Maltese *kull*: An areal-diachronic perspective

David Gil

This paper presents a syntactic and semantic study of universal quantification in Maltese, from an areal-diachronic perspective. In many languages of the Mediterranean-African area, a universal quantifier may occur in two constructions: preceding a definite plural noun, with a non-distributive interpretation "all", and preceding an indefinite singular noun, with a distributive interpretation "every". Of these two constructions, the former is the unmarked member of the pair, and hence the basic meaning of the universal quantifier is non-distributive "all" rather than distributive "every". Evidence in support of this claim includes (a) the more limited syntactic distribution of the indefinite singular construction; (b) the absence of an indefinite singular construction with distributive interpretation for any quantifiers other than the universal one; and (c) the universal semantic markedness of distributivity, as reflected in quantifier-scope judgements across the world's languages.

In some North African dialects of Arabic, cognates of the Classical Arabic universal quantifier *kull* have undergone a variety of interesting historical developments. In several Maghrebi dialects, an additional construction has evolved, with the universal quantifier in postnominal position, as either an adjective or a prepositional phrase; in some of these dialects, including Maltese, this appears to have triggered the loss of the construction with the universal quantifier preceding a definite plural NP. These diachronic developments are argued to provide yet additional support for the characterization of *kull* and its cognates as basically non-distributive. In conclusion, this paper examines the implications of the data with regard to current theories of quantification. Whereas linguists generally take distributive "every" to be the prototypical quantifier, philosophers, when constructing universal generalizations, often harbour a conflicting preference for non-distributive "all". The Maltese and North-African facts appear to suggest that in this particular case, the philosophers are actually on firmer grammatical ground than their fellow linguists.

1. Introduction

This paper is concerned with the syntax and semantics of universal quantification in Hebrew and Arabic, focussing on Modern Hebrew *kol* 'all' and the cognates of Classical Arabic *kull* 'all' in the Arabic vernaculars of West Asia and North Africa.

The point of departure of this paper is a cross-linguistic typology of universal quantifiers developed in Gil (1991, 1995b). Universal quantifiers in Hebrew and in some Arabic dialects provide further support for the proposed typology. In contrast, universal quantifiers in a number of North-African Arabic dialects present certain analytical problems, providing prima facie counterexamples to some of the generalizations underlying the abovementioned typology. However, closer examination...
of the data in question ends up providing strong further support for the
typology of universal quantifiers.

Section 2 of this paper looks at some basic facts regarding universal
quantification in English. Building on these observations, Section 3
presents some cross-linguistic generalizations about universal quantifi-
cation in the languages of the world. These two sections set the stage
for Section 4 and an analysis of universal quantification in Hebrew. Finally,
Section 5 considers some synchronic and diachronic aspects of universal
quantification in several dialects of Arabic, from Israel, Malta, Morocco
and Tunisia.

2. Universal quantifiers in English

Ask a linguist for an example of a quantifier, and the answer is
likely to be 'every'. For many linguists, every is the prototypical, garden-
variety quantifier, that which appears in the stock example sentences,
Every man loves a woman, Every man who owns a donkey beats it, and
so forth. Thus, in the semantic typology of NPs proposed by Kamp (1981),
Heim (1982), Partee (1987) and others, NPs of the form [every N] are
generally considered to be the most characteristic exemplars of the type
referred to as 'quantificational' or 'essentially quantificational'.

Philosophers, however, when constructing universal generaliza-
tions, seem to harbour a conflicting preference for all, as in All men are
mortal, All ravens are black – even though the intended interpretations
are generally those that would be unambiguously expressible with every.
Indeed, it is the letter a from all which, when capitalized and turned
upside-down, forms the symbol for the logicians' universal quantifier V.

Ironically, it is the philosophers who would appear to be on firmer
linguistic ground than their fellow linguists. Syntactic and semantic
evidence supports the claim that all is the basic or simple universal
quantifier. As for every, far from being prototypical, it is in fact among
the most exceptional of quantifiers in its syntactic and semantic behav-
iour.

As has been frequently observed (Vendler 1967:72-76, Hogg
1977:105-140, Aldridge 1982:212-235, and others), all allows either
distributive or non-distributive interpretations, while every forces
distributive interpretations. Consider the contrast between the following
two sentences:

(1) a. All the men carried three suitcases
b. Every man carried three suitcases

Whereas in (1a), the men may have acted individually or collect-
ively, in (1b) they may only have acted individually. Similarly, whereas
in (1a), the men may have carried three suitcases per person or between
them, in (1b) they must have carried three suitcases per person (though
these could, accidentally, have been the same three suitcases). The
interpretations of the above sentences may thus be represented pictori-
ally as in Figure 1.

