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# Contrastive Studies in Morphology and Syntax

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# Towards a formal model of transfer under contact: Contrasting Asia Minor Greek to mainland Greek and Turkish in search of syntactic borrowings

Dimitris Michelioudakis and Ioanna Sitaridou

We contrast Asia Minor Greek to older and contemporary mainland Greek and the dominant language of the area, Turkish, in relation to constructions which appear to be vulnerable in contact situations. We treat all relevant diachronic and cross-dialectal differences as the result of parametric changes and discuss their implications for a constrained theory of syntactic transfer under contact.

## 1 Introduction

In this chapter, we investigate suspected contact phenomena in Asia Minor Greek (AMG), a dialectal group which has been subjected to intense contact with Turkish (and also other languages of the Black Sea, such as Laz and Armenian). The three AMG varieties considered here are Romeyka, Cappadocian and Pharasiot. The Romeyka data come from speakers still living in Çaykara, near Trabzon (see Sitaridou 2013, 2014a, b, 2016, see also: www.romeyka.org), while the Cappadocian and Pharasiot data come from speakers currently living in Northern Greece as reported in Bağriacik (2017). These varieties are nearly unique within the Greek-speaking world in exhibiting extensive (at least surface) head-finality, both in the clausal and the nominal domain. Related to this is the pervasive fronting of XPs as the only available strategy for various discourse-related purposes (see Sitaridou and Kaltsa 2014). These same discourse requirements can be fulfilled either via focus-movement or *in situ* in all other Greek varieties, including Standard Modern Greek (SMG).

For the purposes of this chapter, we focus on (i) multiple fronting of *wh*-phrases in multiple questions, establishing that multiple movement of *wh*-phrases also exists in Turkish, while it is not to be found in non-Asia Minor contemporary varieties of Greek (e.g. Italiot Greek), and on (ii) aspects of noun-finality in AMG, namely the ban on postnominal adjectives, the unmarked prenominal genitive and the emergence of

prenominal relatives, that is, properties which are all apparently shared with Turkish and are not to be found anywhere else in present-day Greek.

We suggest that the two competing approaches to syntactic change in contact situations, that is, explanations based on transfer and accounts based on language-internal dynamics, can and should be reconciled. Syntactic changes that look like borrowings could not have happened if the target language did not already have certain properties at some level of its grammar. At the same time, of all varieties that meet the relevant preconditions, only varieties exposed to contact will end up developing what looks like a borrowed pattern. We build on the assumption that, in order for a parameter to change its value under contact with a language L, some core manifestations of the borrowed value (or, more generally, a value due to the influence of L) must already be allowed by the grammar prior to contact with L (see Guardiano et al.'s 2016 'Resistance Principle', as well as Sitaridou 2014a: 52; Neocleous and Sitaridou 2018; Donabedian and Sitaridou, forthcoming). In this study, by means of a contrastive analysis, we concretize this claim by putting forward some precise hypotheses as to how we can determine which subsets/classes of manifestations are of this type, that is, manifestations which do not suffice to trigger the new value by themselves but are necessary for contact (i.e. exposure to patterns that do constitute sufficient cues) to trigger such a parametric change.

## 2 A contrastive analysis of multiple *wh*-questions

Multiple *wh*-questions in most varieties of Modern Greek involve fronting to the left periphery of just one *wh*-phrase (1). Typically, it is the thematically higher *wh*-phrase that gets attracted, obeying Superiority (see also Sinopoulou 2008). Any other *wh*-phrase(s) may only appear lower (2). Superiority is suspended in cases of D-linking (3), as observed by Anagnostopoulou (2003).

(1) a. Pços     efere     ti?     (SMG)
      who.NOM brought.3SG what.ACC
      'Who brought what?'

    b. *Pços     ti     efere?
      who.NOM what.ACC brought.3SG

(2) Context: A murder happened last night.
    *pçon     skotose     pços?
    who.ACC killed.3SG who.NOM
    'Who killed whom?'

(3) Context: Mary, Jane and Bill were asked to cook one dish each for a dinner party. So, we ended up having lasagne, moussaka and Beijing duck. Everything was great, but I am wondering:
    a. pços     majirepse     ti?
      who.NOM cooked. 3SG what.ACC

    b. ti     majirepse     pços?
      what.ACC cooked.3SG who.NOM

However, in the Asia Minor Greek group, all *wh*-phrases are obligatorily fronted (see Michelioudakis and Sitaridou 2012, 2016 for a detailed account of multiple *wh*-fronting (MWF) in two Pontic Greek varieties, namely Romeyka of the Black Sea and Pontic of Northern Greece, as well as Bağriacik (2017) for a presentation of the same patterns in Cappadocian and Pharasiot Greek). *Wh*-phrases may only appear in the left periphery, even when echoic, next to one another; that is, they can neither be coordinated nor separated by anything, for example, a verb form or any non-*wh* elements (4). Fronting is strictly order-preserving, except when at least one *wh*-phrase is D-linked (5)–(6). The latter is reminiscent of the Standard Modern Greek (in fact, non-Asia Minor Greek) pattern illustrated in (2)–(3): *wh*-fronting obeys Superiority, with the exception of D-linked phrases, which may in fact be targeting a different (type of) position.

