arabic). But it also does not display the passive morphemes *n-* or *t-* either. It does contain a prefix not clearly evidenced in the other participles, however, namely *ma-*. It is at first glance tempting to analyze the *ma-* of *mafiuul* as some form of the participle forming *mi-*. But several considerations cast doubt on such a construal. First, if *ma-* of *mafiuul* is actually *mi-*, there is no evident explanation for the difference in vowel quality between the *ma-* of *mafiuul* and the *mi-* of the other participles. Further, the vowel of *mi-* evolved from the Classical Arabic back vowel /u/ in *mu-*. This diachronic change did not affect the vowel of the form I passive participle, however. It was *ma-* in Classical Arabic as in modern Lebanese Arabic. The fact that the diachronic vowel change failed to affect *mafiuul* indicates that it is truly a different vowel from that of the participle forming morpheme, suggesting that *ma-* of *mafiuul* is a different creature altogether from the participle forming morpheme.

Another way in which *mafiuul* is different from the other participles is that its internal prosodic structure is different. Final consonants in Arabic are extrametrical (McCarthy and Prince 1990), so for example form I (*faʕal*) consists of two light syllables, and form II (*faʕʕal*) consists of a heavy syllable followed by a light syllable. Participle formation through prefixation of *mi-* preserves the prosodic structure of the stem: a sequence of two light syllables in the verbal stem (notated [LL]) stays [LL] (*nketeb* → *minketeb*) and a heavy-light sequence ([HL]) stays [HL] (*tkassar* → *mitkassar*). But *mafiuul* formation changes [LL] to [HH] (*keteb* → *maktuub*). This change in prosodic structure turns out to be a crucial aspect of the morphemic composition of the expression. The following section explains why.

3.1.1.1 A broader look at related verb/adjective pairs in Lebanese Arabic The relation between active form I *faʕal* and the passive participle *mafiuul* is one of several morphological alternations that relate an adjective to a verb. This section reviews three other sets of related verb-adjective pairs. Comparing the similarities and differences among them will serve to isolate what aspects of morphological form correlate with what semantico-syntactic properties across verb-adjective relations, shedding light on the morphemic composition of the form I participles.

3.1.1.2 *fifteen* The first set of adjectives surveyed here occur in the template-

suffix combination *fifl-een*, forming resultative adjectives.

- (8) a. *'eleb* (fall) *'ilbeen* (fallen)
 b. *gheri'* (sink) *ghir'aan* (sunken)
 c. *fehim* (understand) *fihmeen* (having understood)
 d. *zafil* (become upset) *zafleen* (upset)

A striking property of the *fifteen* template is that it can only form an adjective related to a verb that is non-agentive, such as unaccusatives like *fall* and *sink* as in (8a-b), or experiencer predicates like *understand* as in (8c), or simple states as in (8d). It cannot form adjectives from clearly agentive verbs like *write*, *hit*, *kill*, etc., as the ungrammaticality of the hypothetical forms in (9) indicates.

- (9) a. *keteb* (write) **kitbeen* (writing)
 b. *Darab* (hit) **Darbeen* (hitting)
 c. *'etel* (kill) **'etleen* (killing)

Furthermore, when an adjective in the template *fifteen* is related to a verb which is ambiguous between an agentive and non-agentive denotation, the adjective expresses the non-agentive denotation, that is, it's related to the non-agentive version of the verb, as in example (10). The verb "wreck" in Lebanese Arabic (*xarab*) displays an intransitive alternation illustrated in the pair (10a,b). But the related adjective *xirbeen* can only pattern after the non-agentive use of the verb in (10b), as the contrast (10c,d) shows, again demonstrating the sensitivity of the *fifteen* template to non-agentivity.

- (10) a. *l-wleed* *xarab-o* *l-rasmeet*
 the-children wrecked-P the-drawings
 b. *l-rasmeet* *xerb-o*
 the-drawings were wrecked-P
 c. *l-wleed* *xerbeen-iin* *l-rasmeet*
 the-children (are) wrecking-P the-drawings
 d. *l-rasmeet* *xerbeen-iin*
 the-drawings (are) wrecked-P

That said, adjectives formed by *fifteen* never differ in argument structure from the related verb. So here, unlike a passive transformation, whatever arguments the verb licenses, the adjective licenses also, whether the verb is intransitive as in (11a,d), or transitive, as in (11b,c).

