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Inevitable reanalysis

From local adpositions to approximative adnumerals, in German and wherever*

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When local adpositions, whatever their own sources, are metaphorically extended to the domain of numerical approximation (as in ‘around five bottles’), as they not uncommonly are, and when such expressions are then admitted to grammatical relations otherwise reserved for noun phrases, such as subject and direct object, as is only natural, a conflict is bound to arise: the internal structure of such expressions is that of an adpositional phrase, headed by the ex-local adposition, but their external distribution is that of a noun phrase. German and several other languages demonstrate that repair is inevitable in this dilemma, unless wholly different ways of expressing numerical approximation were to be resorted to. By necessity, such approximative numerical expressions will gradually be reanalysed from being adpositional phrases to being noun phrases for many, most, or indeed all external and internal purposes, such as subcategorization, verb agreement, case assignment, and determination. Instead of new grammar emerging as in grammaticalization, the old grammar of phrase types is reasserting itself in such reanalyses.

1. Protean adpositions

Adpositions typically arise from nouns or verbs being “grammaticalized”, undergoing concomitant changes of meaning and grammar, or from adverbs acquiring a noun phrase complement without much further ado. Thus French *chez* ‘at’ and its Danish/Norwegian/Swedish equivalent *hos* derive from the nouns (Latin) *casa* and (Germanic) **hūsa-* ‘house’, or rather from adpositional phrases containing these nouns (‘in the house of’); English *ago* and its Italian equivalent *fa*, equally a postposition, derive from the past participle *a-gone*

‘gone by’ and the 3rd person singular indicative present tense form of the verb *fare* ‘to do/make’, or rather from clauses containing these verbs (‘two years gone, ...’, ‘it makes two years that ...’); English *down*, ultimately deriving from a prepositional phrase (*of dūne* ‘from the hill’), originally did not take a noun phrase complement but was to permit one later (*to slide down the dune*, to exemplify this with its own old self surviving as a noun).

While adpositions supposedly all derive FROM words of other word classes, adpositions do not inevitably all change INTO words of other word classes. However, reverse developments do occur too, if far less commonly, as behooves “DE-grammaticalizations”. Especially with nouns as targets of reverse category changes, adpositions may develop back to exactly what they had or could have been (e.g., *in* > *inn* ‘place in which to dwell or lodge’ in English, or *derrière* ‘behind’ > ‘backside, bottom’ in French); but such re-categorizations, performed on the fly or lexicalized, may also yield lexical categories distinct from those of an adposition’s ultimate source (e.g., English *down* > *to down*; German *an* ‘at’ > *ahnen* ‘to have a vague, intuitive feeling that something is the case or will happen’, mediated by a verbal construction such as ‘something comes at me’). Upon reanalysis, adpositions may also acquire certain specialized grammatical functions; in particular, locative and/or comitative adpositions (‘at’, ‘with’) may, in one way or another, turn into transitive verbs of possession (‘to have’), as they did in Maltese and Coptic (Afroasiatic), Sesotho and elsewhere in Bantu, Iwaidjian (Australian), Slave and perhaps elsewhere in Athapaskan — schematically, ‘cow [is] with/at farmer’ > ‘farmer withs/ats cow’. Disregarding such upgradings to nounhood or verbhood (surveyed in Plank 2001), the received wisdom is that, once a word has become an adposition, in construction with a noun phrase, becoming bound to nouns (and perhaps other words within noun phrases) as a case affix, or also to verbs as a relational affix (such as an applicative or other “verbal case”), and eventually eroding away is all that it can really look forward to — if it is to change at all.

The present paper is about yet another possibility for adpositions to make themselves useful as something else, namely to lend themselves to be utilized as approximative qualifiers of numerals and other amount expressions. Like the adposition-to-possessive-verb scenarios, this kind of metamorphosis instructively bears on the theory of grammatical change, which is about the possibilities of and limitations on reanalyses. (“Reanalysis” is being used here as a cover term for any kind of doing things differently from how the same things were done in the grammar of one’s models in the same speech community.) So far as adpositions are concerned, diachronic theorizing has tended to be empirically

underinformed, with the focus too narrowly on reanalyses of something else as adpositions and of adpositions as affixes, sliding down the cline of grammaticalization. One general lesson of the adposition-to-adnumeral reanalysis, or rather chain of reanalyses, is that, while often optional, reanalyses of words-in-constructions can sometimes become inevitable, given the meaning of the words and constructions.

One of the languages where this chain of reanalytical events can be studied longitudinally is German (Section 4). To strengthen the claim of inevitability, analogues from a few further languages will be presented subsequently, though in less detail (Section 6).

2. Introducing the adnumeral

Since Middle High German times, certain local prepositions have been drafted into the new grammatical service of approximative markers, and the attendant reanalyses are subtly spectacular. Schematically, a structure like (1), representing an adpositional phrase (AP), has been reanalysed as in (2), representing a noun phrase (NP) (or determiner phrase, if you will), or is on its way towards becoming one.

- (1) ... [X_{PREP} [(Y_{DET}) NUM (ADJ) N]_{NP}]_{AP} ...
 (2) ... [DET [X(+Y)_{ADN} [NUM]] (ADJ) N]_{NP} ...