<table>
<thead>
<tr>
<th>Interpretation A</th>
<th>Interpretation B</th>
</tr>
</thead>
<tbody>
<tr>
<td>single joint carrying, three suitcases in total</td>
<td>separate carryings, three suitcases per man</td>
</tr>
</tbody>
</table>

Figure 1. Interpretations of Sentences (1a) and (1b)

While sentence (1a) allows either interpretation A or interpretation
B, sentence (1b) allows only interpretation B.

Thus, the effect of every is to force a relationship of distributivity, in
which the NP containing every is interpreted as distributive-key, and
some other constituent – in the above examples, the predicate – is
interpreted as distributive-share. The distinction between (1a) and (1b)
may accordingly be represented as follows:

(2) a. [All the men]key [carried three suitcases]share
b. [Every man]key [carried three suitcases]share

The relationship of distributivity is represented by means of ind-
exation. In both sentences, the subject NP is indexed as distributive-
key, and the predicate as distributive-share. However, while indexation
is optional (indicated with parentheses) with all in (2a), it is obligatory
with every in (2b).1

Thus, while all permits both non-distributive and distributive-key
interpretations, every forces distributive-key interpretations. Accord-
ingly, whereas all is unmarked, or simple, every is marked as distribu-
tive-key. The quantifier every is thereby endowed with portmanteau
semantic structure, combining the quantificational force of a universal
quantifier with an additional distributive-key denotation. By dint of its portmanteau structure, every is more highly marked than its simple, non-distributive counterpart all.

The characterization of simple, non-distributive all as unmarked, and of distributive-key every as its more highly marked counterpart, is supported by several independent syntactic and semantic arguments. First, every is semantically exceptional, in that most other English quantifiers, including all, most, many, several, some and the numerals, are unmarked for distributivity. Secondly, every is formally exceptional in its association with singular morphology, contrasting with most other semantically plural English quantifiers, again including all, most, many, several, some and the numerals (greater than one), which take plural morphology. Thirdly, distributivity is itself a marked semantic relation, in that, in constructions unmarked for distributivity, for example sentences such as Two men carried three suitcases, the preferred interpretations are generally non-distributive. For reasons of space, these arguments cannot be presented here in full; for details, the reader is referred to Gil (1991, 1993b, 1995b).3

3. Universal quantifiers in the languages of the world

Further arguments in support of the characterization of all and every as unmarked and more highly marked universal quantifiers respectively derive from the distribution and in form of simple and distributive-key universal quantifiers across the world’s languages. Some generalizations governing the cross-linguistic inventories of universal quantifiers are given below:

(3) Universal 1:
If a language possesses a distributive-key universal quantifier, then it possesses a simple universal quantifier.

Universal 2:
In languages that possess both simple and distributive-key universal quantifiers, if the distributive-key universal quantifier is native, then the simple universal quantifier is native.

Universal 3:
In languages that possess both simple and distributive-key universal quantifiers, if the two are morphologically related, then the distributive-key universal quantifier is derived from the simple universal quantifier by a morphosyntactic process.

Some evidence in support of the above three universals is presented in Table 1 below, providing a classification of the world’s languages into five groups, with respect to their inventories of simple and distributive-key universal quantifiers.3

Universal 1 says that simple universal quantifiers are more common cross-linguistically than their distributive-key counterparts. Specifically, Universal 1 allows for three types of languages: with both simple and distributive-key universal quantifiers (groups A, B and C); with simple but no distributive-key universal quantifiers (group D); and with neither simple nor distributive-key universal quantifiers (group E). However, it rules out the existence of a fourth type of language, with distributive-key but no simple universal quantifiers. Thus, the existence of ‘group D’ languages such as Maricopa, Zulu, Malayalam, White Hmong and Yukaghir, with simple but no distributive-key universal quantifiers, supports the characterization of simple