(4) Tinan     (doɣna) eɳdže     (*doɣna)?     (Romeyka)
    who.ACC.HUM what.ACC brought.2SG what.ACC

(5) Context: I heard a rumour about some boy kissing some girl.
    a. Pios     tinan     efilise?
      who.NOM who.ACC.HUM kissed.3SG
      'Who kissed whom?'

    b. *Tinan pios efilise?

(6) Context: Each girl brought a different book.
    Eɣo tši ksero     pion     kitapin pion patši     eɳdže.
    I.NOM NEG know.1SG what.ACC book.ACC which girl.NOM brought.3SG
    'I don't know which girl brought which book.'
                                (Michelioudakis and Sitaridou 2016: 12)

As we will see later on, constructions with contiguous/adjacent *wh*-phrases in left-peripheral positions may not sound familiar in most contemporary Greek varieties; they were, however, possible in earlier stages of Greek, for example, in Classical and Hellenistic Greek. Moreover, strings of this type are also possible in Turkish. Therefore, we are faced with a situation such as the one sketched in Section 1: AMG varieties exposed to contact exhibit strings which are possible in the dominant language of the area, namely Turkish, and which are, crucially, absent in other related Greek varieties, yet, at the same time, there is no diachronically stable property of the language that categorically excludes such strings in the absence of contact, given earlier attestations of what looks like the same phenomenon. As argued by Sitaridou (2016), most cases of change in AMG and Romeyka, in particular, fall into this category: it is hard to distinguish whether we are dealing with an inherited feature or back-mutation (see for instance, the same problem with the development of null objects in Romeyka in Sitaridou 2016: 4). It is therefore of paramount importance to look into all these constructions in as much detail as needed in order to establish whether the underlying

syntax of the superficially similar patterns in question is indeed the same and whether one can indeed treat the AMG pattern as a curious case of continuity from Hellenistic Greek, despite the fact that there are no attestations of the ancient pattern in medieval texts,[1] or whether all of it has to be traced to more recent influences, namely exposure to strings with contiguous *wh*-phrases in Turkish. Crucially, these (non)homoplastic puzzles cannot be solved unless such detailed contrastive analysis takes place (for more on this approach, see Sitaridou 2016; Donabedian and Sitaridou, forthcoming).

Michelioudakis and Sitaridou (2016) analyse the SMG-AMG pair as a previously unknown but possible type in the typology of *wh*-movement proposed by Bošković (2002). Bošković distinguishes different types on the basis of the availability of Attract-1 heads in CP, that is, A'-heads that only attract the highest *wh*-phrase. Each type (i. no Attract-1 $C_{Wh}$, ii. all $C_{Wh}$ heads are Attract-1, iii. $C_{Wh}$ is Attract-1 only in certain configurations) can have either an MWF or a non-MWF version. In non-MWF languages in this typology, *wh*-phrases not attracted by an Attract-1 head, that is, any *wh*-phrases below the highest stay low. When there is no Attact-1 head, *wh*-phrases stay *in situ*. This derives three possible non-MWF types, i. languages with *wh*-fronting obeying Superiority always, ii. languages with *wh*-fronting in some contexts and *wh*-in-situ in others, iii. languages with *wh*-in situ always. By contrast, in MWF languages, in multiple questions, *wh*-phrases not attracted by $C_{Wh}$, that is, *wh*-phrases first-merged below the highest one, are attracted by Attract-all Focus heads. Such heads can host *wh*-phrases in multiple specifiers in any order. Parameterizing this with respect to the availability of Attract-1 $C_{Wh}$, we get three types again: i. languages with MWF obeying Superiority always, ii. languages with MWF obeying Superiority sometimes, iii. MWF languages not subject to Superiority at all. Michelioudakis and Sitaridou suggest that this typology be expanded by allowing for Attract-1 heads other than $C_{[+wh]}$, namely Focus and Topic heads.

Both AMG and SMG have an Attract-1 Focus head in the CP-periphery. The motivation for postulating a Focus head rather than $C_{[+wh]}$ comes from the fact that in both languages multiple *wh*-questions also allow for single-pair answers. According to Hagstrom's (1998) semantics of questions, as adopted and adapted by Bošković (2007), single-pair readings are only possible when the two relevant *wh*-phrases are in the scope of a Q morpheme, which is an existential quantifier over choice functions. This morpheme is always merged below C, either at a fixed head position in the CP domain (7)a or directly with the *wh*-phrase (7)b. Movement of a *wh*-phrase to Spec-C across Q gives rise to a Relativized Minimality violation (7)c.