The resultant phrase is of the same class (NP) as what originally was a constituent of a larger phrase (AP): a whole has become what once was its mere part. No structure is being created that would be novel. The word that originally formed the head of that larger phrase (X, a local PREPosition), in construction with an entire NP, containing a NUMeral and whatever else (article or other DETerminer, ADJectival modifier, Noun), all assigned case (accusative or dative) by the preposition, is downgraded to something morphosyntactically as irrelevant as a mere modifier, more specifically an ADNumeral, now in construction with only the numeral occurring within that NP. This ex-prepositional adnumeral itself is now possibly complex owing to its becoming closely associated with what used to be a determiner in the NP. What is affected by the reanalysis, thus, are phrase class and word class, constituency, and head-dependent structure — as is internally registered by inflectional morphology and co-occurrence possibilities. Internal linear order has remained the same.

In a straightforward modern example of an approximative number phrase

(ANP) like that in (3), with the relevant part in bold, it is not really obvious that (1) is not the right structure; but it will be shown presently that syntax and inflection are indeed those of (2), as, more obviously, is the modificational semantics of approximation.

- (3) *Moosbrugger leerte um / an die fünf randvolle Flaschen*
 Moosbrugger emptied **around / up to the five brimfull bottles**
 ‘Moosbrugger emptied approximately / not much less than five brimfull bottles’

What will, upon a little reflection, appear incongruous even in (3), on an analysis as in (1), is that a transitive verb like *leeren* ‘to empty’ should take an AP as an object, and that an adjective after a definite article (*die*) should be in the strong declension, where accusative plural is *-e*. Without the approximative bit, *leeren* subcategorizes for a plain NP in the accusative as direct object (a case which happens also to be compatible with the directional-local prepositions *um* and *an*); and the accusative plural ending of the weak declension of adjectives, regularly required by the definite article, is *-en*:

- (4) *Moosbrugger leerte die fünf randvollen Flaschen*
 Moosbrugger emptied the five brimfull bottles

This very incongruence is what gives trouble. But the domain that fosters such incongruence first needs an introduction, too.

3. The lure of local metaphor

Numerical approximation is a domain that is not particularly well charted even for better-known languages. One reason why relevant information is often hard to glean from grammars which otherwise miss out on little is that it is a domain that is somewhat disparate. Indeed, it should not be taken for granted that it is a domain that squarely falls within the scope of grammar, or even its periphery: typically the approximating labour is divided between grammar and the lexicon.

The situation in German is fairly representative of what one is likely to encounter under the heading(s) of numerical approximation.¹

Modern Standard German has a variety of means for expressing numerical approximation, as exemplified in (5). They include ordinary non-exclusive disjunction of numerals (5a); extraordinary asyndetic juxtaposition of numerals, not really giving alternatives but an (abbreviated) enumeration of those

numbers falling within the admissible numerical range (5b); the mid-range quantifier, itself numerically imprecise, in combination with a numeral (5c); negation, implying a number lower than that negated (5d); a deictic amount particle optionally accompanied by a possessive pronoun, though with no possessive force (5e);² the standard positive evaluational adverb, optionally followed by the standard positive volitional adverb alliterating with it in a coordinative construction (5f); general epistemic adverbs, especially that for certainty, here implying uncertainty or perhaps certainty that at least the amount given is being vouched for (5g); an amalgamated full clause professing quantitative ignorance (5h); a range of special-purpose adverbs or rather adnumerals (5i); several inherently approximative quantifying expressions of a nominal or adjectival nature without accompanying numeral (5j); and certain numerals that are inherently ambiguous between a precise and an approximative reading, with the latter forced when the numerals are nouns and can therefore be put in the plural (5k).

- (5) a. *Moosbrugger leerte vier oder fünf Flaschen*
Moosbrugger emptied four or five bottles
- b. *Moosbrugger leerte vier fünf Flaschen*
Moosbrugger emptied four five bottles
- c. *Moosbrugger leerte einige fünf Flaschen*
Moosbrugger emptied some five bottles
- d. *Moosbrugger leerte keine fünf Flaschen*
Moosbrugger emptied no five bottles (i.e., fewer)
- e. *Moosbrugger leerte so (seine) fünf Flaschen*
Moosbrugger emptied so (his) five bottles
- f. *Moosbrugger leerte gut (und gerne) fünf Flaschen*
Moosbrugger emptied good (and gladly) five bottles
- g. *Moosbrugger leerte bestimmt fünf Flaschen*
Moosbrugger emptied certainly five bottles
- h. *Moosbrugger leerte ich weiss nicht wie viel(e) Flaschen*
Moosbrugger emptied I don't know how many bottles
- i. *Moosbrugger leerte ungefähr/etwa/circa/rund/plus minus fünf Flaschen*
Moosbrugger emptied approximately / circa / round about / plus minus five bottles
- j. *Moosbrugger leerte ein paar/eine Handvoll/einen Schwung/einen ganzen Haufen/etliche/zig/x [iks]/zahllose ... Flaschen*
Moosbrugger emptied a few [lit. pair] / a handful / a swoop / a whole

heap/several/umpteen/x [i.e., the third last letter of the alphabet]/countless ... bottles

- k. *Moosbrugger leerte Dutzende/Hunderte von Flaschen*
 Moosbrugger emptied dozens/hundreds of bottles