<table>
<thead>
<tr>
<th>Language</th>
<th>Simple Universal Quantifier</th>
<th>Distributive-Key Universal Quantifier</th>
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<tbody>
<tr>
<td>A English</td>
<td>all</td>
<td>every</td>
</tr>
<tr>
<td>Latvian</td>
<td>visi</td>
<td>katra</td>
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<tr>
<td>Godoberi</td>
<td>t'orda</td>
<td>zi- zi-</td>
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<td>Malay</td>
<td>semua</td>
<td>setiap</td>
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<tr>
<td>Mandarin</td>
<td>suyōu</td>
<td>mēi</td>
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<tr>
<td>B Swahili</td>
<td>-ote</td>
<td>kila</td>
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<tr>
<td>Tarifit Berber</td>
<td>qa'í</td>
<td>kur</td>
</tr>
<tr>
<td>Turkish</td>
<td>bütün</td>
<td>her</td>
</tr>
<tr>
<td>Lezgian</td>
<td>wiri</td>
<td>har</td>
</tr>
<tr>
<td>Punjabi</td>
<td>saaree</td>
<td>har</td>
</tr>
<tr>
<td>C Lakhota</td>
<td>iyuha</td>
<td>iyohiša</td>
</tr>
<tr>
<td>Irish</td>
<td>uile</td>
<td>'chuile</td>
</tr>
<tr>
<td>Georgian</td>
<td>q'ела</td>
<td>q'oveli</td>
</tr>
<tr>
<td>Russian</td>
<td>vse</td>
<td>všjakij</td>
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<tr>
<td>Serbo-Croatian</td>
<td>svi</td>
<td>svaki</td>
</tr>
<tr>
<td>D Maricopa</td>
<td>mat čaamk</td>
<td>-</td>
</tr>
<tr>
<td>Zulu</td>
<td>-onke</td>
<td>-</td>
</tr>
<tr>
<td>Malayalam</td>
<td>muzuwan</td>
<td>-</td>
</tr>
<tr>
<td>White Hmong</td>
<td>txhua</td>
<td>-</td>
</tr>
<tr>
<td>Yukaghir</td>
<td>jawnom</td>
<td>-</td>
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<tr>
<td>E Straits Salish</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Warlpiri</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

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universal quantifiers as unmarked, and distributive-key universal quantifiers as their more highly marked counterparts.

Whereas Universal 1 applies to all languages, Universals 2 and 3 are restricted in their scope to languages possessing both simple and distributive-key universal quantifiers. Universal 2 distinguishes between universal quantifiers of native and loan varieties, the latter being those whose etymologies show that they have been borrowed from some other language. Universal 2 states that simple universal quantifiers are more likely to be native, while their distributive-key counterparts are more likely to be loan. In doing so, it allows for three types of languages: with native simple and distributive-key universal quantifiers (groups A and C); with native simple universal quantifiers but loan distributive-key universal quantifiers (group B); and with loan simple and distributive-key universal quantifiers (hitherto unattested). However, it rules out the existence of a fourth type of language, with loan simple universal quantifiers but native distributive-key universal quantifiers. Again, the existence of ‘group B’ languages such as Swahili, Tariff Berber, Turkish, Lezgian and Punjabi, with native simple universal quantifiers alongside loan distributive-key universal quantifiers, further supports the characterization of simple and distributive-key universal quantifiers as unmarked and marked varieties respectively.

Universal 3 pertains to the internal morphological structure of universal quantifiers. It allows for two types of languages: with formally unrelated simple and distributive-key universal quantifiers (groups A and B); and with distributive-key universal quantifiers that are formally derived from their simple universal quantifier counterparts (group C). However, it rules out the existence of languages in which simple and distributive-key universal quantifiers are formally related in other ways – for example the simple universal quantifier being derived from the distributive-key one, or both being derived from some other form. Once more, the existence of ‘group C’ languages such as Lakhota, Irish, Georgian, Russian and Serbo-Croatian, in which distributive-key universal quantifiers are obtained from their simple universal quantifier counterparts by the addition of a morphosyntactic marker, provides yet additional support for the characterization of simple and distributive-key universal quantifiers as unmarked and marked types respectively.

4. Universal quantifiers in Hebrew

In several languages around the the Mediterranean and in Africa, there are no distinct lexical counterparts to English all and every; rather, the semantic contrast between simple and distributive-key universal quantification is expressed structurally. Specifically, in such languages, the same lexical item may occur either with plural morphology, in which case it is interpreted as a simple universal quantifier, or, alternatively, with singular morphology, in which latter case it is interpreted as a distributive-key universal quantifier. Among the languages exhibiting this pattern of universal quantification are Hebrew and Arabic.