- (11) a. *l-kitaab* *'eleb.* *l-kitaab* *'ilbeen.*
 the-book fell the-book (has) fallen

- b. *kariim fehim l-mishkle. kariim fihmeen l-mishkle.*
kariim understood the-problem k. (has) understood the-problem
- c. *kariim kereh l-film. kariim kirheen l-film.*
kariim hated the-movie kariim (has) hated the-movie
- d. *l-'irseel fele'. l-'irseel fa'leen.*
the-transmission jammed the-transmission (has) jammed

But the verb-adjective pairs in (8) do share a commonality with the verb-passive participle pairs in (7), namely the change in prosodic structure from [LL] in the verb to [HH] in the adjective. So *fifteen* has a prosodic alternation in common with the passive participle *mafiuul*.

3.1.1.3 *fafiil* Another set of adjectives with related verbs occur in the template *fafiil*.

- (12) a. *'arib* (become near) *ariib* (near)
 b. *fati'* (wear out) *fatii'* (worn out)
 c. *raxiS* (become cheap) *raxiiS* (cheap)
 d. *kabir* (become large) *kabiir* (large)

Like the *fifteen* template, adjectives in the *fafiil* template share the argument structure of the related verb, as in (13).

- (13) a. *l-treen 'arib fa l-mHaTTa. l-treen 'ariib fa l-mHaTTa.*
the-train approached to the-station the-train (is) near to the-station
- b. *l-siyyaara fat'-et. l-siyyaara fatii'-i.*
the-car wore.out-3F the-car (is) worn.out-FS
- c. *l-wleed marD-o. l-wleed mariiD-iin.*
the-children became.sick-3P the-children (are) sick-P

Also like the *fifteen* template, they cannot be related to an agentive verb. The verbs in (12) are unaccusative and hypothetical agentive forms as in (14) are ungrammatical.

- (14) a. *keteb* (write) **katiib* (writing)
 b. *Darab* (hit) **Dariib* (hitting)
 c. *'etel* (kill) **'atiil* (killing)

In the case of the *fafiil* template, the verb-adjective relation correlates with a change in prosodic structure from [LL] to [LH], which has the heaviness of the final syllable in common with the *fifteen* template and the passive *mafiuul* template.

3.1.1.4 *fafil* Lastly, a set of adjectives with related verbs exist in the template *fafil*.

- (15) a. *Safib* (become difficult) *Safb* (difficult)
 b. *Saxan* (become hot) *Sexn* (hot)
 c. *Heli* (become beautiful) *Helw* (beautiful)

Here again, the arguments licensed by the adjective are the same as those licensed by the verb.

- (16) a. *l-mishkle Safb-et. l-mishkle safb-e.*
the-problem became.difficult-3F the-problem (is) difficult-F
- b. *l-mayy Saxn-et. l-mayy Sexn-e.*
the-water became.hot-3F the-water (is) hot-F

And again, the template cannot be related to an agentive verb.

- (17) a. *keteb* (write) **katb* (writing)
 b. *Darab* (hit) **Darb* (hitting)
 c. *'etel* (kill) **'atl* (killing)

Again, the adjective differs from the verb prosodically in the heaviness of the final syllable, in this case the only syllable. So the *fafil* template shares the heaviness of the final syllable with the other adjectival templates *fafiil*, *fifteen* and the passive participle *mafiuul*.

3.2 Summary

The previous section reviewed the behavior of three adjectival templates that occur in related verb-adjective pairs. A comparison of the commonalities and non-commonalities with the passive *mafiuul* template is revealing. Semantico-syntactically, all four templates (*mafiuul*, *fifteen*, *fafiil*, and *fafil*) form non-agentive adjectives. Morphologically, all end in a heavy syllable. Again semantico-syntactically, *mafiuul* differs from the other templates in that its valency is reduced with respect to the verb it is paired with. Morphologically, *mafiuul* differs from the others in the presence of the prefix *ma-*. The comparison across the four templates reveals that the heavy final syllable correlates with non-agentive adjective formation and the prefix *ma-* with valency reduction.