The origin and progress of the fairly rich lexicon of numerical approximation would be an interesting subject in its own right. All kinds of things, some rather remarkable, have been done since Middle High German times to shape it. For instance, an originally local preposition was borrowed unchanged from Latin (*circā* ‘around’, also used for approximation in the donor language; see below); a complex local indefinite-interrogative pronoun, forming part of a whole paradigm, has been rendered opaque and isolated (*etwa* < MHG *ēte-wār* ‘wherever’, consisting of a generalizing and a local element; compare *ēte-wēr* ‘whoever’, *ēte-wan* ‘whenever’, *ēte-was* ‘whatever’, with only the latter surviving); a prepositional phrase disclaiming ill will and dishonesty, should a number prove not entirely accurate, underwent univerbation as an adverb, with its original component parts no longer transparent (*ungefähr* < MHG *āne gevær(d)e* ‘without ill will’, with *un-* barely reminiscent of *ohne* ‘without’, and even those who recognize *Gefahr* ‘danger’ in *-gefähr* won’t be much wiser either); a borrowed adjective *rund* ‘round’ (Latin *rōtundus*) had its meaning metaphorically extended to ‘complete’ (cf. English *a round dozen*), which with figures came to mean ‘whole (especially in terms of tens, hundreds, thousands) rather than fractional’, and which could then also be used for giving more convenient but less exact “whole” numbers (thus *auf-/ab-runden* ‘to round up/down’), hence the inflectionally invariable adnumeral *rund* ‘approximately’; a deictic amount particle (or pronominal adverb) was extended from adjectives of quality and quantity (e.g., ‘so old’, ‘so many’) to numerals (*so*); the regular suffix of complex numerals for tens (*zwan-zig* ‘twen-ty’, *vier-zig* ‘four-ty’, etc.) was disattached to form an approximative numeral of its own. But our focus here is on grammar.

What is closest to forming part of (at least the periphery of) the grammar rather than the lexicon of German — perhaps apart from asyndetic enumerative juxtaposition, as primarily used in the lower numerical range and with round higher numerals, and certainly for no purpose other than numerical approximation — is a system of local (and secondarily temporal) relators, differentiating approximation through the specification of an upper or lower limit or of the middle of a range:

(6) <i>bis (zu)</i>	UPPER LIMIT	‘at most’
<i>nahezu</i>	BELOW UPPER LIMIT	‘not much less than’
<i>beinahe</i>		
<i>an die</i>		
<i>unter</i>		‘less than’
<i>gegen</i>	MID RANGE OR UPPER LIMIT	‘not much less than’/ ‘not much more nor much less than’
<i>um die</i>	MID RANGE	‘not much more nor much less than’
<i>über</i>	ABOVE LOWER LIMIT	‘more than’
[<i>mindestens</i>]	LOWER LIMIT	‘at least’
(<i>ab</i>)		

An upper numerical limit, remaining below that limit, or the middle of a range are conceptualized as a (two- or three-dimensional) area surrounding a centre: the local meanings of *bis (zu)*, *nahezu*, *beinahe*, *an*, *gegen*, and *um* are ‘as far as, to’, ‘next/close to, nearly’, ‘close by’, ‘at, to’, ‘towards, against’, and ‘around’, respectively. On the face of it, *rund* ‘round about’ as in (5i) also fits in this scheme as a variant of *um die*, insofar as it forms part of a complex local preposition, *rund um* ‘around’ (lit. round around); but, as explained above, its use as an approximative adnumeral is not derived from this local preposition, but from the adjectival concept ‘complete, whole’, in turn derived from the spatial notion ‘round’. Being in an area below an upper or above a lower numerical limit is visualized in the vertical dimension (as is the sequence of numbers itself, ranging from “low” to “high”): *unter* ‘below’, *über* ‘above’. Only the specification of a lower limit is not based on local imagery, and is also of a different formal kind, utilizing the not particularly transparent suppletive superlative of the quantificational adverb *wenig* ‘little’. Marginally, local *ab* ‘from’ fulfils this function, but only in approximative number phrases that are not valency-bound to verbs, as in (7).

- (7) a. *Ab ein-er/-e Million lohnt es sich*
 from one-DAT.SG.FEM/-NOM.SG.FEM million (SG.FEM) it pays
 b. *Ab hundert Besucher-n/-Ø am Tag lohnt es sich*
 from hundred (INDECLINABLE) visitor-DAT.PL/-NOM.PL per day it pays
 ‘From approximately a million/a hundred visitors per day it’s be-
 coming worthwhile’

Interestingly, there is some vacillation in case here, with the dative, as governed by *ab* when used as a local (and temporal) preposition, alternating with the nominative, assigned from nowhere and justified only by its being the unmarked case.