(7) a.       $C_{+wh}$    Q    Wh1      Wh2
     b.   Wh1    $C_{+wh}$         $t_{Wh1}$     [Wh2+Q]
     c.   *Wh1    C     Q    $t_{Wh1}$      Wh2

When Q forms a constituent with the *wh*-word, only that one *wh*-phrase is in its scope and only pair list readings are available. Therefore, in AMG and SMG multiple questions with single-pair readings, both *wh*-phrases have to be lower than C, that is, in the scope of Q. We conclude that they can be at most as high as CP-peripheral Focus, which can be assumed to be below Q. At the same time, even in the presence of

single-pair interpretations, Superiority is strictly obeyed. Therefore, the (Focus) head attracting the highest *wh*-phrase has to be an Attract-1 head (8). The difference between SMG and AMG is the same as the difference between any other pair of languages that fall under the same type: AMG also has an (additional) Focus head in its CP-periphery which can host foci and *wh*-phrases, while SMG does not have such a head.

(8)   $[_{CP} C_{[+wh]} [_{FocusP} Foc^0_{Attract-1} [_{FocusP} Foc^0 ...$                 (AMG)

Michelioudakis and Sitaridou (2016) identify this head as New Information Focus[0]. Indeed, AMG systematically features preverbal new information foci, while in SMG such foci can only appear postverbally (but see Gryllia 2009). Nevertheless, as Sinopoulou (2008) shows, in SMG too, non-fronted *wh*-phrases are in fact not *in situ* and occupy a low peripheral position, preceding all vP-internal material. This position is also available to low, narrow information foci.

(9) a.   Pote aɣorase       (?*o Janis)     ti        (o Janis)? (SMG)
       when bought.3sg the Janis.nom what.acc the Janis.nom
       'When did Janis buy what?'

    b.   Aɣorase    to vivlio      o Janis.
       bought.3sg the book.acc the Janis.nom
       'John bought the book.' (as an answer to the question: 'What did John buy?')

In other words, there is a New Information Focus[0] for informationally focused XPs and *wh*-phrases alike, in the low/vP-periphery in SMG. Therefore, the difference between SMG and AMG is, in fact, microparametric: both grammars have a dedicated projection for this type of foci, but they differ with respect to whether it is activated in the low (10) or the left periphery of the clause (11). Furthermore, the availability of such an additional focus projection may also be the reason why the higher Focus projection does not have to be Attract-all, unlike for example, in the Slavic languages.

(10)   $[_{CP} C_{[+wh]} [_{FocusP} Foc^0_{Attract-1} [_{TP} T [_{FocusP} Foc^0_{New Info} [_{vP} ...$     (SMG)

(11)   $[_{CP} C_{[+wh]} [_{FocusP} Foc^0_{Attract-1} [_{FocusP} Foc^0_{New Info} [_{TP} T ...$     (AMG)

Assuming that focus-driven MWF in AMG is the result of some sort of transmission, either historical or horizontal/geographic, rather than a spontaneous development, a natural question is whether the key pattern stems from the availability of linearly similar constructions in the source language (Hellenistic Greek) or the contact language (Turkish) or some deeper formal property. Given the analysis of MWF above, we take the most irreducible relevant property to be the possibility of having two or more *wh*-phrases targeting CP-peripheral positions, higher than any A-position. The mere existence of 'wh1 wh2 V' strings is thus not a sufficient cue in this sense. Such strings can in principle be generated even without both (or in fact any of the) *wh*-phrases being in the CP-periphery. For instance, in a strictly V-final language (such as Turkish), all *wh*-phrases would have to precede the verb, whether or not any *wh*-

phrases actually reach the left periphery. In other words, the syntax of multiple *wh*-questions looks like MWF but it is epiphenomenal to the OV property of the language. Similarly, a predominantly VO language with object shift or object fronting below the canonical subject position, such as Hellenistic Greek (see Kirk 2012), would also be compatible with non-peripheral *wh*-phrases preceding the verb, but not necessarily constitute MWF in the left periphery.

We can then safely establish that more than one peripheral position is available for *wh*-phrases if there are cases in which the lowest (preverbal) *wh*-phrase is not adjacent to V and at least one (non-topicalized) XP can intervene. However, note that (i) SOV in Hellenistic Greek does not involve unmarked objects/non-subject XPs in preverbal position (see Kirk 2012), (ii) the co-occurrence of 2 *wh*-phrases and another focalized XP in the same (left) periphery is unlikely, and (iii) both direct and indirect questions favour verb-subject inversion and, as a result, the subject cannot appear between a *wh*-phrase and V either. Given these facts, it is no surprise that no 'wh1 wh2 XP V' are attested in Hellenistic Greek, even though the New Testament does feature some (admittedly few) 'wh1 wh2 V' orders (12). Therefore, on the basis of this diagnostic, we cannot really exclude the possibility that Hellenistic Greek had multiple (residual or restricted) *wh*-fronting into the left periphery.