The prediction here is that no agentive adjective can end in a heavy syllable. The agentive adjectives are the active participles (see (1)). The active

participles of the non-basic forms satisfy the restriction vacuously, since the participial prefix preserves the prosody of the underlying verb, which ends in a light syllable anyway. But the non-paradigmatic form I active participle does not preserve the prosodic structure of the related verb, but still satisfies the generalization that only non-agentive predicates end in a heavy syllable. Because the form I active participle is not forced into the form *faafil* with its light final syllable by a morphological paradigm, the fact that the form it has obeys the generalization supports the linguistic relevance of the generalization.

The end result of this investigation into the morphemic composition of *maffiul* is that *maffiul* is morphologically complex just like participles of the non-form I verbs. So passive participle formation in Arabic is consistently 'spread out' over two morphemes, one morpheme which absorbs the external argument of the related verb and a derivational morpheme which forms an adjective from the valency reduced verb.

4. English

This section shows that English is like Arabic in that passivization is morphologically spread out over two morphemes. Passivization in English is not standardly analyzed as morphologically complex. The standard analysis of passive in the generative linguistic tradition follows Jaeggli (1986), and Baker, Johnson and Roberts (1989) to the effect that a suffix *-en* (with allomorphes *-ed* and others) combines with a transitive verb to yield a passive participle, in some way absorbing the external theta role and the accusative case licensing property of the verb. This participle then does not license a syntactic object (does not assign accusative case) and does not license an agent (does not assign the agent theta-role). It has the distribution of an adjective, modulo certain fine-grained distinctions on which see Wasow (1977). The data in (18) seem to support the standard analysis of passivization.

- (18) a. (i) John wrote the message. (ii) The message was written.
b. (i) John filed the reports. (ii) The reports were filed.

The sentences in (ii) bear the passive relation to those in (i), and differ morphologically in the presence of *-en* (and the auxiliary obligatory for adjectival predicates). The conclusion that participle forming *-en* is itself the valency reducing morpheme seems straightforward.

However, participles built from *-en* are not restricted to transitive bases. *-en* also applies to intransitive unaccusative verbs, and it preserves their argument structure when it does so.

- (19) a. (i) The passengers arrived. (ii) The arrived passengers
b. (i) The snow fell. (ii) The fallen snow

In (19), *-en* loses its passivizing function, and merely forms an adjective out of the corresponding verb. The argument licensed by the intransitive verb in (i) is also licensed by the 'passive' participle in (ii). The behavior of *-en* in (19) is therefore different from its behavior in (18), where it has the additional effect of removing an argument from the predication.

The behavior of the *-en* affix in (18) (passives) is therefore only one part of its phenomenological playing field. The one characteristic that all the occurrences of *-en* have in common is the verb-to-adjective derivation. Valency reduction does not seem to be an inherent property of *-en*, but rather comes from some aspect of the syntactic context in (18) that is not there in (19).

Whatever licenses valency reduction in (18) then would seem to not have any morphological reflex at all. If *-en* is only adjective-deriving, then what is responsible for valency reduction in passives does not correspond to any morpheme visible in the (ii)-sentences in (18). Passive nominalizations support this claim.

Nominalizations of transitive verbs typically have the form in (20a), where the agent appears prenominal in the genitive case and the patient postnominally as the object of the preposition *of*.

- (20) a. The Romans' destruction of the city
b. The destruction of the city by the Romans

Noun phrases like (20a) display an alternation with expressions of the form in (20b), which parallels the passive operation in verb phrases. The subject disappears from its canonical (pre-nominal) position and may optionally surface in a *by*-phrase. In the case of the nominals, object preposing to subject position is possible but not obligatory, since objects of nominalizations are not dependent on the nominal for case or whatever licenses syntactic objects, since the preposition *of* may step in to play this role. Arguments with pleonastic prepositional case are given to disappearing acts, just like the *by*-phrase, but the mapping of arguments to case positions is consistent in English, their optionality notwithstanding. Also note that languages such as German, where genitive is not so clearly canonically associated with agentivity, are languages

with relative freedom of word order, i.e., the mapping of arguments to surface positions follows a less rigid pattern across clause types.