Specializing in numerical approximation means, first of all (and what else it means will be seen presently), that a form will have to be used in combination with an expression containing a numeral or other amount term (and perhaps nothing else) — that is, with an NP. Of the forms listed in (6), *um die* and *an die* are indeed limited to such uses, and are therefore the core members of this grammatical system, while the others also combine with certain other NPs not containing a numeral or also with verbs or verb phrases. Specializing for a subdomain of numerical approximation, *gegen* in contemporary German is primarily used when giving approximate times (*gegen acht Uhr* ‘around 8 o’clock’ vs. *um acht Uhr* ‘at 8 o’clock precise’). In earlier German, three further local prepositions were part of the core system: *bei* ‘at’, initially occupying the central position later assumed by *um*, and *in* ‘in’ and *auf* ‘on’, some time used interchangeably with *an* (cf. still *Die Zahl der Opfer geht in die Hunderte* lit. ‘the number of victims goes into the hundreds’; *Er geht auf die Hundert zu* lit. ‘He goes upon the hundred’, i.e. ‘He is nearly a hundred years old’). *Bis* and *nahe* originally were adverbs used in combination with local prepositions, but eventually they could also take NP complements on their own (with some complications to do with case marking).

4. Traps adpositions can lure you into, and how to get out of them

4.1 Misfits: ANPs wanting to be NPs

Space is an eminently suitable metaphor for numerical approximation. Giving only an approximate rather than a precise amount, time, or other numerical value is naturally compared to being in or moving through an area surrounding a centre and not extending beyond certain boundaries. Accordingly, languages often conceive of approximation to numerical value *X* as being “in the region of *X*”. Since pertinent local relations are typically expressed through adpositions, whatever their own ultimate lexical sources, it is this word class that is likely to be the source for metaphorical expressions of approximation in the numerical domain.

Following so natural a conceptual path, a language is nonetheless potentially heading for big grammatical trouble. Of this, German can tell a story.

When local adpositions are thus exploited for numerical approximation in a language like German — and Middle High German, when they began to be drawn on for such purpose, did not differ in relevant respects from its modern descendant — problems arise as soon as approximative number phrases (ANPs, a semantically inspired label neutral between the phrase classes of AP and NP) are drawn into the verbal frame of a clause, being subjected to external syntactic and inflectional influences as typically exerted by verbs on their arguments and themselves subjecting other parts, especially the verb, to their own influence.

All is in fact well as long as ANPs are not too closely involved with verbs. Should ANPs be specialized for times, dates, or measures, there is not really much danger of such ominous involvement. When they are in circumstantial clausal relations (as in (8)) or in an attributive relation to a noun (as in (9)), in view of their environment nothing is objectionable about them being APs, with their own prepositions free to govern the case of their NP complements, and nothing needs to be accommodated so as to fit in with them.³

- (8) *yhr habt nu beÿ zehen iar-e-n, ynn dieser sachen ewr weisheit wol versucht*
 you have now **PREP_{APPROX} ten (INDECL) year-PL-DAT.PL** in this matter
 your wisdom well tried
 ‘you have now well tried out your wisdom for approximately ten years’
 (Luther, 1530)

- (9) *ein swert bi ein-em pfund-e*
 a sword **PREP_{APPROX} one-DAT.SG.NEUT pound-DAT.SG.NEUT**
 ‘a sword of approximately one pound’
 (Nibelungenlied, ca. 1200)

In (8), the ANP is outside the subcategorization frame of the verb, which only requires an accusative NP as object; it can therefore be freely added like any other optional adverbial phrase, and internally the dative case marking stems from the preposition. In (9), an ANP, with its internal case marking determined by the preposition, can likewise be freely added to a nominal head. All that has changed is that *bei* and other local prepositions, governing the same cases as of old (dative or accusative), have acquired approximative meaning, and are now in contrast with prepositions for the same semantic or grammatical relations, though with the approximative meaning lacking (such as *durch* ‘through’ or *von* ‘of’, possible non-approximative counterparts in (8) and (9)).

By crucial contrast, the ANP in (10) is valency-bound to a verb, being its direct object.

- (10) *man gap dâ niht bî drîzec pfund-e-n*
 one gave there not APPROX thirty (INDECL) pound-PL-DAT.PL
 ‘one then didn’t give approximately thirty pounds [but much larger
 amounts]’
 (Walther von der Vogelweide, early 13th century)

The bitransitive verb *gēben* ‘to give’ is subcategorized for an NP as its direct object representing the patient (with the recipient omissible), and it assigns accusative case to it. An AP, internally structured as in (1), with case marking governed by the preposition, does not really fit into this syntactic frame. When writing the verse in (10), however, Walther von der Vogelweide evidently put up with this inconsistency, ensuing from the decision to utilize local prepositions for expressing numerical approximation and retaining their structure. Suppose he had rendered this impersonal sentence as a passive (11), he would have had to twist Middle High German grammar even further: an AP would have to be made the subject, which German does not condone even grudgingly (unlike English, which does, if perhaps marginally: *Under the tables was very dark*), and the passive auxiliary would have been faced with the question of whether or not to agree with it in number (11a/b) (in English, verbs don’t: see above, *Under the tables was* / **were very dark*).

- (11) a. *bî drîzec pfund-e-n wurd-en dâ niht gegeben*
 APPROX thirty pound-PL-DAT was-3PL there not given
 b. *bî drîzec pfund-e-n wurd-e dâ niht gegeben*
 APPROX thirty pound-PL-DAT was-3SG there not given

The question now is whether in the long run this is a state of affairs a language can live with where ANPs are used for all purposes (rather than only for giving approximate times, dates, or measures). On the evidence of German, such inconsistency is not to be expected to prevail.