> (12)  Ballontes kle:ron ep'  auta tis   ti are:i          (Mark 15.24)
>       casting   lots on them who what takes.SUBJ
>       '… casting lots on them to decide who should take what'

Nevertheless, multiple *wh*-phrases preceding the verb were significantly more common in Classical Greek (Dag Haug, p.c.), where OV was also more productive and unmarked (see Taylor 1994). Therefore, in the earlier stages of Greek (apparent or real) MWF does correlate with OV (unmarked/productive or residual). In AMG, on the other hand, in which OV is more marked than in Classical Greek and VO is the unmarked order (see Sitaridou and Kaltsa 2014), MWF is fully productive. Also, crucially, contemporary AMG does not force subject-verb inversion in questions, so the abovementioned diagnostic is applicable and, indeed, 'wh1 wh2 Subject V' orders are possible (13). This clearly indicates that all *wh*-phrases are in the CP-periphery.

> (13)  Tinan      (*esi)   *doxna*   (esi)     endžes? (Romeyka)
>       who.ACC.HUM you.NOM what.ACC you.NOM brought.2SG
>       'What did you bring to whom?'

Let us now turn our attention to Turkish. It is commonly analysed as a wh-*in situ* language (Özsoy 2009) with optional scrambling of *wh*-phrases. Note that, being strictly V-final, Turkish linearizes *wh*-in situ as 'wh1 wh2 V' (14). Therefore, multiple *wh*-phrases preceding the verb could be just a deceptive case of MWF; in fact, it can just be an artefact of OV, coupled with free PF (Phonetic Form) scrambling.

> (14)  Tamer      ne-yi    nere-ye   koy-du?              (Turkish)
>       Tamer.NOM what-ACC where-DAT put-PAST.3SG
>       'What did Tamer put where?'

However, Özsoy (2009) shows convincingly that movement of *wh*-phrases higher than the canonical subject position is not just PF scrambling. Firstly, local movement of an object *wh*-phrase above the subject can repair a Weak Crossover effect (15) and, secondly, long-distance multiple movement of *wh*-phrases from within different clauses strictly obeys Superiority (16).

> (15)  a.  *[$_{TP}$ pro$_i$ Anne-si$_i$  [$_{VP}$ kim$_i$-i   ara-dı]]?
>               mother-3POSS who-ACC call-PAST
>
>       b.  [$_{TP}$ Kim-i$_i$ [$_{IP}$ pro$_i$ anne-si$_i$       [ara-dı]]]?
>               who-ACC      mother-3POSS call-PAST
>               'Who$_i$ did his$_i$ mother call?'

> (16)  a.  [Kim-e$_i$  Aylin $t_i$  [Zeynep-in  kim-i   gör-düğ-ü-nü]      sor-du]?
>               who-DAT Aylin-NOM Zeynep-GEN who-ACC see-NOM-3POSS-ACC ask-PAST
>               'Who did Aylin ask whom Zeynep saw?'
>
>       b.  *[Kim-i$_i$  Aylin      kim-e  [Zeynep-in  $t_i$ gör-düğ-ü]-nü  sor-du?
>               Who-ACC Aylin-NOM who-DAT Zeynep-GEN see-NOM-3POSS-ACC ask-PAST

Therefore, fronting of *wh*-phrases higher than their first-merged positions takes place in narrow syntax and, at least sometimes, fronted *wh*-phrases in multiple questions can all target left-peripheral positions and in fact an Attract-1 position, given the presence of Superiority in some contexts. In other words, the minimal ingredient we identified above as an irreducible requirement for the development of MWF is also present in Turkish.

To sum up, the main syntactic ingredients of MWF in AMG are as follows: (a) *wh*-fronting as focus-movement, (b) attraction of the highest *wh*-phrase by an Attract-1 head, hence Superiority, (c) obligatory attraction of any *wh*-phrase(s) below the highest one by a Focus head, (d) activation of all relevant Focus heads in the CP-periphery. Of these ingredients, (a) and (b) are clearly present in SMG and, as Sinopoulou (2008, 2011), (c) is also true of SMG multiple *wh*-questions, as no *wh*-phrases really stay *in situ*. As for (d), it can be broken down into two sub-features: (d1) the head attracting *wh*-phrases below the highest is a New Information Focus head; (d2) New Information Focus is in the CP-periphery. Following Sinopoulou, again, (d1) is also the case in SMG, as low new information foci and low *wh*-phrases have the same distribution.

