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DIACHRONIC SOURCES OF 'ALL' AND 'EVERY'*

1. INTRODUCTION: REGULARITIES OF SEMANTIC CHANGE

It has become increasingly clear over the past ten or fifteen years that semantic change is not as arbitrary and irregular as was once thought. There is broad agreement now that there are general tendencies and regularities of semantic change, apparently based on a small number of principles, both in the lexical area and, perhaps even more interestingly, in the area of function words and grammatical markers. It is often possible to identify a small set of lexical items cross-linguistically that develop into the same grammatical items in language after language.

This paper can be situated in the tradition of works that look for such typical diachronic sources of grammatical items across languages (cf., e.g., Traugott 1985 for conditional markers, Bybee and Pagliuca 1987 for future markers, König 1989 for focus particles like 'only' and 'even', Haspelmath 1990 for passive markers, Svorou 1993 for spatial adpositions). I will investigate cross-linguistic diachronic sources of universally quantifying determiners corresponding to English *all* and *every*, and I will try to relate the semantic changes involved to general principles of semantic change.

The most important principles that account for the diachronic change of lexical into grammatical items have been formulated within grammaticalization theory (e.g. Lehmann 1982, 1985, Traugott and Heine 1990). Grammaticalization, the change of lexical items to grammatical items, has several simultaneous effects on the phonological, syntactic and semantic properties of the item that undergoes the change. Phonologically, grammaticalization involves loss of stress, shortening, reduction etc., and syntactically it means loss of freedom of position and often eventually cliticization and affixation. Here I will be primarily concerned with the semantic side, which has variously been described as desemantization, bleaching or generalization of the more concrete original meaning.

One of the reasons why grammaticalization is important for the study of the semantics of grammatical morphemes (such as tense affixes/auxiliaries, case affixes/auxiliaries, affixed/free determiners) is because it is a gradual, incremental process. For instance, the English verb *will* (originally 'want') has been losing its volitional meaning and has gradually come to be used as a future marker over the past thousand years. But even today *will* retains some residual volitional uses (Bybee and Pagliuca 1987), which is hard to explain if it is analyzed as a pure future marker, but which is not at all unexpected if semantic change is gradual. Below we will see analogous examples of such residues of older meanings in the domain of universally quantifying determiners (involving German *gesamt* 'all' and *jeder* 'every').

Having motivated the approach taken in this paper I will now present the diachronic sources for determiners like 'all' and 'every' that I have found. The result will be that 'all' generally comes from an adjective meaning 'whole' (2.1.),

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while ‘every’ has three common sources: (a) free-choice indefinite determiners like ‘any’ (3.1.), (b) distributive prepositions, (c) ‘all’ (3.3.). The data come from a variety of languages, most of which are Indo-European. This unfortunate bias is due to my limited capacities and to the fact that more is known about the history of Indo-European languages than about any other family.¹

2. SOURCES OF ‘ALL’

2.1. ‘All’ from ‘whole’

The main syntactic difference between ‘all’ and ‘every’ is that ‘all’ can be used both with plural count nouns and with mass nouns, while ‘every’ can be combined only with singular count nouns. This finds a natural explanation in the most typical² diachronic source of ‘all’, namely the more concrete meaning of ‘whole’ (as opposed to the different typical sources of ‘every’, see below).

This semantic change is attested in the history of Romance and Greek, and it is currently going on in German. The Romance word for ‘all’ (e.g. Portuguese *todo*) is derived from Latin *totus* ‘whole’. Latin *totus* was mostly used in the singular (see (1a)), and when it was used in the plural (as in (1b)), it did not mean ‘all’, but still ‘whole’.³

- (1) a. ...*cuj* *senatu-s* *tota-m* *re-m* *publica-m...* *commiserat.*
 who:DAT senate-NOM whole-ACC thing-ACC public-ACC had.entrusted
 ‘...to whom the senate had entrusted the whole state.’
 (Cic. Mil. 23, 61)

- b. *Pervigilat* *noct-es* *tota-s.* (Plaut. Aul. 1, 1, 33)
 remain.awake night-ACC.PL whole-ACC.PL
 ‘S/he remains awake during entire nights.’

Example (1b) says nothing about which nights she stays awake, only that she stays awake all night every time. In Romance, the singular use of *todo* (using the Portuguese form to represent Romance in general) still preserves the old meaning (see (2a)), but in the plural *todo* means ‘all’ (cf. 2b)). Examples (2a-b) are from Portuguese.

- (2) a. *toda a casa* ‘the whole house’
 b. *todas as amigas* ‘all the friends’

A largely analogous change has taken place from Ancient Greek *hólos* ‘whole’ (3a-b) to Modern Greek *ólos* ‘all’ (4a-b).