One conceivable way of making the innovation of prepositional approximations an unqualified success would be to overhaul the rest of the grammar, changing things so as to be able to deal with ANPs (and indeed APs in general) on a par with NPs. Accordingly subcategorization frames of virtually all transitive verbs would have to be generalized to permit both NPs and ANPs rather than NPs only; analogously, the subject relation would have to become less sensitive to phrase type, admitting both NPs and ANPs; verb agreement might follow suit and ignore this difference too.

Although one or the other corrective action on the historical record could individually be interpreted as going that way, the overall direction of what hap-

pened to ANPs in German was the diametrically opposite one: ANPs themselves were restructured so as to become externally compatible with all environments where they can be expected to be used, including in particular as subjects and objects. This is what the reanalysis from (1) to (2), turning APs into NPs, is all about.⁴

The adaptive changes required are several, though, and it would be instructive to see with what individual urgency they were executed. As it turns out, however, the relative chronology of individual changes is not always clearcut. To some extent this could be due to the fragmentary evidence the present reconstruction is based on, whose focus obviously is not on philological documentation. But regardless of possible gaps in the data, it almost seems as if speakers/writers throughout the centuries kept on reanalysing anew whatever part of ANPs happened to be most conspicuously at odds with the external grammatical requirements on them, being most comfortable when there were no overt formal distinctions to be made forcing a choice upon them between an AP and an NP analysis. (Since example (10), the markers of numerical approximation have been glossed as *APPROX* rather than as *PREP_{APPROX}*; this is to highlight that they are lacking one or the other, or indeed all, properties of the prepositions they derive from.)

4.2 ANPs reformed

What is found early on and with no limitations, once local prepositions are used with approximative meaning, is that phrases ostensibly structured as in (1) are employed as direct objects and subjects, in violation of subcategorization requirements permitting only NPs in these relations. This is the rule with objects (as in (10)), where it is of no further overt consequence, but it is sometimes also observed with subjects, as in (12) or (13), where verb agreement shows that also for external inflectional purposes a phrase internally structured as an AP, with *bei* governing the dative on its NP complement, externally behaves like an NP, the only kind of subject expression able to trigger agreement:

- (12) *Bey 300. Reuter-n setzt-en ins Dorf*
APPROX three hundred (INDECL) rider-DAT.PL advanced-3PL into the
village
 ‘Approximately 300 cavalry advanced into the village’
 (Grimmelshausen, *Simplicissimus*, 1669)

- (13) *do sein ihrer wol bey 20 burger-n entlaufen*
 then are.3PL from them well APPROX twenty (INDECL) burgher-DAT.PL
 run away
 ‘then approximately 20 burghers escaped from them’
 (Magdeburger Chronik, ms. 1601)

What is also found, although apparently more uncommonly than hybrid constructions like (12/13), are plural ANPs in subject function which do not control verb agreement. In (14), the absence of a dative plural *-n* on the noun would seem to suggest that approximative *bei* has ceased internally to behave like a preposition governing the dative; but then, accompanied by numerals, nouns of this declensional type are inclined not to inflect for number and case to begin with.

- (14) *in jede Flasche gieng bey 3 Nössel*
 into each bottle fitted.3SG APPROX three (INDECL) Nössel
 ‘each bottle held approximately three small measures’
 (Robinson Crusoe transl., 1720)

Most commonly, and from early on, ANPs drawing on local prepositions thus behave like ordinary NPs for all conspicuous EXTERNAL purposes: they occupy relations reserved for NPs, and when in the relation of subject, they more often than not control verb agreement.

One further use of NPs is as complements of prepositions, and in due course this became a possibility for ANPs too, notwithstanding the prepositional origin of their approximative marker:

- (15) *mit gegen Hundert Arbeiter-n*
 with APPROX hundred worker-DAT.PL
 ‘with approximately hundred workers’
 (Gutzkow, Ritter, 1852)

The dative on the noun in (15) is governed by the instrumental-comitative preposition *mit*. Where ANPs are not valency-bound to verbs, their preposition used to do two jobs at a time: that of relating them to the clause or the head noun, and that of expressing approximation; now this dual labour is being divided, with a new preposition doing the relating and the old, or indeed ex, preposition doing the approximating. Thus, the Nibelungenlied example (9) would be transformed into (16), with the dative now governed by attributive *von*:

- (16) *ein Schwert von unter/über/um ein-em Pfund*
 a sword of below/above/around one-DAT.SG.NEUT pound

Further evidence that the local prepositions have ceased to be ones in ANPs are adjectival or also ordinal derivations of cardinal numerals or the phrases containing them which as a whole combine with the approximative words, in a manner suggestive of bracketing paradoxes:

- (17) *ein so bedeutend-es [über {zwanzig}-jähr-ig-es] Unternehmen*
 a so important-NOM/ACC.SG.NEUT **above twenty-year-DERIV-NOM/ACC-SG.NEUT** firm (NOM/ACC.SG.NEUT)
 ‘such an important over twenty-year old firm’
 (Goethe, Briefe, ca. 1800)
- (18) *Moosbrugger leert schon [über {d-ie fünf}-t-e] Flasche*
 Moosbrugger empties already **over the-ACC.SG.FEM five-CARD-ACC.SG-FEM** bottle (ACC.SG.FEM)
 ‘Moosbrugger is already emptying the sixth or so bottle’

Whatever the complexities of such constructions, apparently first appearing in the eighteenth century, a preposition could not be accommodated in them syntactically and inflectionally.