Following is an example from Hebrew:

(4) a. kol haʔanašim sahvu šaloš mizvodat
   A the-man-PLM carry-PST-3-PL three-F suitcase-PL:F
   ‘All the men carried three suitcases’

   b. koli is sahav šaloš mizvodat
   A man carry-PST-3:SG:M three-F suitcase-PL:F
   ‘Every man carried three suitcases’

In (4a), the universal quantifier kol occurs with plural morphology, taking the definite plural head noun ha anašim, and forming an NP which triggers plural verbal agreement; in this construction, kol is glossed as the simple universal quantifier ‘all’. In contrast, in (4b), the same universal quantifier kol occurs with singular morphology, taking the indefinite singular head noun is, and forming an NP which triggers singular verbal agreement; in this case, kol is glossed as the distributive-key universal quantifier ‘every’.

Each of the three arguments cited in Section 2, supporting the characterization of all and every as unmarked and marked variants respectively, can be invoked to support the claim that in examples such as the above, the construction with plural morphology, as in (4a), is unmarked, whereas its counterpart with singular morphology, as in (4b), is more highly marked.

First, the singular construction, with distributive-key interpretation, is semantically exceptional, in that most other Hebrew quantifiers are unmarked for distributivity. For example, in (5) below, the quantifiers harbe ‘many’, mispar ‘several’, kama ‘some’ and šney ‘two’ are unmarked for distributivity, permitting either non-distributive or distributive interpretations:

(5) harbe/mispar / kama/šney haʔanašim sahvu
   šaloš / mizvodat
   three-F suitcase-PL:F
   ‘Many / several / some / two men carried three suitcases’

Thus, whereas kol in the plural construction in (4a) resembles other
licenses a plural discourse anaphor, in (7b) kol in the singular construction may license either singular or plural bound anaphors.

Thirdly, in Hebrew as in other languages, distributivity is itself a marked semantic relation, in that, in constructions unmarked for distributivity, the preferred interpretations are generally non-distributive. Thus, for example, in sentences such as (5) above, allowing both distributive and non-distributive interpretations, the latter, non-distributive interpretations are much more readily available.

In accordance with the above, Hebrew kol may be characterized as a simple universal quantifier. In the unmarked case, with plural morphology, as in (4a), the resulting construction is therefore unmarked for distributivity. However, in the marked case, with singular morphology, as in (4b), the construction in question acquires a distributive-key interpretation. Whereas in (1b) universal quantification and distributive-key denotations are combined in a single portmanteau form every, in (4b) universal quantification and distributive-key denotations are encoded separately: the former in the simple universal quantifier kol, the latter in the singular morphology.9

Thus, Hebrew provides a further instantiation of a languages with a simple but no distributive-key universal quantifier. Alongside other languages, such as Maricopa, Zulu, Malayalam, White Hmong and Yukaghir, Hebrew accordingly provides further support for Universal 1, and, ipso facto, for the characterization of all and every as unmarked and marked forms respectively.

5. Universal quantifiers in Arabic

With regard to universal quantification, Arabic dialects fall into two classes, which may be labelled conservative and innovative. In the conservative dialects, universal quantification follows the same pattern as in Hebrew, as illustrated in the preceding section. The conservative dialects are so named because they inherit the expression of universal quantification from Classical Arabic. Geographically, the conservative dialects are concentrated in the east, including Iraqi (Erwin 1963:358-359), Syrian (Cowell 1964:468-469) and Lebanese (Feghali 1919:279-280); to the best of my knowledge, all the Asian dialects of Arabic belong to the conservative type. In Africa, the conservative dialects include Abbéché of Chad (Roth 1979:173-175), Cairene (Tomiche 1964:201), East Libyan (Owens 1984:87), and various Maghrebi dialects (Marçais 1977:209-211). Following are examples of universal quantification in two conservative dialects, from Asia and Africa respectively:
(8) West Galilee, Israel
a. kull in-naas himlu talat šantaat
A the-man:PL carry-PST-3:PL three suitcase-PL
‘All the men carried three suitcases’
b. kull raajil himl talat šantaat
A man carry-PST-3:SG:M three suitcase-PL
‘Every man carried three suitcases’