There is no morphological reflex of the alternation between (20a) and (20b). I.e., the noun bears no morphology, least of all *-en*, that morphologically signals that its argument licensing properties differ in (20b) from their canonical form in (20a). Further, the nominal that heads the phrase in both (20a) and (20b) already bears derivational morphology, namely the nominalizing suffix *-ion*. Since *-en*, in the proposal being fleshed out here, is a derivational affix that sends a verb to an adjective, we do not expect to find it in nominalizations. The nominalizing morphology plays the role of lending the verbal base its surface syntactic character (noun), which is just the role that *-en* plays in the adjectival passives in (18) and (19). Postulating that *-en* is a verb-to-adjective derivational affix that is not responsible for valency reduction explains the properties of (18)–(20) in one analytical swoop. We do not expect *-en* in (20) because the derivational affix *-ion* excludes it. We do not expect any overt reflex of valency reduction (the alternation (20a, b)), because valency reduction has no morphological reflex in English.

The standard analysis of *-en* as a valency reducing morpheme therefore makes the standard passive construction in (18) quite exceptional. Nowhere else in English is it the case that valency reduction has any morphological reflex. This exceptionality, and the exclusion of *-en* in the context of other derivational morphology, as in (20), indicates that *-en* is a purely derivational affix not involved in valency reduction, and that valency reduction itself is non-overt.

4.1 The distribution of *-en*

If *-en* is not valency reducing, the fact that passive participles must occur with valency reduction is puzzling. We saw in (19) that *-en* may apply to an unaccusative verb and preserve its argument structure in the derived adjective. Why can't *-en* apply to a transitive verb and preserve its argument structure in the derived adjective?

- (21) a. *John was written the message.
b. *Mary was filed the reports.

The ungrammatical strings in (21) demonstrate that participle formation seems to require valency reduction. These data suggest that there is some connection between *-en* and passivization after all.

What these data show, in particular, is that *-en* cannot appear in the environment of an agent. Though it is not directly responsible for valency reduction, it is excluded by agentivity. It may attach to an agentive verb only in the context of valency reduction, since valency reduction removes agentivity from the picture. It may attach to an unaccusative verb as such (see (19)), since unaccusatives are already non-agentive. But the context that licenses *-en* in transitives is passive.

But we have seen this pattern before. These are just the licensing conditions for the heavy final syllable in Arabic. Recall that the heavy final syllable acts like a derivational affix that sends predicates to adjectives. There is a restriction on its distribution, however, which is that it can only apply to non-agentive predicates. Therefore, *-en* shares the non-agentivity restriction of the Arabic heavy final syllable. This makes the morphological composition of passive participles in English and Arabic entirely isomorphic, down to the non-agentivity restriction on the derivational affix.

5. Conclusion

This analysis offers a novel understanding of how passivization works in both English and Arabic, and insight into a certain cross linguistic uniformity that may be quite widespread. A very cursory look at other Germanic and Romance languages seems to indicate at least at first glance that the contexts for participial morphology are like in English. I am tentatively suggesting that valency reduction can never be compounded with derivational morphology; they are always separate. This hypothesis may lead to a rather different and possibly more insightful understanding of what valency reduction is than is currently held. The contribution of the present study is to cast the passive phenomenon in this new light.

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CHAPTER 13

Lexical access in Bulgarian perfective vs. imperfective verbs

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1. Introduction¹

One of the major issues in contemporary research on lexical access is the contrast compositionality vs. non-compositionality in the processing of morphologically complex forms. This corresponds to either accessing the individual morphemes that constitute the intended form, or directly accessing the whole form. Most scholars would now agree that both routes of access are viable, the difference lying in the particular subset of the lexicon involved as well as in the typological properties of the language considered (for a review, see Bertinetto 1995).

The challenge consists in accumulating diverse pieces of evidence, from as many languages and as many subsets of the lexicon as possible. The present chapter presents evidence from Bulgarian, a language seldom addressed in experimental psycholinguistics (but see Bertinetto and Jetchev 1996; Slabakova 1999; Nikolova and Jarema 2000). The special interest of Bulgarian is that, like all Slavic languages, it presents two types of verbs — traditionally called perfectives (PFs)/imperfectives (IPFs) — forming derivationally related pairs. Actually, the label "derivationally related" should be interpreted with caution in this case. First, there is no part of speech shift, since both elements are verbs, and this is not what one finds in prototypical cases of derivation. Second, the verbs belonging to an aspectual pair form a sort of hyperparadigm, so that some scholars would rather consider them inflectionally, rather than derivationally related. However, the latter view could hardly apply to Bulgarian. In this language both PF and IPF verbs exhibit a full tense-paradigm, where both perfective and imperfective tenses appear, namely:

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Selected papers from the 9th Morphology Meeting,
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MORPHOLOGY 2000

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Edited by

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