Therefore, the only shift that happened in AMG was from a system with a Focus head in the vP-periphery for *wh*-phrases to a system with such a projection in the CP-periphery only (d2). Turkish then urged AMG to associate *wh*-phrases in multiple questions beyond the highest with a Focus head in the left periphery, which would make the shift in question a case of back-mutation. Recall that in Turkish this type of fronting is only optional, the other option being to leave *wh*-phrases *in situ*. However, given (c) above, a Greek grammar that undergoes this shift has to make this fronting obligatory. Also, given the SMG state of affairs, it was natural for AMG too to associate low *wh*-phrases with New Information Focus[9]. In SMG and Cypriot Greek, among others, new information foci are predominantly postverbal (while Gryllia (2008:

**Table 14.1** The Syntactic Ingredients of Multiple *Wh*-Questions in SMG, Turkish and AMG

|  | SMG | Turkish | AMG |
|---|---|---|---|
| Focus-fronting of wh- | + | + | + |
| Attract-1 for the highest wh- | + | + | + |
| Focus-movement of low wh-phrases | + | + | + |
| Wh- can stay in situ | - | + | - |
| Focus heads (for wh) are only left-peripheral | - | + | + |

11–12) also discusses contexts in which they can be preverbal too; on focus in SMG, see also Georgiafentis 2004). Table 14.1 above summarizes the relevant properties.

All in all, the (micro-)parameter regulating the height at which the focus projection for *wh*-phrases is activated has indeed been reset due to Turkish influence. Nonetheless, which type of projection is to be used for *wh*-phrases was probably predetermined, as the link between new information focus and low *wh*-phrases is common to all contemporary Greek varieties. Contact must then have played a role in activating New Information Focus⁰ exclusively in the left periphery. Yet again, Greek grammars in general are compatible with various types of Focus in the left periphery. This is a key point which the rest of this chapter will also highlight: a new parameter setting due to contact is often such that the new grammar generates (as the unmarked option now) strings which were previously generated as a marked option (in our case: left-peripheral new information foci; for the same claim regarding final-auxiliaries in AMG, see Neocleous and Sitaridou 2018). At the same time, what looks like a totally novel and previously unattested pattern (MWF in our case), only to be found in the contact language, does not signal a parameter change *per se*. Instead, it is a necessary manifestation of a previously existing parameter setting (namely 'Low *wh* = New Information Focus') which now interacts with a parameter (in our case: the position of New Information Focus) whose value changed through contact.

## 3  N-finality in Asia Minor

Head-finality in the AMG DP mainly concerns (a) the position of genitive adnominal arguments, (b) adjective placement and (c) the position of relative clauses. In contemporary AMG, adjectives are exclusively prenominal, genitives are also prenominal with some AMG-internal variation as to their surface positions, and relatives are predominantly prenominal with some varieties allowing for extraposed relatives.

With regard to genitives, as Michelioudakis et al. (2016, 2017) show, all AMG varieties have exclusively prenominal genitives. Nonetheless, there appears to be a continuum as to the flexibility of genitive placement within the prenominal field: Cappadocian Greek appears to be the least flexible (see also Bağriacik 2017), as genitives may only occur to the right of any adjectives (17), while Romeyka is the most

flexible, with genitives also being able to precede adjectives (18). However, orders with postadjectival genitives are still judged as the most natural and unmarked.

(17)  a.  du-šímirnu Ø-papajiú        du  krúšima            (Cappadocian)
          the-today's the-priest.GEN    the  hitting

      b.  * Ø-papajiú        du-šímirnu du krúšima
          'today's hitting of the priest'

(18)  (t=Ali)                  t=askemon (t-Ali)      to muxteron   (Romeyka)
      the=Ali.GEN              the=ugly the=Ali.GEN the animal.NOM
      'Ali's ugly animal'

This seems to correlate perfectly with the extent to which a structurally lower adjective can surface to the left of a structurally higher adjective when emphatic. In Romeyka, emphatic fronting of APs is readily available (19)a, while in Cappadocian it is prohibited (19)b. Therefore, the preadjectival position of genitives is also a discourse-related position in the left periphery of the DP (see also Mathieu and Sitaridou 2005).

(19)  a.  (to-tranon) t=emon (to-tranon) t=arapa        (Romeyka)
          the-big      the=my        the-big the=car
          'my big car'

      b.  (*du-kalon) to-mo (du-kalon) du-peškír        (Cappadocian)
          the-good      the-my the-good  the-towel
          'my good towel'

At this point a comment is in order regarding the fact that, in definite DPs, genitive arguments always precede what looks like the definite article. This is due to the fact that AMG has developed definiteness agreement, namely every [+N] constituent has to bear its own agreement morpheme (see Guardiano et al. 2016). Such agreement morphemes bear full *phi*-specification, that is, number, gender and person, which is spelt out by the same morpheme that realizes the definite article (as well as third-person pronominal clitics in SMG). Thus, while in SMG the order [Def X Def N] necessarily signals fronting of X over D, in AMG a definiteness affix before the noun does not necessarily signal a DP boundary. A non-fronted genitive still precedes Def as NPs too have to bear their own agreement morpheme.