(9) Northwest, Morocco
a. kull n-nas rfdn tlaa d-l-balizaat
A the-man:PL carry-PST-3:PL three LIG-the-suitcase-PL
‘All the men carried three suitcases’
b. kull ražl rdn tlaa d-l-balizaat
A man carry-PST-3:SG:M three LIG-the-suitcase-PL
‘Every man carried three suitcases’

As in (4), the same lexical item, here a cognate of Classical Arabic kull, occurs with plural morphology in the (a) sentence, and with singular morphology in the (b) sentence. In the West Galilean Israeli dialect, in (8a) kull takes the definite plural head noun in-naas and forms an NP triggering plural verbal agreement, while in (8b) it takes the indefinite singular head noun raajil and forms an NP triggering singular verbal agreement. In the Northwest Moroccan dialect, in (9a) kull takes the definite plural head noun n-nas and forms an NP triggering plural verbal agreement, whereas in (9b) it occurs in construction with the singular indefinite noun ražl and forms an NP triggerig singular verbal agreement. As in (4), in both of the above examples, the universal quantifier is glossed as ‘all’ in the (a) sentence, but as ‘every’ in the (b) sentence.10

A rather different picture is presented by the innovative dialects. In these dialects, the construction with plural morphology has been lost, while that with singular morphology has been retained. To the best of my knowledge, these dialects occur exclusively in North Africa; at present, I am familiar with only one previous discussion of this pattern, for Maltese (Borg 1995). Following are examples of constructions corresponding to (8) and (9) in three innovative dialects of the North-African area:

(10) Malta
a. *kull l-irjiel garrew tliet bagalji
A the-man:PL carry-PST-3:PL three suitcase-PL
‘All the men carried three suitcases’
b. Kull ragel garr tliet bagalji
A man carry-PST-3:SG:M three suitcase-PL
‘Every man carried three suitcases’

(11) Jewish, Marrakesh, Morocco
a. *kill n-naas rvdn tlaa d-l-balizaat
A the-man:PL carry-PST-3:PL three LIG-the-suitcase-PL
‘All the men carried three suitcases’
b. kill raazl rvid tlaa d-l-balizaat
A man carry-PST-3:SG:M three LIG-the-suitcase-PL
‘Every man carried three suitcases’

(12) Tunis, Tunisia
a. *kul in-nas hazu tltaa faliżat
A the-man:PL carry-PST-3:PL three suitcase-PL
‘All the men carried three suitcases’
b. kul ražl haz tliet faliżat
A man carry-PST-3:SG:M three suitcase-PL
‘Every man carried three suitcases’

Thus, in Maltese, in the Jewish dialect of Marrakesh, and in the dialect of Tunis, the universal quantifier cognate with Classical Arabic kull no longer occurs in construction with a plural head noun: sentences (10a)-(12a) are ungrammatical. However, in these dialects, the cognate of Classical Arabic kull still occurs in construction with a singular head noun, as in (10b)-(12b); moreover, as in the conservative dialects, the resulting construction is associated with a distributive-key interpretation.

Prima facie, the innovative dialects of North-African Arabic appear to present a counterexample to Universal 1. Specifically, examples (10)-(12) suggest that the cognate of Classical Arabic kull has evolved from a simple to a distributive-key universal quantifier. Accordingly, these dialects would seem to possess a distributive-key universal quantifier but no simple one, in violation of Universal 1. However, a closer examination of the facts reveals a rather different state of affairs.

To see this, though, let us take one last look at the conservative dialects. In addition to the constructions illustrated in (8) and (9), these dialects possess an additional construction, in which the universal quantifier cognate with Classical Arabic kull occurs in a postnominal, adverbal position, with an enclitic pronoun bound by its subject-NP antecedent. As in (8a) and (9a), this construction is associated with plural morphology and a simple, non-distributive interpretation. Examples of this construction are provided in (13)-(16) below:

(13) West Galilee, Israel
in-naas kullin himlu talat šantaat
‘All the men carried three suitcases’
In (13) and (15), the plural head noun in-naas / n-nas is followed by the universal quantifier kullin / kullum. In (14) and (16), a restrictive relative clause illi ċufftin / lli ċuftum is added to the subject NP. As evident in (14) and (16), in both dialects, the postnominal universal quantifier occurs after the relative clause, as in (14a) and (16a), not before it, as in (14b) and (16b). Since, in general, relative clauses in Arabic occur after all other postnominal modifiers, examples (14) and (16) suggest that the postnominal universal quantifier is not part of the subject NP but, rather, occupies an adverbial position. Clear further support for the adverbial nature of kullin and kullum is provided by the fact that these forms may occur in a variety of other positions, non-adjacent to the subject NP.11