- (3) a. *hólen ten heméran* ‘the whole day, all day’
 whole the day

¹ On ‘all’ and ‘every’ in Indo-European languages, see in particular Brugmann 1893-94, a very rich source of data.

² This is an impressionistic statement based to a large extent on Indo-European. Other language families and types may take their universal quantifiers from completely different sources, cf. the Egyptian-Coptic example below in 2.2.

³ On Latin *totus* and its relationship to *omnis* ‘every’, see also Brøndal 1943, Dominicy 1980.

- b. *hólous oíkous* 'whole families (not: 'all families')
 whole houses
- (4) a. *óli tí méra* 'the whole day, all day'
 whole the day
- b. *óla tá spítia* 'all the houses'
 all the houses

In Modern German, *ganz* generally means 'whole', also in the very concrete sense of 'intact, not broken':

- (5) a. *die ganze Welt* 'the whole world'
- b. *Bei zwei Tassen ist der Henkel abgebrochen, drei sind noch ganz. Ich nehme nur die ganzen Tassen.*
 'Two cups have a broken handle, three are still non-broken. I'll take only the non-broken cups.'

Example (5b) shows that *ganz*, when used with a plural noun, means 'whole', just like Latin *totus* and Ancient Greek *hólos*. However, in the colloquial language *die ganzen* can mean 'all the', as in (6a-b).

- (6) a. *Wer hat denn die ganzen Punkte hier gemalt?*
 'Who has drawn all these dots here?'
- b. *Die ganzen Tassen sind verschwunden!*⁴
 'All the cups have disappeared!'

Prescriptivists (e.g. teachers) strongly object to this usage, but it is firmly entrenched in the spoken language.

Another instance where this development must have occurred independently is Sanskrit *sarva-*. This word already has both meanings 'whole' and 'all', but its cognates Greek *hólos* 'whole' (< **solwos*), Latin *salvus* 'safe, well, sound', and Armenian *olj* 'sound, well, whole' show that the older meaning was the more concrete meaning 'sound, well'.⁵ Later the same development occurred again: Sanskrit *sā ra-* (which is not related to *sarva-*) means 'strong, firm', and via the meaning 'sound, whole' it later became Hindi-Urdu *saaraa* 'all'.

Germanic *all* and Greek *pās* are probably of the same type, but their etymological connections are not as clear as in the case of Sanskrit *sarva-* and Hindi-Urdu *saaraa*. However, Germanic *all-* has plausibly been derived etymologically from a resultative participle in **-no* of the root **al-* 'grow' (cf. Latin *alere* 'nourish'): **al-no-* > **allo-* 'grown (up)' > 'complete, whole'.⁶ Similarly,

⁴ In (6b) the stress falls on *Tassen*. With the stress on *ganzen* (*Die GANZEN Tassen sind verschwunden*), it can still mean 'the unbroken cups' also in the colloquial language.

⁵ The Oscan cognate *sullus* '(plural) all' and the Celtic cognates Irish *(h)uile*, Welsh and Breton *holl* 'whole, (plural) all' show the same later stage of semantic development as Sanskrit *sarva-* and Modern Greek *ólos*.

⁶ In older German, *all* can still be used with count nouns in the meaning of 'whole', cf. (i)-(ii) from Behaghel 1923:394.

(i) *al diu burc* lit. 'all the city' = 'the whole city'
 (ii) *al der lip* lit. 'all the body' = 'the whole body'

Greek *pās* has been connected to Sanskrit *sva-* 'swell', so its original meaning would have been something like 'swollen, grown'.

The diachronic change from 'whole' to 'all' and the fact that it is unidirectional (i.e., the reverse change from 'all' to 'whole' never occurs) can be shown to be an instance of the general tendency for meanings to become more abstract in the course of grammaticalization. 'Whole' and 'all' both express the notion of completeness or totality, differing mainly in that 'whole' is used for single objects, while 'all' is used for sets (or aggregates) of objects. Now 'whole' may be extended to be used also for aggregates, because, as Sapir 1930:9 observes, "aggregates may be looked upon, psychologically, as secondary objects created by the transfer of the feeling of individuality to an aggregate. To put it in slightly different terms, 'the whole set of tables' is a metaphor, based on 'the whole table', which reinterprets 'all the tables'."

Presumably an intermediate step in the extension of the use of 'whole' are collective nouns or mass nouns, which are semantically akin to both simple things and aggregates. The extension of German *ganz* to such nouns is unproblematic (and not frowned upon by prescriptivists) because no potential ambiguity arises:

- (7) a. *Die ganze Familie ist verschwunden.*
 'The whole family has disappeared.'
 (= "All the family have disappeared.")
- b. *Das ganze Wasser ist verschwunden.*
 'All the water has disappeared.'