Turkish too has exclusively prenominal genitives (20). Also, like both AMG and SMG, it only allows one genitive DP per head noun. Unlike both, though, Turkish exhibits head marking, whereby the head noun is marked with the phi-features of the genitive argument. Also, importantly, genitive DPs in Turkish strictly precede any/all adjectives, as the ungrammaticality of (21) shows.

(20)  (Ada-nın) şirin oyuncağ-ı (*Ada-nın)            (Turkish)
      Ada-GEN nice  toy-3SG    Ada-GEN
      'Ada's nice toy'

(21)  *şirin Ada-nın oyuncağ-ı

Crosslinguistically (see e.g. Longobardi and Silvestri 2013), there seem to be just two functional projections in the extended projection of the nominal for non-iterable genitive arguments (22): one preceding the base position of all direct modification adjectives (which we will conventionally call $Gen1^0$) and one following the base position of all direct modification adjectives ($Gen2^0$).

(22)  $[D\ldots [Gen1^0 [(A^*) \ldots [Gen2^0 [_{nP} \ldots$

Placement of the genitive with respect to the head noun is orthogonal to this distinction. The genitive in either position may end up preceding or following the N depending on whether N and/or projections containing N move higher than either of the two positions. Thus, Turkish and AMG are similar in lacking any N(P)-movement over either of the two positions. However, they differ with respect to which position each language activates for its unique genitive DPs. AMG genitives are hosted in the Spec of $Gen2^0$, while Turkish genitives are in Spec-Gen1. Note that all other contemporary varieties of Greek also activate just the postadjectival position for genitives, that is, Gen2. The difference is that in mainland and Cypriot Greek, the head noun precedes the genitive (while in Italiot Greek nouns have to precede some adjectives as well). This difference can be formalized in terms of an N(P)-movement parameter over $Gen2^0$ (cf. Guardiano 2011) with AMG having a negative value and all other contemporary varieties having a positive value (see Michelioudakis et al. 2016, 2017).

With respect to the syntax of adjectives, AMG (23) is like Turkish (24), which lacks any postnominal adjectives, and unlike any other Greek variety (see Guardiano et al. 2016).

(23)  (to tranon) (t-askemon) to muxteron (*to tranon) (*t-askemon)   (Romeyka)
      'the big ugly animal'

(24)  (şirin)   oyuncak (*şirin)                              (Turkish)
      nice      toy      nice
      'a/the nice toy'

Mainland Greek freely allows typically prenominal adjectives to occur postnominally in indefinite DPs (25)a, while in definite DPs postnominal APs have to carry their own definiteness marker (25b), thus giving rise to what is known as 'polydefiniteness' (see Alexiadou 2014 and references therein).

(25)  a.  ena zoo megalo/omorfo   tis      Afrikis      (SMG)
          an animal big/beautiful  the.GEN Africa.GEN
          'a big/beautiful animal from Africa'

      b.  to zoo     to    megalo/to omorfo tis       Afrikis
          the animal  the   big/the beautiful the.GEN Africa.GEN
          'Africa's big/beautiful animal'

Italiot Greek takes a step further and in fact has adjectives of certain classes, which can only occur postnominally; that is, it has developed obligatory NP-movement over certain adjectival projections (26).

(26)  Meletisa ton       (*rodino) libbro   (rodino)                   (Italiot Greek)
      read.1SG the       red       book     red
      'I read the red book.'

(Guardiano and Stavrou 2014: 132)

In mainland Greek, the source of postnominal adjectives preceding genitives can be argued to be a small-clause-like structure that takes the NP as the subject of the predication and the postnominal AP as its predicate (see Campos and Stavrou 2011; Stavrou 2012). Like in clausal predication, a copula-like head, which Campos and Stavrou call $Pred^0$, mediates the relation between the two elements and carries all relevant agreement features, namely number, gender and (third) person (27).

(27)  $[_{DP} D [_{RP} NP_i R [_{PredP} t_i Pred^0_{[+phi]} AP]]]$

As already mentioned, a bundle of such features is spelled out as the definite article in definite DPs. In indefinite DPs, since third person is not spelled out in D, $Pred^0$ remains phonologically null. In AMG, having become a prefix, the definiteness morpheme can only be parsed as part of the AP, therefore it can no longer realize $Pred^0$. Thus, this source of postnominal adjectives was lost. At the same time, the Turkish input also lacks postnominal APs altogether, so it was impossible for AMG to keep postnominal adjectives and reanalyse them as occupying projections obligatorily crossed by a moving nominal constituent. A change of this sort indeed took place in Italiot Greek, after a similar procedure that led to the loss of polydefiniteness (Guardiano and Stavrou 2017), under the pressure of heavily N-over-Adj nominal structures in the local Romance varieties.