Frequently the INTERNAL grammar of ANPs which externally behave like impeccable NPs is in fact indistinctive. Since most numerals (eventually all other than *ein* ‘one’) are uninflected, especially when directly followed by a noun, and many nouns do not distinguish any cases in the plural, it makes no overt difference whether they are analysed as cased-governed by the preposition (dative or accusative) or by the verb (the unmarked object case being the accusative) or constructionally (subjects being in the nominative):

- (19) *jrer war-en bey vier tausent*
 of them were-3PL **APPROX four (INDECL) thousand (INDECL)**
 ‘there were approximately 4000 of them’
 (Luther, Hl. Schrift, 1545)
- (20) *iren war-end wol funfftussend wol gerust-er mann-en und by siben hundert schutz-en*
 of.them were-3PL well five thousand well armed-GEN.PL men-GEN.PL and **APPROX seven (INDECL) hundred (INDECL) archer-PL**
 ‘they were some 5000 well-armed men and approximately 700 archers’
 (Bachmann, Haimonskinder, 1530)

From the frequency of such examples one gets the impression that the absence of distinctive inflections that would unmistakably have betrayed NP status was

conducive to the proliferation of ANPs in external relations usually reserved for NPs.

When the inflectional marking that is required inside ANPs is distinctive between that of an AP (prepositionally governed) and an NP (externally assigned), the clear tendency is to assimilate its internal structure to its external one — namely that of an NP, with case assigned externally rather than by what used to be a preposition heading that phrase:

- (21) *umringt-en mich bey 40. oder 50. Mußquetir-er*
 surrounded-3PL me APPROX fourty (INDECL) or fifty (INDECL)
musketeer-NOM.PL
 ‘approximately 40 or 50 musketeers surrounded me’
 (Grimmelshausen, *Simplicissimus*, 1669)
- (22) *bey sibem gross-e pulweck ass*
 APPROX seven (INDECL) big-ACC.PL plaited rolls (ACC.PL) ate (3SG)
 ‘[he] ate approximately seven big plaited rolls’
 (Sachs, *Fabeln*, mid 16th century)

The dative plural of the noun in (21) and also of the adjective in (22), as required by *bei* if it still were a preposition, would be *-(e)n*.

It was very rare that preposition-governed case marking as of old, as exemplified in (8)–(13), would linger on. Now it is only when an ANP is not valency-bound and when no extra preposition is added to relate it to a clause or noun as seen above in (15) and (16), which is only possible for *unter*, *über*, *ab* (see (7) above), and *gegen*, that what used to be prepositions remain prepositions insofar as they govern case, in lieu of another case governor:

- (23) *Moosbrugger hört nie auf unter ein-em Liter*
 Moosbrugger never stops below one-DAT.SG.MASC litre (DAT.SG.MASC)
 ‘Moosbrugger never stops below (approximately) one litre’
- (24) *Fischels Verschwinden gegen ein-en Monat nach Ostern*
 Fischel’s disappearance around one-ACC.SG.MASC month (ACC.SG.MASC)
after Easter
 ‘Fischel’s disappearance at approximately one month after Easter’

Sometimes, the reanalysis of (1) as (2), while leading out of one big dilemma (the incompatibility of the internal grammar of APs with external requirements on verb arguments), thus leads into another: an NP is supposed to have case assigned from somewhere, but when an ANP is in an adnominal or an adverbial

relation as in (23) or (24), there is no case assigner around. In this situation it is useful to fall back on what the local prepositions which had spawned the approximative adnumerals in question are able to do: assign case. Another way out when no case is being assigned would be to go for the general default case, nominative: this is an option with *ab* in non-argument ANPs, as seen in (7) above, and sometimes with other approximative adnumerals too, including for some speakers *gegen* as used in (24).

One possible component of ANPs now proved rather recalcitrant to the internal reanalysis of APs as NPs: definite articles — and this was a hitch that a little foresight could have avoided. But then, as is the overall message, here as so often elsewhere, reanalysis is therapy, not prophylaxis.

From early on, ANPs with *an* and its sometime competitor *in* and (somewhat less frequently) with *um* (but apparently never with *bei*) would typically include a definite article:

- (25) *in mitten aller fleischlichen anfechtung, die um d-ie 24 jar am größten ist*
amidst all carnal temptation, which **APPROX the-NOM.ACC.PL 24**
(INDECL) year (SG or zero-marked PL) the greatest is
'amidst all carnal temptation, which is greatest at the age of approximately 24'
(Zwingli, Deutsche Schriften, ca. 1500)
- (26) *erseufften sie sie alle, in d-ie zwey hundert Person*
drowned they them all, **APPROX the-NOM/ACC.PL two (INDECL)**
hundred (INDECL) person (SG or zero-marked PL)
'they drowned them all, approximately 200 hundred people'
(Luther, Maccabäer, early 16th century)
- (27) *Es sind schon an d-ie hundert Ortschaft-en aufgestanden*
there are already **APPROX the-NOM/ACC.PL hundred (INDECL)**
community-NOM/ACC.PL risen
'Approximately a hundred communities have already risen'
(Goethe, Werke, early 19th century)