But once this extension to non-bounded thing concepts has been made, nothing will stop speakers from further extending 'whole' to aggregates, even though 'whole' is now potentially ambiguous, referring either to the individual members of the aggregate or to the aggregate itself. In the case of single objects, the property of 'wholeness' has certain very concrete, salient implications, for instance the property of being in good shape, of not being damaged, of not lacking any of the integral parts, of functioning properly, etc. These qualitative properties and the quantitative property of totality correlate highly in single objects, but they do not in aggregates. In 'all the tables', 'all' expresses the meaning that the aggregate is complete, but here quantity does not correlate with quality in any obvious, salient way. Since the aggregate itself is of a more abstract, higher-order type, the meaning of the universal quantifier that modifies it is also more abstract.⁷

As meaning changes from abstract to concrete in the grammatical domain are very rare or non-existent, we do not expect to find cases where '(plural) all' is extended to be used with single objects and to mean 'whole' (let alone 'complete', 'intact', 'sound', etc.), and in fact I know of no such cases.

Given that the meaning of 'whole' is fairly abstract already, we may ask what sorts of more concrete meanings become bleached to yield 'whole'. Above

And in English, the degree adverb *all* (as in *all nervous*, *all confused*) may be seen as a remnant of this older meaning.

⁷ As Brugmann 1893-94:31 observes, a change of the same kind has occurred in Latin *tantus* 'so big, so much' and *quantus* 'how big, how much'. Originally there were *tot* 'so many' and *quot* 'how many' for plural quantity, but in later Latin *tanti* (pl.) and *quanti* (pl.) came to mean also 'so many' and 'how many'. So the very fact that the noun *quantity* (derived from Latin *quantus/quantum*) comprises both measuring and counting is ultimately due to the kind of metaphor described by Sapir.

we have already seen that Greek *hólos* and Sanskrit *sarva-* are derived from a meaning 'sound, well', that Hindi-Urdu *saaraa* comes from a word meaning 'strong, firm', and that Germanic *all* apparently comes from 'grown (up)'. Another example of 'whole' from 'sound, well' is of course English *whole* (Old English *hal*),⁸ cf. German *heil* 'undamaged', Old High German *heil* 'sound, well, uninjured'. Etymologically identical to these Germanic words (Proto-Germanic **xajla-*, Proto-Indo-European **kojlo-*) are Old Church Slavonic *celu* (< Proto-Slavic **kojlo-*) 'well, sound, unharmed', Russian *celyj* 'whole' (rare and archaic 'sound, uninjured') and similar forms in other Slavic languages. Note that these source meanings refer to animate beings: It is quite common to find a person-related concept extended to non-animate objects as a mechanism of semantic generalization and bleaching (cf. Claudi and Heine 1986).

Other concrete meanings that give rise to 'whole' are 'untouched' (Latin *integer* 'intact, whole', but only 'whole' in Portuguese *inteiro*, French *entier*, English *entire*) and 'filled' (English *complete*, Latin *completus*, from *complere* 'fill'; Hungarian *teljes* 'complete, whole' from *tel(ik)* 'be full').

2.2. Some other sources of 'all'

In this subsection I mention two cases where words meaning 'all' are not derived from words meaning 'whole'. The first is German *gesamt* 'all of, the whole', which is most often used for mass nouns and collective nouns, as in *das gesamte Vermögen* 'all of the fortune', *die gesamte Bevölkerung* 'the whole population'. However, it can also be used with plural nouns: *die gesamten Einwohner* 'all the inhabitants', and with count nouns that are conceived of as having a great deal of internal complexity, like *die gesamte Stadt* 'the whole city', *die gesamte Milchstraße* 'the entire milky way'. But *gesamt* cannot be combined with nouns lacking internal complexity: **der gesamte Tisch* ('the entire table'), **der gesamte Mond* ('the entire moon'). This condition of internal complexity (which clearly distinguishes *gesamt* from *ganz*) ceases to be mysterious when it is approached diachronically: The source of *gesamt* is Middle High German *gesament*, resultative (passive) participle of *samenen* 'collect, gather together'. Masses can be gathered together, and so can aggregates and single objects with a lot of unorganized internal complexity, but unstructured single objects cannot. Although *gesamt* has lost any connection to the original verb (which does not even exist anymore in Modern German), it preserves part of the original collective meaning. Brugmann 1893-94:§5-10 offers some more examples of 'all' from 'gathered together', 'united', 'unitary', etc.

