



The attested cross-linguistic variation only comes as a surprise if we expect to maintain the notion of the middle as a syntactic ‘construction’, or of a one-to-one relation between syntax and semantics. Instead, following Condoravdi (1989), I treat the ‘middle’ as essentially semantic, in particular, as an interpretation that independently existing structures—unergatives in English and Dutch, passives in Greek and French—receive. The question then becomes, what determines the choice of structure to convey the middle interpretation in a given language? After specifying what the middle interpretation is (section 3), I provide an answer to this question that capitalizes on the difference in the aspectual systems of the two language-types (section 4). I then propose an analysis of the cross-linguistic variation with emphasis on the Greek case. Section 5 includes a brief discussion of the implications for the syntax-lexical semantics interface.<sup>ii</sup>

## 2. Evidence from Greek

Tsimplici (1989) has claimed that middles and passives are structurally identical. According to her, “derived subjects in Greek cannot control the subject of a control clause” (Tsimplici 1989: 250-251). Hence, the derived subject of middles and passives cannot control the subject of a purpose clause, whereas the base-generated subject of reflexives can:

- (3) \*O Yianis dolofonithike gia na gini iroas  
 the-NOM Yianis murder-NONACT.PERF.3SG for SUBJ become-3SG hero-NOM  
 ‘Yiannis was murdered in order to become a hero’
- (4) \*I afelis eksapatunde efkola na psifisun deksia  
 the-NOM naive-PL.NOM deceive-NONACT.IMPERF.3PL easily SUBJ vote-3PL right  
 ‘Naive people are easily deceived into voting for the right wing party’
- (5) Ta pedia dithikan grigora gia na prolavun to treno  
 the-NOM children dress-NONACT.PERF.3PL quickly for SUBJ catch-3PL the train  
 ‘The children dressed quickly in order to catch the train’

Additional support comes from applying unaccusativity diagnostics (Alexiadou & Anagnostopoulou 1999) to middles. The results are not unequivocal, but I believe they favour an analysis of middles on a par with passives in Greek. For the sake of completeness I discuss all three applicable tests.

The first diagnostic concerns postverbal bare plurals (PBPS), with which unaccusatives, but not unergatives, are compatible. The middle reading of (6) is unavailable:

- (6) \*/??Vleponde tenies  
 see-NONACT.3PL films  
 ‘Films are seen’

This result can be interpreted as a conflict between unaccusative derivation and generic, hence stative, aspect. Alexiadou 1996 argues that stative verbs can only appear in SV(O) order, VS(O) order being available only in episodic contexts. The middle verb is of derived stative (generic) aspect, hence it cannot tolerate a postverbal subject (cf. Roussou & Tsimpli 2003).

Besides, bare plural subjects in Greek only receive an existential interpretation (Condoravdi 1997). As a result, even (7) is out on the relevant (middle) reading:

- (7) \*/?Galikes            tenies            vleponde            efkola  
 french-PL.NOM movies-PL.NOM    watch-NONACT.IMPERF.3PL    easily  
 'French movies watch easily'

In English, indefinite subjects of middles are always interpreted generically, due to the genericity of the predicate and to the middle semantics more generally. So bare plural subjects are incompatible with middles in Greek to start with, regardless of their position. Given these complications, it seems to me that compatibility with PBPSs, even if valid as an unaccusativity diagnostic, cannot tell us much about the syntax of middles.

The second diagnostic is possessor datives, which are only compatible with unaccusatives. On the middle reading, (8) is ungrammatical. Note, however, that its episodic, nonmiddle counterpart is also ungrammatical, a fact which casts doubt on the status of this diagnostic as an unaccusativity test:

- (8) \*Mu                    diavazonde/diavastikan            efkola            ta vivlia  
 I-GEN read-NONACT.IMPERF.3PL/ read-NONACT.PERF.3PL    easily            the-NOM books  
 'My books read/ were read easily'

Finally, consider sub-extraction of the postverbal argument, which is only possible with the single argument of unaccusative verbs (9a) and with the object of transitives (9b). Unergatives fail this test (9c). The middle in (9d) is ok:

- (9) a. tinos    irthe            to aftokinito?  
       whose came-3SG        the car- NOM  
       'Whose car arrived?'
- b. tinos diavases            to vivlio?  
       whose read-2SG        the book- ACC  
       'Whose book did you read?'
- c. \*tinos etrekse            to aftokinito?  
       whose ran-3SG        the car- NOM  
       'Whose car ran?'
- d. tinos    vleponde                    i            tenies            efkola?  
       whose see-NONACT.IMPERF.3PL the-NOM        film-NOM.PL    easily  
       'Whose movies watch easily?'