At first sight, the usual reason for using a definite article, to do with the speaker's or writer's assumptions about the identifiability of the NP's referent by the hearer/reader, would not seem to apply here at all. NPs with cardinal numerals can have a definite article in the same circumstances where NPs without numerals would have one (e.g., *Die hundert Ortschaften, die rebelliert hatten, wurden zerstört* 'the hundred communities which had rebelled were

destroyed’); but in relevant examples like (25)–(27) these circumstances do not obtain. The same numerals in non-approximative uses would not have a definite article. Higher numerals in German tend to be on the noun side; but they are not such nouns as to specially favour a definite article. The only numeral of sorts to do so is *die Hälfte*, lit. ‘the half-th’, but that can hardly have served as a model for approximative numerals in general. If anything, approximation should show an affinity to INDEFINITENESS: indefinite mid-range (or existential) quantifiers or pronouns or indeed articles are frequently found to express numerical approximation (cf. *einige* and *etliche* in German, (5c/j) above, corresponding to English *some*; or (à-) *vier-à-fünf Flaschn* lit. ‘(a) four a five bottles’ in Bavarian, i.e., ‘some four or five bottles’; Plank 2002).

But there is another side to definiteness. It is not only assumptions of identifiability which may license definiteness marking but also, and to some extent independently, inclusiveness or totality of reference: in an example like *The Athenians destroyed the 20 ships of the Spartans*, the definite article indicates that the 20 ships destroyed were the whole Spartan fleet engaged in battle, excluding none. (At least this is one reading; the other is anaphoric.) Extending this to numerical approximation, the corresponding idea would be that the entire relevant region is to be taken into consideration as a possible amount: thus, ‘approximately 20 ships’ means that every amount ranging from some contextually plausible lower limit to an upper limit would be consistent with the quantitative specification given. This rationale for definiteness marking in ANPs finds confirmation by an exact analogue in Ancient Greek (especially with ἀμφί ‘around’), which would be surprising if it were a mere quirk.⁵

Possibly there are additional benefits of definite articles that made them seem useful with approximative *an/in* and *um*. Articles are those words in NPs that most reliably inflect for number and especially case, and sometimes having a distinctive accusative case with *an/in*, which could also take dative, helped to avoid ambiguity:

- (28) a. *Moosbrugger trank an fünf Flasch-en*
 Moosbrugger drank from/[?]APPROX five (INDECL) bottle-DAT/ACC.PL
 ‘Moosbrugger drank from/[?]approximately five bottles’
 b. *Moosbrugger trank an die fünf Flasch-en*
 Moosbrugger drank APPROX the-ACC.PL five (INDECL) bottle-ACC.PL
 ‘Moosbrugger drank approximately five bottles’

A verb like *trinken* combines with an accusative direct object or also with a prepositional phrase with *von*, governing the dative and specifying the source;

an overt accusative marker, which the noun itself is lacking, rules out the second reading.⁶ Since *um* regularly takes the accusative only, in local uses and others, there can be no such ambiguities; but then, *um* is ambiguous between approximative and precise readings, and throwing in a definite article adds a (somewhat arbitrary) distinctive feature to ANPs (29), in temporal contexts distinguished by using *gegen* rather than *um* or also extra approximative devices (30).

- (29) a. *Sie spielten um zwei Millionen*
they played for two millions
'They played for two millions'
b. *Sie spielten um die zwei Millionen*
they played **for.APPROX two millions**
'They played for approximately two millions'
- (30) a. *Der Zug kommt um 17 Uhr 14 an*
the train arrives at 17:14 hours
'The train arrives at 17:14 hours (precise)'
b. *Der Zug kommt gegen fünf (Uhr) / so um fünf (Uhr) (herum) an*
the train arrives **at.APPROX five (o'clock) / so at.APPROX five (o'clock) (around)**
'The train arrives at approximately 5 o'clock'

Whatever was the most potent incentive for adding definite articles to ANPs, once they were there they prominently and unmistakably displayed case — and with the reanalysis of (1) as (2) that case was supposed to be no longer the one governed by the preposition, but to be assigned from outside, like to any NP. This proved the most seriously retarding factor for the reanalysis.

On the evidence available, ANPs with *an*, *in*, and *um* plus definite article continued for some time, and for some speakers until today, to be confined to environments where the form of the definite article was the appropriate case form from both an external and an internal point of view. *Die* is accusative plural and accusative singular feminine, hence is equally appropriate as the form governed by *an/in/um* when analysed as case-governing directional prepositions and as the form externally assigned by verbs taking direct objects:

- (31) a. *Sie ersäufte an d-ie zweihundert Person-en*
they drowned **APPROX the-ACC.PL two.hundred (INDECL)**
person-ACC.PL
'They drowned approximately two hundred people'

- b. *Manche von ihnen können um d-ie ein-e Tonne heben*
 some of them can APPROX the-ACC.SG.FEM one-ACC.SG.FEM
 ton (ACC.SG.FEM) lift
 ‘Some of them can lift approximately one ton’

On these grounds, masculine and neuter singular accusative *den* and *das* should do equally well, but examples like (32a), corresponding to (31b), do not seem to be on record, and are found much less acceptable today — which suggests that *an die* and *um die* have almost instantly become fixed units which are used irrespective of NP-internal considerations like those of gender agreement, as in (32b).