The second source of 'all' that I mention here is something entirely different, coming from a language of a rather different type, Egyptian (Afro-Asiatic) and its later stage Coptic. Coptic has a postposed quantifier *tē r-*, followed by person/number suffixes (e.g. *-u* '3pl', *-s* '3sg.f'), e.g. *n-jatfe tē r-u* 'all the reptiles', *lyxnia tē r-s* 'every lamp'. This comes from the postposed Egyptian prepositional phrase *r dr-* (+person/number) 'to X's end'. A phrase like 'all the reptiles' was therefore originally 'the reptiles to their end'. In Ancient Egyptian, examples can be found where *r dr-* is clearly not part of the NP because it quantifies a personal pronoun, as in (8) from Gardiner 1950:79, where 'it' refers to a country.

⁸ The older meaning is preserved in *health*, which morphologically is related to *whole* in the same way as *width* to *wide*, *breadth* to *broad*, etc. (cf. also *wholesome*). An interesting parallel is Hungarian *egész* 'whole', where the abstract noun *egész-ség* (*-ség* = '-ness') does not mean 'wholeness', but 'health'.

- (8) *Dr-n-f* *sy* *r* *dr-s*.
 subdue-PAST-3SG.M it(F) to end-3SG.F
 'He had subdued the whole of it.' (lit. 'He had subdued it to its end.')

The fixed position of *r dr-/ tē r-* within the NP is therefore clearly secondary, and *r dr-* was originally an adverbial universal quantifier that later turned into an adnominal quantifier.

3. SOURCES OF 'EVERY'

I have identified three main sources of 'every': free-choice determiners, distributive prepositions, and 'all'. I have much more examples for the first type than for the others, but in view of the non-representativeness of my data no firm conclusions can be drawn from this.

3.1. 'Every' from a free-choice determiner

There are quite a few languages where the universal distributive determiner 'every' is synchronically or etymologically derived from the **wh-determiner** 'which' by means of a special **particle** (originally meaning 'also', 'even', 'or', 'it may be', etc.). Two further steps will be necessary to explain this fact. First it will be shown that such distributive universal quantifiers come from free-choice determiners like 'any'. In a second step, it will be shown that free-choice determiners typically come from abbreviated nonspecific free relative clauses or parametric concessive conditional clauses. Only the identification of this ultimate origin allows us to explain why 'every' is often derived from a wh-determiner.

Here are some examples of 'every' consisting of a wh-determiner plus a particle. In Hausa (Chadic), *kóo* ('even', cf. Meyers 1974) is prefixed to wh-words, e.g.

- (9) a. *Wàné àíkìì zàì yí?*
 which work FUT.3SG.M do
 'What work will he do?'
 b. *Kóo-wàné mùtum yá nàa yû.*
 PTCL-which person 3SG.M PROGR do
 'Every person is doing it.'

An analogous make-up of 'every' can be found in a wide variety of languages. Some more examples are listed in (10).

- (10) a. Chinese *shéi ye* 'everyone'
 shéi 'who' *ye* 'also'
 b. Korean *nwukwu-na* 'everyone'
 nwukwu 'who' *-na* 'or'
 c. Rumanian *fiicare* 'every(one)'
 care 'who, which' *fi* 'be (3sg subjunctive)'

d. Latin	<i>quisque</i> <i>quis</i>	'every' 'who, which'	<i>-que</i>	'and, also'
e. Gothic	<i>hwarjizuh</i> <i>hwarjis</i>	'every' 'which'	<i>-uh</i>	'and, also'
f. Old Church Slavonic	<i>ku-ž ido</i> <i>ku</i>	'every' 'which'	<i>-ž ido</i>	'?'

In all these examples, the internal structure of the 'every' expression is fairly transparent. However, phonological change may completely obliterate this original structure. For example, the Old Church Slavonic post-inflectional suffix *-ž ido* was reinterpreted as part of the stem in modern Slavic languages, e.g. Russian *kaž dyj*. The relationship to the wh-determiner plus particle (here, *-ž ido*) is thus lost.

Similarly, English *each* and *every*, Dutch *elk* 'every', and German *jeder* 'every' lack any synchronic internal structure. But diachronically they go back to combinations of the same type as in (10). The Proto-Germanic wh-determiners **hwalik* 'which' and **hweþar* 'which of the two' were prefixed by the particles **ajw-* 'ever' and /or **ga-* 'together':

- (11) a. **ajw-ga-hwalik*: OE⁹ *æghwīlc*; OHG *eogiwelih*, *iogilih*, ModG *jeglich* 'any, every'¹⁰
 b. **ajw-hweþar*: OE *æghwæðer*, *ægðer*, ModE *either*; OHG *eohwedar*, ModG *jeder* 'every'¹¹
 c. **ajw-hwalik*: OE *ælc*, ModE *each*, Dutch *elk* 'every' (ModE *every* is due to a strengthening of *each* by *ever*: *ever* + *each* > *every*)

Heavy phonological erosion (part of the grammaticalization process) has obscured the essential similarity of the West Germanic cases in (11) to those in (10).