Finally, the syntax of relative clauses in AMG is quite unique in involving patterns which are not possible in the rest of the Greek diasystem, even as marked orders. For instance, while adjectival and genitival placement in AMG involves orders which are otherwise derivable in at least some of the other Greek varieties, at least as informationally marked orders, pre-DP relatives have never been possible in any diatopic or diachronic variety of Greek outside AMG. More specifically, all three contemporary varieties of AMG allow relative clauses DP-initially. In Cappadocian, relatives are now exclusively DP-initial (28) (see Bağriacik and Danckaert 2016). Contemporary Pharasiot also allows some extraposition of relatives to the right of DPs (29) (ibid.), while Romeyka allows relative extraposition to the right of DPs (30). Notably, older/more conservative speakers of Romeyka still only allow postnominal relatives thus indicating that DP-initial relatives must have been absent prior to any contact with Turkish which has exclusively prenominal/pre-D relatives (31).

(28)  [du rántsa  šímiru] du peškír                        (Cappadocian)
      the saw.1SG today    the towel
      'the towel that I saw today'

(29)　(tu íða　　zapá:na)　　　to pešḱiri (tu íða　　zapá:na)　　(Pharasiot)
　　　that saw.1SG in the morning the towel that saw.1SG in the morning
　　　'the towel I saw in the morning'

(30)　a.　psomin　　d=endʒen　　　o peðas　　　　　　(Romeyka)
　　　　　bread.ACC that=brought.3SG the boy.NOM
　　　　　'the boy that brought bread'

　　　b.　t=aʎi　　　tin iɲeka opse　　eɣnorisa　　p=epire
　　　　　the=Ali.GEN the wife yesterday met.1SG　　that=took.3SG
　　　　　'yesterday I met Ali's wife that he took/married'

(31)　[aǧırla-dığ-ım]　　　bir misafir　　　　　　(Turkish)
　　　host-NON.SUBJ.REL-1SG a　guest
　　　'a guest that I am hosting/host/have hosted'

Arguably, all three changes that AMG has undergone, namely a shift to (i) (exclusively) pre-N placement of genitives, (ii) exclusively pre-N placement of adjectives and (iii) (predominantly) pre-N placement or relatives, are all facets of the prevalence of head-finality in the nominal domain. Nevertheless, in the case of genitives, at least, what we observe is not a wholesale import of the Turkish pattern. The licensing position of genitive DPs on the nominal functional spine in AMG is still the same employed as in every other historical and diatopic Greek variety, at least since Hellenistic Greek, namely Gen2. Moreover, obligatory definiteness agreement/spread gives rise to surface orders such as [Def Gen Def N]. Such orders are perfectly grammatical in contemporary (at least mainland) Greek too, though they are only felicitous if the genitive argument is contrastively focused or topicalized. In other words, in this case too, we are faced with the generalization/grammaticalization of a construction which was already derivable by the pre-existing grammar.

Exact emulation of the Turkish pattern in the syntax of genitives would give rise to [Def Gen Def AP Def N] orders, which are also possible in mainland Greek, as the result of fronting of the genitive argument to a DP-peripheral position, coupled with polydefiniteness. Nevertheless, despite the availability of such strings, the pattern is not generalized and does not become unmarked in AMG; that is, it does not reflect the licensing position of genitive DPs. This suggests that we are dealing with an impossible parametric change, namely the rise of a Gen1 position in a Greek variety, and that indeed syntactic borrowings are only possible if they constitute possible parametric changes. Crosslinguistically, realization of the genitive DP in Gen1 correlates either with definiteness inheritance effects (like e.g. Saxon genitives in English) or with obligatory phi-agreement between the genitive and the head noun (see Longobardi 1996, among others). These seem to be core and necessary manifestations of parameters that have Gen1 placement as its reflex. Neither of the two, however, could possibly emerge in an AMG-like grammar. Since definiteness is already obligatorily and multiply marked, that is, it also has to appear on the NP after the genitive; AMG cannot develop an English-like system whereby definiteness of the overall DP is determined on the basis of the genitive, thus blocking definite articles (cf. *(the) John's bike). As for agreeing

**Table 14.2** Attachment Height and Movement Parameters in the DP in Greek and Turkish

|  | Hellenistic/ Modern Greek | AMG | Turkish |
|---|:---:|:---:|:---:|
| Gen1⁰ | - | - | + |
| Gen2⁰ | + | + | - |
| NP-over-Gen2 | + | - | - |
| NP-movement over direct modification As | - | - | - |
| NP-movement over indirect modification (including relatives) | + | - | - |

head marking, which also seems to result in Gen1 placement crosslinguistically, AMG resists it due to deeper typological reasons, namely the presence of fusional rather than agglutinating morphology of the sort attested in head-marking languages.

All in all, while innovative, the changed syntax of genitives in AMG is both an instance of a successful syntactic borrowing and of a failed one. A negative setting for N(P)-over-Gen2 indeed arose under contact, but the core strings manifesting this setting were already possible. What contact did was to reduce the input that would trigger a positive setting. At the same time, the parameter setting that gives rise to Gen1 placement in Turkish could not be transferred, because the core strings triggering it were not independently possible.