Returning, now, to the innovative dialects, we find that the postnominal universal quantifier also occurs, with similar plural morphology and simple, non-distributive interpretation. Crucially, however, in each of these dialects, there is at least one construction in which the adverbial universal quantifier has undergone syntactic reanalysis and been incorporated into the NP as a postnominal modifier. Contrasting with (13)-(16) above in the conservative dialects are examples (17)-(23) below in the innovative dialects:

'All the men that I saw carried three suitcases'

'All the men that I saw carried three suitcases'

'All the men that I saw carried three suitcases'

'All the men that I saw carried three suitcases'

(21) Tunis, Tunisia a. in-nas il-kul hazu tlela faliżat the-man:PL the-A carry-PST-3:PL three suitcase-PL
'All the men that I saw carried three suitcases'

(22) a. n-naas illi ċuftum il-kul hazu the-man:PL REL see-PST-1:SG-O:3:PL the-A carry-PST-3:PL tlela faliżat three suitcase-PL
'All the men that I saw carried three suitcases'
In Maltese, the postnominal universal quantifier \textit{kollha} contains an invariable singular feminine enclitic \textit{-ha}, no longer referring back to the subject NP. Moreover, \textit{kollha} may occur either after the relative clause \textit{li raji}, as in (18a), or before it, as in (18b) – the latter construction suggesting that the quantifier is contained within the subject NP. In the Jewish dialect of Marrakesh, the universal quantifier plus enclitic third person plural pronoun \textit{kilhom} may occur either postnominally, as in (19a), or prenominally, as in (19b). Moreover, when occurring postnominally, it may occur either after the relative clause \textit{do ret}, as in (20a), or before it, as in (20b). Again, in (20b) as in the prenominal (19b), the quantifier \textit{kilhom} obviously forms part of the subject NP. Finally, in the dialect of Tunis, the universal quantifier occurs in a postnominal construction that is clearly adjectival, as evidenced by the occurrence of the proclitic definite article \textit{il-}, which, like in most other dialects of Arabic, characteristically occurs before the head noun and each of its postnominal adjectival modifiers. Note that the universal quantifier \textit{kul} may occur in two variants: bare, as in (21a), or with an enclitic pronoun, as in (21b); these two variants differ with respect to the strength with which they are bound to the head noun. Whereas the bare variant \textit{il-kul} occurs preferably before the relative clause \textit{ili sufthum}, as in (22b), the variant with the enclitic pronoun \textit{il-kulhum} occurs preferably after the relative clause, as in (23a) – the former case providing further support for the analysis of the quantifier as internal to the NP.

Thus, as shown in (17)-(23) above, in each of the innovative dialects, there exists at least one construction in which the cognate of Classical Arabic \textit{kull} occurs within the NP, in postnominal position, with plural morphology, and with the interpretation of a simple, non-distributive universal quantifier. Hence, even though the innovative dialects have lost the old prenominal construction with plural morphology and simple, non-distributive interpretation, they have acquired a new, NP-postnominal construction with similar properties: therefore, they do not provide counterexamples to Universal 1. \footnote{These considerations are however different from those concerning dialects such as the Mizrahî Arabic spoken in Iraq, where the Universal quantifier is restricted to a full noun phrase.}

In fact, the diachronic development of the postnominal construction provides independent support for Universal 1. To this point, all the Arabic dialects that I have had occasion to examine uphold the following implicational generalization:

If the cognate of Classical Arabic \textit{kull} does not occur in a prenominal construction with plural morphology and simple, non-distributive interpretation, then it occurs in an NP-postnominal construction with plural morphology and simple, non-distributive interpretation.