Now note that **free-choice indefinite determiners** (like 'any') show the same structure (wh-determiner plus particle, cf. English *which-ever*) in an even greater range of languages (cf. Bremen 1983, Haspelmath 1993). Some examples are given in (12).

(12) a. Latin	<i>qui-vis</i> <i>qui</i>	'any' 'which'	<i>vis</i>	'you want'
b. Swedish	<i>vilken som helst</i> <i>vilken</i>	'any' 'which'	<i>som helst</i>	'which is best'
c. Polish	<i>jaki-kolwiek</i>	'any'		

⁹ Abbreviations: OE = Old English, OHG = Old High German, ModE = Modern English, ModG = Modern German.

¹⁰ For Old English, see especially Kahlas-Tarkka 1988.

¹¹ This traditional etymology of German *jeder*, which goes back at least to Jacob Grimm, has recently been challenged by Kolb 1983, who claims that *jeder* comes from *je der* lit. 'each time that'. If Kolb is right, then *jeder* would fall under 3.2. (*je* is a distributive marker, e.g. *je fünf Äpfel* 'five apples each').

	<i>jaki</i>	'which'	<i>-kolwiek</i>	< 'ever'
d. Hungarian	<i>akár-melyik</i> <i>melyik</i>	'any' 'which'	<i>akár</i>	'or'
e. Basque	<i>zein-nahi</i> <i>zein</i>	'any' 'which'	<i>nahi</i>	'want'
f. Kannada	<i>yaava X-uu</i> <i>yaava X</i>	'any X' 'which X'	<i>-uu</i>	'also'

This formal similarity as well as the semantic closeness of 'every' and 'any' make it highly plausible that the 'every' expressions in (9-11) have developed from free-choice determiners. But before this shift will be explained, we have to ask why free-choice determiners should consist of wh-determiners plus an **indefiniteness marker** (as I call the additional particle) of some kind. The following examples from Portuguese in (13) and Russian in (14) show such free-choice determiners. The Portuguese indefiniteness marker *quer* is from *querer* 'want', and the Russian indefiniteness marker *by to ni bylo* is a petrified clause meaning '...it may be' (so *kto by to ni bylo* 'anyone' is literally 'who(ever) it may be').

- (13) a. *Eu quero vender minha bicicleta a qual-quer preço.*
I want to sell my bike at which-INDEF price
'I want to sell my bike at any price.'
- b. *Ela pode tomar qual-que coisa.*
she can take which-INDEF thing
'She can take anything.'
- (14) a. *Kakoe by to ni bylo ograničenie prav karaetsja zakonom.*
which INDEF restriction of rights is punished by law
'Any restriction of rights is punished by law.'
- b. *Sovetuju naž it' den'gi kakim by to ni bylo obrazom.*
I advise to earn money which:INSTR INDEF way:INSTR
'I advise (you) to make money by any means.'

Cases in which the etymology of the indefiniteness marker is as transparent as in Portuguese and Russian show that such wh-word-derived indefinite determiners have their origin in nonspecific free relative clauses or in parametric concessive conditional clauses.

Nonspecific free relative clauses¹² with the verb 'want' as predicate result in indefiniteness markers like Portuguese *-quer*. The original structure of a sentence like (13b) is hypothesized to have been something like (15).

¹² The qualification "nonspecific" is necessary because specific free relatives behave differently semantically and syntactically, cf. (i), where (a) shows a specific free relative and (b) a nonspecific free relative.

(i) a. *She took what she wanted.*
b. *She took whatever she wanted.*

The nonspecific relative clause in (ib) forces a habitual or multiple action reading on the main verb *took*, because nonspecific NPs are incompatible with single perfective realis event contexts. In English, the nonspecific relative pronoun is marked additionally by *-ever*.

- (15) *Ela pode tomar qual coisa quer.*
 'She can take what(ever) thing she wants.'

When such expressions are used often, they may become so stereotypical that the sentential status of the free relative clause is lost, the verb 'want' ceases to vary for person and number, and it comes to be directly attached to the wh-word.

Parametric concessive conditional clauses account for the other cases of wh-word-derived indefinite determiners. These are clauses like (16a-b).