As for adjectives, contact did the same as above; that is, it made the input contain a radically reduced percentage of postnominal APs which could have given rise to a positive N(P)-over-A parametric setting, after the independently triggered loss of DP-internal Pred⁰. Crucially, the syntax of adjectives must also be a core and sufficient manifestation, and therefore a trigger, for a broader parameter regarding the presence/absence of N(P)-movement over modifiers. Recall also the commonly held assumption that at least indirect modification adjectives have the same source/first-merged position as relative clauses (see Cinque 2010, among others). In Asia Minor Greek, adjectives with the interpretive effects (e.g. stage-level readings) that Cinque (2010) associates with reduced relative clauses all appear prenominally only (like e.g. in English, though in English a postnominal position is also available under certain conditions). Thus, by eliminating NP-movement over both direct and indirect modification adjectives, AMG forced loss of obligatory NP-placement before relatives too. In Table 14.2 we summarize our findings regarding nominal syntax in AMG.

## 4　Towards a model of syntactic borrowing: some foundational principles and conclusions

If one considers all the cases discussed in the previous sections, there are some recurrent themes and generalizations to be drawn. First, as already noted in previous research, a parameter value can only be borrowed if part of the strings it generates were

already possible (even if analysed differently) in the pre-existing grammar. In the light of the observations above, we can now be more precise regarding the kind of overlap that does trigger a borrowing:

1. If the parameter in question regulates base-generated orders (e.g. the external merge position of functional heads) or orders resulting from the application of non-discourse-related movement rules (e.g. A-movement, agreement-triggered movement or head-movement), these orders should already be generated by the pre-existing grammar, at least as an artefact of/through the application of discourse-related rules.

This is why in many of the cases discussed above emergent unmarked patterns are also attested in the rest of the diasystem as marked orders.

Second, although language acquisition obtains on the basis of positive evidence, in language contact situations often involving L2 (adult) data, negative evidence may also play a role:

2. Even though the input from the dominant language is not enough to trigger a new value, unless the respective strings are attested in the L1 input, the absence from the L2 input of strings that trigger the opposite value can indeed change the balance in favour of the borrowed value.

So, for instance, the systematic absence of postnominal material in Turkish did play a significant role in the shift to head-final settings for most functional heads in the AMG DP.

Third, a more general conclusion is this:

3. All contact-induced syntactic change is necessarily parametric change even if it is of the micro-/nano- type.

A pattern cannot be borrowed if it is only a peripheral manifestation of a deeper parametric setting, whose core properties are resisted by the target language. At the same time, if the interaction of (I) and (II) suffices for the emergence of a new parametric setting (including potentially macro-parametric changes), then any other manifestations following from the new value are immediately made possible, even if previously completely unavailable (cf. Lightfoot's (1979) 'cascade effect'). An example of this effect is the totally innovative syntax of relatives in AMG, as part of the resetting of ±N-over-indirect-modifiers, as well as the emergence of MWF as a result of activating all Focus projections in the CP-periphery.

## Notes

1   We base this observation on our knowledge of the medieval record. To the best of our knowledge, no such study exists.

## Abbreviations

| | |
|---|---|
| -F | agglutinated morpheme |
| .F | fusional morpheme |
| =F | morpheme with elided unstressed vowel |
| 1/2/3 | 1st/2nd/3rd person |
| A | adjective |
| A-movement | movement to argument (e.g. subject) position |
| A'-movement | movement to non-argument/peripheral positions |
| A'-head | head of projection hosting A'-moved constituents |
| ACC | accusative |
| AMG | Asia Minor Greek |
| AP | adjectival phrase |
| CP | complementizer phrase |
| $C_{Wh}$ | interrogative complementizer |
| D | determiner |
| D-linked | discourse-linked |
| DAT | dative |
| Def | definiteness morpheme |
| DP | determiner phrase |
| GEN | genitive |
| HUM | human |
| L1 | first/native language |
| L2 | second language |
| N | noun |
| NEG | negation |
| NOM | nominative |
| NON.SUBJ.REL | non-subject relativizer |
| NP | noun phrase |
| nP | light noun phrase |
| OV | object-verb order |
| PAST | past |
| phi | phi-feature bundle (person, number, gender) |
| POSS | possessive |
| Pred | predication |
| PredP | predication phrase |
| *pro* | null pronoun |
| R | relator |
| RP | relator phrase |
| SG | singular |
| SMG | Standard Modern Greek |
| SUBJ | subjunctive |
| T | Tense |
| $t_i$ | movement trace (co-referential with expressions with index i) |
| V | verb |
| VO | verb-object order |
| vP | light verb phrase |
| XP | maximal projection/phrase |

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