The most compelling argument that Greek middles are structurally identical to passives is that a *by*-phrase is licit (cf. Condoravdi 1989 and Tsimpli 1989)<sup>iii</sup>:

- |      |  |                      |
|------|--|----------------------|
| (10) | afto to provlima linete                    | akomi ki apo anoitus |
|      | this the problem solve-NONACT.IMPERF-3SG   | even and by fools    |
|      | ‘This problem can be solved even by fools’ |                      |

### 3. The middle interpretation

#### 3.1 Dispositionality

We have seen evidence in favour of analysing middles as (parasitic on) passives in Greek. At the same time, English middles employ an unergative verb. There is thus no coherent notion of the middle as a syntactic construction. The approach I will be pursuing treats the middle as the targeted interpretation, the core of which is given below:

- (11) The middle ascribes a disposition to the understood object

Disposition ascriptions are generic sentences which state a non-accidental generalization that is so, in virtue of intrinsic properties of the subject; they are distinct from both accidental generalizations and descriptive generalizations, or habituals, which denote a pattern of events. Disposition ascriptions are tantamount to genuine generic sentences (Osten 1975). The latter are in certain respects different from habituals (Laca 1990, Scheiner 2002). One such difference, I propose, is the following.

- (12) Dispositional readings of generic sentences are only available for the syntactic subject<sup>iv</sup>

Dispositions, in contrast to habits, can only be ascribed to entities denoted by the subject NP. I take the revealing data to be of the following type: cases where (a) objects instead of/in addition to subjects receive a generic interpretation and (b) generic sentences which are more readily interpreted as ascribing a ‘generic’ property to something other than the subject.

Laca (1990) has discussed generic objects. Consider one of her examples:

- (13) Cyanide kills mice

What this sentence communicates on the dispositional reading is that cyanide, in virtue of its inherent properties, is such that it exterminates mice. We cannot use (13) to characterize mice *in the same way*. Of course, there are intrinsic properties of mice that play a role in the effect that cyanide has on them, and that is a fair inference, but this is not linguistically encoded.<sup>v</sup>

The second type of evidence for (12) involves ambiguous generic sentences of the following type (from Krifka et al. 1995: 24 ff.):

- (14) A cat runs across my lawn every day

- a. Cats in general run across my lawn every day
- b. Every day, a cat runs across my lawn

The claim is that there is an asymmetry between the (a) and the (b) reading. The former can be dispositional, the latter can only be habitual, in the sense of Laca's iterated events: there is nothing inherent in the cat (which might not even be the same one each day), or the lawn that makes (14) on the (b) reading true.<sup>vi</sup>

To say that middles are dispositionals has the following effects. It derives the generic aspect of an otherwise eventive verb, which middle formation effects. Under the quantificational approach to generics, sentence (15a) can be represented as in (15b) (from Condoravdi 1989):

- (15) a. This book reads easily
- b. GEN [*e*: book(*x*), read(*e*), Patient (*e,x*)] [easy(*e*)]

In fact, middles have always been dispositional predicates: one paraphrase of the middle is the *-able* adjective, which is a dispositional predicate. Moreover, the claim at least for a language like English is that its middles always have a 'property' reading (Ackema & Schoorlemmer 2002). This 'reading' is identical to our disposition ascription.

Moreover, it follows that some property inherent in middles' subjects enables/ facilitates the action denoted by the verb. This is reminiscent of the so-called 'Responsibility Condition', stated in (16) (as reported in A & S (2002)):

- (16) *Responsibility condition*

The subject of a middle (the logical object) must have properties such that it can be understood to be responsible for the action expressed by the predicate.