- (16) a. *Whoever you may be, you can come in.*
 b. *Wherever she goes, I will never leave her.*

Parametric concessive conditionals are structurally very similar to non-specific free relatives (at least in English and typologically similar languages), but they are even "freer" than ordinary free relatives in that not only do they lack a lexical head, but they do not even occupy an NP position in the clause, but rather modify the matrix clause adverbially, much like polar concessive conditional clauses of the *even if* type.¹³

When the parametric concessive conditional clause contains the copula and the wh-word is its predicate nominal, it may lose its sentential status and be integrated into the main clause, whereby the copula becomes the indefiniteness marker. A hypothetical proto-structure of (14b) would be (17).

- (17) *Sovetuju naž it' den'gi, kakim by obrazom to ni bylo.*
 I.advise to.earn money which:INSTR PTCL way:INSTR it PTCL be
 'I advise (you) to make money (viz. by some means_i), (by) whichever means it_i may be.'

Thus, parametric concessive conditionals with a copular predicate account for indefiniteness markers of the 'be' type (Russian *by to ni bylo*, Rumanian *fie-*, etc.). Indefiniteness markers of the 'also' type (Latin, Gothic, Chinese) and the 'ever' type (West Germanic **ajw-*) presumably arise when the relative pronouns in parametric concessive conditionals are marked specifically for concessiveness ('also, even') or for non-specificity ('ever', which stresses non-factivity, just like the non-indicative mood of 'be').

The fact that wh-words appear in free-choice determiners and pro-forms can now be derived from the fact that wh-words appear in nonspecific free relatives and in parametric concessive conditionals.¹⁴ The shape of the indefiniteness markers can also be explained from the diachronic point of view

¹³ There are three main types of concessive conditional clauses (cf. König 1985, König and Haspelmath in prep. for some discussion), parallel to the three main types of questions:

- (i) polar (or scalar) concessive conditional clauses
Even if it rains, we will go outside.
- (ii) alternative concessive conditional clauses
Whether it rains or the sun shines, we will go outside.
- (iii) parametric (or universal) concessive conditional clauses
Wherever you go, I will never leave you.

¹⁴ Why wh-words should be used in relative clauses, in particular free relative clauses, is another important question, but this would take us much too far afield here. See Lehmann 1984 for discussion.

(in particular, the four types ‘want’, ‘be’, ‘also’, and ‘ever’¹⁵). Clearly these changes are instances of grammaticalization, as they involve radical phonological reduction and loss of explicitness and semantic transparency. The main lines of development could only be sketched here; for a fuller discussion with more data see Haspelmath 1993.

What remains to be accounted for is how free-choice indefinite determiners come to be used as universal quantifiers. That the free-choice meaning of ‘any’ is similar to universal quantification has been a commonplace among semanticists and logicians for a long time. Thus, the semantic change is not hard to understand, although its precise mechanism is not easy to pin down. Consider the sentences in (18).

- (18) a. *Any guest can come in.*
 b. *Every guest can come in.*

The difference in meaning between (18a) and (18b) is considerable because (18a) is possible in a situation when there are hundreds of guests, but only one of them is actually allowed inside (although it does not matter which one). However, if the number of guests that may come in is not specifically restricted by the context, then (18a) can effectively convey the same as (18b). We may appeal here to Gricean conversational implicature, specifically to his second maxim of quantity ("Do not make your contribution more informative than is required."), which has also been called **principle of informativeness** and can be reformulated as a heuristic for interpretation: "Read as much into an utterance as is consistent with what you know about the world" (Levinson 1983:146-147). In many cases when sentences such as (18a) are uttered the interpretation (18b) will be consistent with what the hearer knows about the world, so that (18a) may conversationally imply (18b). In this type of semantic change from a free-choice determiner to a universal quantifier we therefore have another example of **pragmatic strengthening** in the course of the conventionalization of a conversational implicature (cf. König and Traugott 1988). In addition, a presupposition of existence is introduced: ‘Any’ only expresses a sufficient condition that has to be fulfilled for the predicate to be applicable, while ‘every’ presupposes that there is a nonempty set fulfilling this condition in the universe of discourse and expresses the idea that the predicate is true for the members of the set without exception.

Like other instances of semantic change, this change also appears to be gradual. An interesting example again comes from German. As we saw in (11) above, German *jeder* ‘every’ comes from a free-choice determiner (in fact, it is etymologically identical to English *either*, which has preserved both the original free-choice meaning and the dual meaning). After the meaning ‘every’ became conventionalized in German, the older free-choice meaning was not completely lost. Thus, while in (19) *jeder* can only be translated as *every* and the only translation of *any* in (20) is *irgendein*, in (21-22) German *jeder* corresponds to English *any*.