Generalization (24) allows for three types of dialects, differing with regard to the available constructions with plural morphology, and simple, non-distributive interpretation, involving the cognate of Classical Arabic \textit{kull}: (a) those with a prenominal construction but no NP-postnominal construction; (b) those with a prenominal construction and also an NP-postnominal construction; and (c) those with an NP-postnominal construction but no prenominal construction. Type (a) is exemplified by conservative dialects such as West Galilean Israeli and Northwest Moroccan, illustrated above. Type (b) is represented by some other conservative dialects, including Takrouna of Tunisia (Marquis and Abderrahman 1960:3456-3469) and Djidjelli of Algeria (Marquis n.d. 472-474). \footnote{These considerations are however different from those concerning dialects such as the Mizrahî Arabic spoken in Iraq, where the Universal quantifier is restricted to a full noun phrase.} And Type (c) is instantiated by innovative dialects such as Maltese, the Jewish dialect of Marrakesh, and the dialect of Tunis, illustrated above.

Generalization (24), if correct, points towards the following diachronic scenario:

Type (a) > Type (b) > Type (c)

The above scenario suggests that the syntactic reanalysis of a postnominal universal quantifier associated with plural morphology and simple, non-distributive interpretation, from adverbiaal to NP-postnominal, in the development from type (a) to type (b), is a necessary prerequisite for the subsequent loss of the prenominal universal quantifier also associated with plural morphology and simple, non-distributive interpretation, in the development from type (b) to type (c). Given that all Arabic dialects possess a prenominal universal quantifier with singular morphology and distributive-key interpretation, Universal 1 entails that all Arabic dialects must also possess some universal quantifier with simple, non-distributive interpretation. Thus, if a type (a) dialect were to lose its prenominal universal quantifier with plural morphology and simple, non-distributive interpretation, it would remain without a simple, non-distributive universal quantifier, and hence
in violation of Universal 1. However, in a type (b) dialect, with an NP-internal postnominal universal quantifier with plural morphology and simple, non-distributive interpretation, the old prenominal universal quantifier with plural morphology and simple, non-distributive interpretation is redundant. Therefore, it may be lost—resulting in a dialect of type (c). Accordingly, the diachronic scenario represented in (25) provides independent support for Universal 1, and, in particular, its viability as a constraint on possible paths of historical syntactic change.

In summary, then, all North-African Arabic dialects, of whatever type, may be characterized as possessing a simple universal quantifier, cognate with Classical Arabic kall, but no distributive-key universal quantifier. In this respect, North-African Arabic dialects resemble other languages around the world with simple but no distributive-key universal quantifiers, such as Maricopa, Zulu, Malayalam, White Hmong and Yukaghir. Moreover, in all North-African Arabic dialects, the simple universal quantifier may enter into two different constructions with its head noun, one with plural morphology and simple, non-distributive interpretation, the other with singular morphology and distributive-key interpretation. In this regard, North-African Arabic dialects resemble Hebrew and various other languages of the Mediterranean-African area.

Thus, universal quantification in the North-African dialects of Arabic provides further support for the characterization of all and its simple, non-distributive counterparts in other languages as unmarked, and of every and its distributive-key equivalents in other languages as more highly marked. In doing so, it provides additional evidence against the widespread linguistic assumption that every is the most prototypical of quantifiers, and the concomitant characterization of NPs containing every as ‘essentially quantificational’—instead supporting the philosophers’ insights to the effect that the basic universal quantifier is in fact all.

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Notes

1 The terms ‘distributive-key’ and ‘distributive-share’ are adapted from Choe (1987). In many instances, these terms correspond to more familiar ones involving scope: specifically, the distributive-key has wide scope, the distributive-share narrow scope. However, in other cases, a relationship of distributivity may obtain where it is not customary to speak of a scope relation, as for example in (2a), where a subject NP is interpreted as distributive-key and its predicate as distributive-share. In addition to all and every, English possesses two other universal quantifiers, each and any. These quantifiers differ from all and every in the presence of a further denotational component, pertaining to anaphoricity. Specifically, each, in addition to being marked as distributive-key, is marked as determinate, while any is marked as free-choice (for discussion of the feature of anaphoricity see Gil 1991). In this paper, attention is restricted to universal quantifiers that are unmarked for anaphoricity: English all and every, and their counterparts in other languages.

2 Most of the data in Table 1 derive from my own field work, or from that of other linguists who were kind enough to share their knowledge with me (see the Acknowledgements Section above). In three cases, however, I have relied on written sources: Levitan (Nemeq and Carlsson 1992), Godoberi (Tatevosov 1994) and Straits Salish (Jelinek 1995).