Consider the following examples, from McConnell-Ginet (1994: 240):

- (17) ?Cars park easily
- (18) Small cars park easily

(18) improves on (17), by making explicit the property of the subject, in virtue of which the action denoted by the verb is easy. There is no need to stipulate conditions like (16), nor to assign to *small cars* the role of Causer (as does McConnell-Ginet *ibid.*); it follows from the semantics of middles as dispositionals that the generalization they report is true in virtue of inherent properties of their subject.

More crucially, if (12) is correct, we have an explanation for why the understood object appears in subject position in middles, regardless of whether or not this is effected by syntactic movement: this is the only position in which it can be ascribed a dispositional property. If so, then (12) is also responsible for the demotion of the agent. The latter would normally be the most eligible candidate for the subject position. Now that the semantics requires the patient to appear in that position, the agent obligatorily becomes syntactically suppressed.

I speculate that, also, the particular interpretation that the agent receives in a disposition ascription is related to the dispositional semantics. Note the oddity of (19):

(19) ??Sugar is disposed to dissolve/dissolves when put into water by John

It makes little sense to ascribe a disposition to an entity that only manifests itself when a specific agent is involved. Dispositions, I presume, hold across agents, whenever they are involved.

### 3.2 Arbitrary Agents and Licensing by GEN

In this section I elaborate on the interpretation of the implicit agent in middles. I propose to treat the latter as a covert form of the free-choice item *any(one)*, dubbed ANY\*. Like its overt counterpart, ANY\* needs to be licensed; it is a polarity item in the sense of Giannakidou (2001). In the case of middles, its licenser is genericity, (GEN).

(20) The agent in middles is ANY\*

The crosslinguistic variation concerning the realization of middles is related to the form GEN takes in the languages in question. ANY\* will be syntactically active if licensed by an operator which is realized in the morphosyntax. Greek (and French) imperfective verbal forms encode GEN. In English (and Dutch), GEN is morphosyntactically absent, that is, it is only present semantically. I return to the morphosyntactic realization of GEN in section 4. (21) summarizes the proposal:

- (21) a. Morphosyntactically realized GEN licenses a syntactically active ANY\*  
b. Morphosyntactically null GEN licenses a syntactically inert ANY\*

What does it mean exactly for GEN to be morphosyntactically realized? It means that the opposition generic/nongeneric is realized in a given language. In effect, this can be stated in the following way:

- (22) A language encodes GEN in imperfective morphology iff in at least one tense it has two distinct verb forms for generic and nongeneric uses, i.e. iff  
genericity  $\Rightarrow$  imperfectivity<sup>vii</sup>

Finally, with respect to the issue of the syntactic behaviour of the verb, I argue for the following:

- (23) A language will employ only a passive-type structure to convey the middle interpretation iff GEN is encoded in imperfective morphology

As for how GEN licenses ANY\*, I make use of Aloni's (2002) suggestion for the modal semantics of GEN, which is designed to capture free choice readings of (overt) *any* (see Giannakidou 2001 for a different proposal). Aloni's aim is to account for the interaction of modals and free choice *anyone*. She assumes Kadmon & Landman (1993)'s analysis of *any*, according to which the latter essentially contributes an existential indefinite.<sup>viii</sup> Aloni's view is

that disjunction and existential quantifiers lead to the generation of alternative propositions, represented as  $\alpha$ . Given the Kadmon & Landman analysis, whereby *any* is an existential, a sentence containing *any* will give rise to the generation of such alternatives. Aloni proposes that modals are quantifiers over such alternative propositions (and worlds) in a less-than-standard semantics for modals. She suggests that GEN universally quantifies over alternative propositions and worlds, as in (24):

$$(24) \text{ GEN}(\varphi) = \forall \alpha \forall_{f(w)} w' \|\varphi\|_{w'}$$

(24) roughly reads as follows: for all alternative propositions  $\alpha$ , all relevant (as defined by the accessibility relation  $f$ ) worlds are  $\varphi$  worlds.

#### 4. Deriving the Middle

I now turn to the claims made above regarding the difference in the aspectual systems of Greek and English, and to how it regulates the form middles take.

##### 4.1 Greek and English GEN

In Greek, all verbs are obligatorily inflected for perfective or imperfective aspect. Perfective aspect appears in episodic sentences. The imperfective aspect, on the other hand, is ambiguous between a habitual and a progressive interpretation (Giannakidou & Zwarts 1999). On its habitual reading, the Greek imperfective involves quantification over events (Giannakidou & Zwarts *ibid.*).