- (19) G. *Jedes Kind bekam zwei Äpfel.*
 E. *Every (*any) kid got two apples.*

¹⁵ I have no ready explanation so far for Korean *-na* ('or'). But note that Hausa *kóo*, in addition to its meaning 'even', can also mean 'or', and Hungarian *akár* also means 'even; or'. For more discussion, see Haspelmath 1993.

- (20) E. *If any kid gets two apples, I also want two.*
 G. *Wenn irgendein (\neq jedes) Kind zwei Äpfel kriegt, will ich auch zwei.*
- (21) G. *Jedes Kind kann das.*
 E. *Any kid can do that. (Or: Every kid can do that.)*
- (22) G. *ohne jeden Grund (= ohne irgendeinen Grund)*
 E. *without any reason*

Again, the residual meanings of *jeder* find a natural explanation from the diachronic point of view, while it is not clear how a purely synchronic treatment could account for them.

Like semantic changes in the context of grammaticalization, semantic changes based on the conventionalization of conversational implicatures are not reversible. Thus, we only find a change from ‘any’ to ‘every’, while the reverse change from ‘every’ to ‘any’ is apparently not attested.

Having established the diachronic origin of ‘every’ in free-choice determiners and eventually in nonspecific relative clauses, we can now use this to explain the two most important characteristics of ‘every’, the fact that it is specifically distributive (cf. Gil 1992) and the fact that it takes a singular noun although an ‘every’-NP is cross-referenced by a plural discourse anaphora (cf. Gil 1989). The distributivity of ‘every’ follows from its origin in nonspecific free relatives. As Gil 1989 observes, nonspecific free relatives are specifically distributive too, as shown by sentences with collective predicates:

- (23) a. *All cats in this room are similar.*
 b. **Every cat in this room is similar.*
 c. **Whichever cat is in this room is similar.*

Gil observes that ‘every’ and nonspecific free relatives behave similarly with respect to discourse anaphora, too, but he does not give an explanation for these similarities. The diachronic approach provides a straightforward explanation.

Similarly, diachrony may explain why ‘every’ takes a singular noun: Because it was not a universal quantifier in the first place, in sharp contrast to ‘all’, which started out as a totality quantifier (although used only for single objects). Free-choice determiners, the source of ‘every’, do not refer to a set with cardinality greater than one, so they would not be expected to combine with a plural noun. ‘Every’ simply preserves this syntactic behavior of free-choice determiners although it has acquired a new meaning and does refer to a set with cardinality greater than one.

3.2. ‘Every’ from a distributive preposition

Perhaps the most surprising diachronic source for ‘every’ is a distributive preposition. In Ancient Greek, *katá* is a preposition (governing the Accusative case) with the basic locative meaning ‘along, throughout, all over’, as in (24).

- (24) a. *tò katà Kilikian kai Pamphulian pélagos* (Act 27, 9)
 the along Cilicia and Pamphylia sea
 ‘the sea along (the coast of) Cilicia and Pamphylia’
- b. *egéneto limòs katà ten khoran ekeínen* (Lk 15, 14)
 happened famine thruout the country yonder
 ‘A bad famine came over that country.’

Furthermore, it can be used to indicate that a place or point in time is distributed over a multiple event, as in (25). The thing distributed may be in the plural or in the singular.

- (25) a. *dierkhonto katà tàs komas euaggelizómenoi pantakhou* (Lk 9, 6)
 they.walked thruout the villages evangelizing everywhere
 ‘They went from village to village, preaching the gospel everywhere.’
- b. *pāsán te heméran, en tōi hierōi kai kat oikon,*
 every and day in the temple and DISTR house
ouk epaúonto euaggelizómenoi.
 not they.ceased evangelizing
 ‘And daily in the temple and in every house, they ceased not to preach the gospel.’
- c. *kai eporeúonto hoi goneis autou kat’ étos eis Hierousalem* (Lk 2, 41)
 and they.went the parents his DISTR year to Jerusalem
 ‘Now his parents went to Jerusalem every year.’

By an extension of this use the combination *kath’ hēna* (lit. ‘(one) by one’) came to be used in the sense of ‘every one’. Later *kath’* was reinterpreted as a marker of universal distributivity rather than a distributive preposition, and non-Accusative forms like *kathéis* (Nominative), *kathenós* (Genitive), etc. were formed. In Modern Greek, *kaθís* (< *kathéis*) is the usual way to say ‘everyone’ (the Ancient Greek word *pās* is only used in the very formal archaic variety). An abbreviated form of this, *káthe*, serves as determiner ‘every’:

- (26) *Káthe kanónas éxi ké tís ekserésis tu.*
 every rule has also the exceptions its
 ‘Every rule has its exceptions.’