3 In some such languages, alternative periphrastic strategies are available for the expression of meanings corresponding to those of a distributive-key universal quantifier. For example, in Maricopa, a distributive-share form of the numeral ‘one’, siinik ‘one-by-one’ / ‘one each’, is used (Gil 1982). In Zulu, a conjunctive operator na-, variably glossed as ‘even’ / ‘and’ / locative / comitative ‘have’, occurs between replicated demonstratives. In Malayalam, both alternative
strategies are available: a distributive-share form of the numeral 'one', o000u 'one-by-one' / 'one each', and also a conjunctive operator -um 'also' / 'even' / 'and' / 'future (Gil 1993a, 1994a,b). Although forms such as these are occasionally glossed as 'every', consideration of their entire range of functions shows that they are not bona fide distributive-key universal quantifiers, but, rather, forms whose meanings, in certain specific contexts, happen to converge on those of every and its counterparts. Accordingly, in Gil (1991, 1992b) such forms are characterized as 'pseudo-distributive-key universal quantifiers'.

Swahili kila and Tarifit Berber khar are both borrowings, from some Arabic dialect, of a form cognate with Classical Arabic kull — and with the various forms that constitute the topic of this paper. Turkish her, Lezgian har and Punjabi hari are all borrowings of the Persian universal quantifier har.

Since universal quantifiers are generally the only quantifiers to possess distinct simple and distributive-key forms, the processes deriving distributive-key universal quantifiers from their simple counterparts cannot be productive processes in their respective languages. In fact, in most of the above examples, the formal relationship between simple and distributive-key universal quantifiers is probably diachronic. Perhaps the most likely candidate for a synchronic process is the Lakhotta distributive-key tiyula, derived from simple tiyuh by suffixation of the diminutive marker -la.

Other languages exhibiting this pattern include French (Gil 1995a, to appear), Spanish (Gil 1991), Amadja Aramaic (Krotkoff 1982), and Ga (Gil 1995a, to appear). At present, I am lacking in information with regard to the extent to which this pattern occurs in sub-Saharan Africa, other than in Ga. This pattern is also well attested in antiquity, from Biblical Hebrew, Classical Aramaic (Margolis 1910-66-67) and Classical Greek (Haskelmann 1995). Interestingly, a similar pattern occurs also in English, with the free-choice universal quantifier any (Gil 1991).

In the morpheme-by-morpheme glosses provided in this paper, the following abbreviations are used: acc 'accusative'; con 'constrstruct (state); t' 'feminine'; fut 'future'; inf 'indefinite'; inst 'instrumental'; mg 'masculine'; o 'object'; m 'plural'; pres 'present'; part 'participle'; past 'past'; rel 'relativizer'; sing 'singular'; f 'first person'; t 'third person'. In addition, the letter A is used to denote the simple universal quantifier.

Note that in (4)-(7) above, the constructions differ not only with respect to number but also with regard to (in)definiteness: whereas the plural constructions in (4a)-(7a) contain a marker of definiteness, the singular constructions in (4b)-(7b) do not contain any such marker. Nevertheless, there is ample independent evidence showing that the morphosyntactic feature responsible for the semantic contrast between the respective pairs of constructions is number, rather than (in)definiteness. Consider the following examples, contrasting the quantifier phrases i0n in (i) and voter me- in (ii) and (iii) above:

(i) a. i0n anašim o y0tər salvu šalši mizvədot
    two-M man-PLM or more carry-PST-3-PL three-F suitcase-PL-F
    'Two or more men carried three suitcases.'

    b. voter meš šahav šalši mizvədot
    more than-man one-M carry-PST-3-SG:M three-F suitcase-PL-F
    'More than one man carried three suitcases.'

In (ii), i0n takes plural number morphology, and, like kəl in the plural construction, is unmarked for distributivity. However, in (iii), voter meš is associated with singular number morphology, and, like kəl in the singular construction, forces a distributive interpretation.

Again, as in Hebrew, the construction with plural morphology and simple, non-distributive interpretation in (8a)-(9a) differs from its counterpart with singular morphology and distributive-key interpretation in (8b)-(9b) also in the presence of the definite article. Whereas this pattern obtains for most of the conservative dialects, an interesting exception is provided by the Abbéche dialect of Chad, in which both constructions occur without the definite article, eg. kələn nəs 'all the men', kələ balad 'every country' (Roth 1979:173-175). The Abbéche pattern provides further support for the claim that the morphosyntactic property underlying the semantic contrast between

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