Genericity/habituality can be expressed only with imperfective aspect:

(25) O Yianis            odiguse                            sto sxolio                    os efivos  
the-NOM John        drive-PAST.IMPERF.3SG                    to-the school        as teenager  
‘John drove to school as a teenager’

(26) O Yianis            odigise                            sto sxolio                    \*os efivos/ <sup>ok</sup>xtes  
the-NOM John        drive-PAST.PERF.3SG                    to-the school        as teenager/yesterday  
‘John drove to school as a teenager/ yesterday’

In Greek, then, the generic/ nongeneric distinction is encoded in morphological aspect. GEN is morphosyntactically realized in imperfective morphology, in the sense of (22).

English, on the other hand, lacks imperfective aspectual morphology, a claim already made by (at least) Giorgi & Pianesi (1997). They propose that, in the absence of any inflectional morphology, the English verbal forms are associated with the feature [+perfective]. The feature [-perfective] is never instantiated in English, since there is no corresponding morpheme. In the sense of (22), English GEN is not present in the morphosyntax. The past tense may be used both for generic as well as nongeneric sentences:

(27) John drove to school yesterday/ as a teenager

Genericity has no morphosyntactic reflex in English<sup>ix</sup>; GEN does not take the guise of imperfective morphology, since there is none in the language. Therefore, GEN is semantically, but not morphosyntactically present.

#### 4.2 Greek Passives on The Middle Reading

In what follows, I will outline how only passives successfully yield the middle interpretation in a language like Greek. For reasons of space, I will not address the question of whether generic passives are a universally available strategy, nor will I explicate the derivation of the unergative middle. See Lekakou (in prep.) for discussion.

The following three assumptions will be employed. First, I assume that if a language has a certain means, for instance some piece of morphology, for the expression of some meaning, then it cannot *not* use that means in expressing the intended meaning. To be more precise: if a language has morphological means that encode habituality/ genericity, then it will use these means in order to convey this piece of semantics. The second assumption I am relying on is a notion of ‘direct licensing’ of ANY\*:

(28) ANY\* needs to be licensed by GEN at the relevant level of representation

This means that ANY\* requires the presence of GEN at the level at which it is introduced. If that level is lexical semantics, then GEN has to be present at that level, and no ‘later’. If it is syntax, then GEN is required to be present at that level. Finally, I take it that accessing morphology, or syntax, and then going back to lexical semantics to perform some operation is illicit. The ‘lexicon’ feeds morphology and syntax, and not the other way around.

According to the more or less standardly assumed derivation of passives, the latter are formed in the syntax, in the sense that they involve syntactic movement of the object to subject position. Given that our targeted dispositional semantics in the case of middles requires that the object appear in subject position, and the aspect to be generic, the imperfective passive seems to be an eligible structure to convey that semantics. It follows that imperfective passives can, but perfective passives cannot convey the middle interpretation:

(29)	To vivlio	diavazete/*diavastike	efkola
	the book	read-NONACT.IMPERF-3SG/ read-NONACT.PERF-3SG	easily
	‘The book reads easily’		

As soon as the agent theta role is assigned to ANY\*, GEN is required in order to be licensed. The imperfective aspect on the verb contributes its licenser, morphosyntactically explicit GEN (which also binds the event argument). Since the licenser is a morphosyntactic creature, ANY\* can be syntactically present. The syntactic activity of the agent follows straightforwardly.

Let’s see now why Greek middles can *only* appear in the vestige of imperfective passives, i.e. why is it that Greek lacks the English unergative-type middle? Given the first assumption discussed above, since Greek has GEN in the guise of imperfective aspect, it has no option but

to use the latter for generic sentences. Because of its status as a morphosyntactic animal in this language, GEN will license a syntactically active ANY\*, and only that. Assuming, moreover, that it is illegitimate to return to earlier stages of the derivation after accessing morphosyntax, it is ruled out that a language like Greek would use morphosyntactic GEN and a syntactically inert ANY\*, as the latter would only be available at the level of lexical semantics.