The same preposition *katá* was borrowed into late Latin and is also the source of Portuguese and Spanish *cada* ‘every’. Italian *ciascuno* and French *chacun* ‘everyone’ (whence by back-formation *chaque* ‘every’) have been attributed to a blend of Latin *quisque* and Vulgar Latin *cata unum*. The borrowing of a preposition may seem quite surprising, but it seems that distributive prepositions are commonly borrowed, e.g. English *per* (from Latin), German *à* (from French) and *pro* (from Latin).

The same development as in Greek and Romance has also independently occurred in Indo-Aryan. In Old Indic, *prati* was an adposition with various locative meanings such as ‘near, against, upon’, and it was also utilized to mark distributivity, e.g. *yajñam prati* ‘at every sacrifice’. The common Hindi-Urdu expression for ‘every’ is *pratyek*, a combination of *prati* and *ek* ‘one’ (completely analogous to Greek *kath’ hēna*).

There also seem to be cases of ‘every’ from reduplication of ‘one’ or ‘which’, e.g. Hindi-Urdu *ek ek* (cf. *ek* ‘one’), Hungarian *kiki* (cf. *ki* ‘who’). Reduplication is, of course, an exceedingly common way to form distributive expressions across languages, much more common than distributive adpositions. So these cases are similar to Greek *katá* and Indo-Aryan *prati* in that the original sense was distributive.

This diachronic source of ‘every’ is of a completely different type than the one we saw in the preceding section, but again at least the distributive sense of ‘every’ clearly follows from its original meaning. In contrast to ‘every’ from a nonspecific free relative and ‘all’ from ‘whole’, the change from a distributive preposition to ‘every’ does not appear to involve grammaticalization. The meaning of the distributive preposition is already rather abstract, and the change does not involve further semantic bleaching.

4.3. ‘Every’ from ‘all’

Finally I mention a few cases where ‘every’ has developed from ‘all’. In 2.1. we saw that Romance *todo* (etc) ‘all’ comes from Latin *totus* ‘whole’. But in addition to ‘all’, it can also mean ‘every’ when used with a singular noun and without the definite article, as in (27) from Portuguese.

- (27) a. *todas as casas* ‘all the houses’
 b. *toda casa* ‘every house’

Another case is Germanic *all*, which at least in older German could be used in the sense of ‘every’. e.g. in (28) from Luther’s translation of the New Testament (cited from Behaghel 1923:397).

- (28) *auff das alle Sache bestehe auff zweier oder dreier Zeugen Munde* (Mat.18, 6)
 ‘so that by the mouth of two or three witnesses every fact may be established.’

Similarly, Ancient Greek *pās* ‘whole, all’ could be used for ‘every’, again with the noun in the singular and without the definite article.

- (29) a. *pántes hoi hodoí* ‘all the roads’
 b. *pāsa hodós* ‘every road’

Likewise, Hebrew *kol* ‘whole, all’ is ‘every’ when used with a singular noun without the definite article (the same is true for Arabic).

- (30) a. *kol ha-sfarim* ‘all the books’
 b. *kol sefer* ‘every book’

I note these cases here, but I have no explanation for them.

4. CONCLUSION

In this paper I have identified types of diachronic source expressions that develop into the universally quantifying determiners ‘all’ and ‘every’ across languages, and I have suggested that a number of semantic and syntactic characteristics of these determiners can be understood on the basis of the

properties of their historical antecedents that they preserve. In most cases the developments can be described as grammaticalization because they involve a meaning change from concrete to abstract and/or radical phonological reduction.

It has been shown that 'all' frequently comes from 'whole' by way of a kind of metaphor by which a plural aggregate is treated conceptually like a single object. 'Every' often comes from free-choice indefinite determiners, and these, in turn, come from nonspecific free relative clauses or from parametric concessive conditional clauses. Other sources of 'every' are distributive prepositions and 'all'.

With the exception of the last-mentioned source of 'every' ('all'), the sources of 'all' and the sources of 'every' are very different and hardly show any common feature. Thus, the general results of my investigation strongly underline a point that has been made repeatedly by linguists (e.g. Vendler 1967, Gil 1993): Although both 'all' and 'every' correspond to the universal quantifier in logic, natural languages typically make a clear distinction between these two types of determiners. This distinction shows up not only in different semantic and syntactic behavior, but also in the kinds of source expressions that develop into 'all' and 'every' across languages.

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