## 5. Implications and Conclusion

In this paper I have discussed the Greek passive on the middle interpretation in the context of the attested cross-linguistic variation in the syntax of middles. I proposed to treat the middle not as a syntactic construction, but as a particular interpretation that independently existing structures—passives in Greek, unergatives in English—receive (cf. Condoravdi 1989). The interesting question, then, is which factors regulate the choice of structure to be employed as the vehicle for the middle interpretation.

The languages I have examined differ in the way they encode genericity in their aspectual systems. I argued for an analysis of middles that capitalizes on this property. More research is needed in order to determine whether there are other factors involved, in order to account, for example, for German, whose middles are syntactically transitive reflexive sentences (cf. Steinbach 2002).

The final point I wish to make concerns the implications for the syntax-lexical semantics interface that the cross-linguistic perspective on middles has afforded us. First, the cross-linguistic data are hard to reconcile with a theory that dispenses with a distinct level of lexical representation from which arguments are projected to syntax proper, since it is apparently at this level that middle formation takes place in certain languages. Moreover, the lack of uniformity in the syntactic behaviour of middles across languages poses a challenge to rigid mapping principle, such as the UTAH, or to a configurational theta-theory à la Hale & Keyser (1993): a structural definition of the notion 'Patient' is not possible. Instead, it seems that we have to assume a more flexible view of the interface, according to which thematic roles are not (expected to be) realized by arguments appearing in unique structural configurations.

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## Σημειώσεις

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<sup>i</sup> I take middles in Greek to exclusively employ passive morphology (cf. Tsimpli 1989, Sioupi 1998), contrary to Condoravdi (1989) and Kakouriotis (1994); moreover, I distinguish between middles, which involve an implicit agent, and generic unaccusatives, which lack one altogether.

<sup>ii</sup> A note on terminology: for ease of exposition I will use the term "middles", as shorthand for "the structure that conveys the middle interpretation". Moreover, in the following sections the terms 'understood object', 'patient' and 'internal argument' are used interchangeably. Although this practice arguably involves an unwarranted blurring of levels of representation, for the time being it is harmless.

<sup>iii</sup> The *by*-phrase here is 'augmented' by a non-obligatory *akomi ke* 'even', which favours the middle reading over the habitual one. See below and fn. viii for how this ties in with the semantics of the implicit agent.

<sup>iv</sup> The formulation of (12) might very plausibly have to take a different form. A more attractive rendition would be: dispositional generics involve a direct mapping between surface structure and the tripartite structure induced by GEN. This would ensure that material in the subject position is mapped onto the restrictor of (and hence bound by) GEN; this is exactly what happens at least in the case of middles, whose indefinite subjects are always generic. In all likelihood, this is the best route to take, but I will not pursue it here.

<sup>v</sup> The sentence can also have a purely habitual reading; this is so, even if *mice* is construed as the topic.

<sup>vi</sup> Krifka et al. describe the (b) reading as the natural interpretation, and the (a) readings as less favored and pragmatically odd. If dispositionality is essentially genericity, and if dispositionality is linked to the subject position, then it follows that the (a) reading is odd, since it makes very little sense as a disposition ascription.

<sup>vii</sup> (22) requires a certain level of abstraction. There is probably no tense/aspect entirely incompatible with (at least) habituality. For instance, *Linguistics students are working harder and harder these days* or *John has always left for work at 8 am* are perfectly ok, even though they employ the Progressive and the Present Perfect respectively, and not, say, the Present or Simple Past. This possibility, related to the presence of Q-adverbs and/or temporal frame adverbials, does not render either the progressive or the present perfect 'generic tenses'. Thanks to Gerhard Schaden for discussion on this.

<sup>viii</sup> *Any* is an indefinite which comes with two additional semantic/pragmatic characteristics, widening and strengthening. The widening effected by *any* (and by ANY\*) is implicated in examples like (10), which features an *even by*-phrase. *Akomi ke*, 'even', effects additional widening of the interpretation of the implicit agent. Thanks to Cleo Condoravdi for discussion of this point.

<sup>ix</sup> The generic interpretation of the present tense in English is derived in Giorgi & Pianesi (1997) through a conspiracy of factors, but crucially not because of the genericity being encoded in the verbal morphology.

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