- (32) a. ??? *Manche von ihnen können um d-en ein-en Zentner / um d-as ein-e Pfund heben*
 some of them can APPROX the-ACC.SG.MASC one-ACC.SG.MASC
 zentner (ACC.SG.MASC) / APPROX the-ACC.SG.NEUT one-ACC.SG.NEUT
 pound (ACC.SG.NEUT) lift
- b. *Manche von ihnen können um d-ie ein-en Zentner / um d-ie ein Pfund heben*
 some of them can APPROX the one-ACC.SG.MASC.STRONG zentner
 (ACC.SG.MASC) / APPROX the one-ACC.SG.NEUT.STRONG pound
 (ACC.SG.NEUT) lift
 ‘Some of them can lift approximately one zentner (50 kilos) / one pound’

Certainly frequency was the key here: containing (round) numerals above ‘1’, ANPs are typically plural (like (31a) and unlike (31b)), and *die*, in its plural rather than feminine singular reading, therefore was the inflected form of the definite article most typically encountered, thus predestined to be reanalysed as part of a fixed expression, if this was what was in store for the definite article.

In the plural and in feminine and neuter singular, the accusative is always syncretic with the nominative. When such ANPs are used as subjects there is the mitigating circumstance that the case form that would be appropriate if governed by the prepositions *an/in/um*, namely accusative, overtly looks like that externally assigned to subjects, namely nominative. This appears to license, for virtually everybody today (least felicitously with neuter *das*, where invariable *die* plus strong inflection on the numeral is strongly preferred: *um die ein Pfund*), the extension of such ANPs to the subject relation, with verb agreement regularly governed by ANPs in the manner of NPs (cf. (27)):

- (33) a. *An d-ie zweihundert Person-en wurd-en ersäuft*
 APPROX the-NOM/ACC.PL two.hundred (INDECL) person-NOM/ACC.PL
 were-3PL drowned
 ‘Approximately two hundred people were drowned’
- b. *Um d-ie ein-e Tonne /^{???}um d-as ein-e Pfund heb-t sich gerade noch so*
 APPROX the-NOM/ACC.SG.FEM one-NOM/ACC.SG.FEM ton
 (NOM/ACC.SG.FEM) / APPROX the-NOM/ACC.SG.NEUT one-NOM/ACC.-
 SG.NEUT pound (NOM/ACC.SG.NEUT) lift-3SG itself just still so
 ‘Approximately one ton/pound is just about the limit that can be lifted’

It is only in the twentieth century, on the sparse historical evidence available, that ANPs with definite articles have begun to appear in syntactic contexts where they are externally assigned a case whose form on the definite article is distinct from that for accusative/nominative — dative or genitive for plurals, as governed by certain verbs for their subcategorized NP objects (34) or by prepositions (35). What is never attested here are inflections of the definite article for these cases (34b/35b): the article remains invariably accusative/nominative *die* (34a/35a) or is dropped entirely (34c/35a).

- (34) a. *Er begegnete an d-ie hundert randalierend-e-n Jugendlich-e-n*
 he met APPROX the-ACC.PL hundred (INDECL) rampaging-PL-DAT.PL
 youth-PL-DAT.PL
- b. **Er begegnete an d-en hundert randalierend-e-n Jugendlich-e-n*
 *he met APPROX the-DAT.PL hundred (INDECL) rampaging-PL-DAT.PL
 youth-PL-DAT.PL
- c. *Er begegnete an hundert randalierend-e-n Jugendlich-e-n*
 He met APPROX hundred (INDECL) rampaging-PL-DAT.PL youth-PL-
 DAT.PL
 ‘He met approximately one hundred youths on the rampage’
- (35) a. *Sie kam mit um (d-ie) zwanzig klein-en Mädchen*
 she came with APPROX (the-ACC.PL) twenty (INDECL) little-DAT.PL
 girls (DAT.PL)
- b. **Sie kam mit um d-en zwanzig klein-en Mädchen*
 *she came with APPROX the-DAT.PL twenty (INDECL) little-DAT.PL
 girls (DAT.PL)
 ‘She came with approximately twenty little girls’

For masculine and neuter singulars, it is also invariable *die*, regardless of nominal gender, which is the only acceptable form in situations of manifest conflict between external and prepositionally governed case — for speakers who can use ANPs in such contexts at all:

- (36) *Um die ein Zentner / um die ein Pfund heb-t sich gerade noch so*
 APPROX the one (NOM.SG.MASC.STRONG) *zentner* (NOM.SG.MASC)
 / APPROX the one (NOM.SG.NEUT.STRONG) *pound* (NOM.SG.NEUT)
 lift-3SG itself just still so
 ‘Approximately one *zentner*/pound is just about the limit that can be lifted’

As was seen earlier, apropos of (12) and (13) above, ANPs could early on behave as NPs for all external purposes while their nouns were still subject to internal case marking governed by their prepositions. The presence of definite articles prohibits such incongruence between external and internal grammar: their case marking initially limits the external possibilities of their phrases. And unlike other case marking inside ANPs, that on definite articles never yields to outside influences either: while nouns and adjectives eventually accept verb-assigned cases overtly distinct from the accusative of old and the nominative syncretic with it, as in (34a/35a), the definite article can only survive when inflectionally inactivated.

In fact, the definite article has not only become inflectionally inactive with regard to case, number, and gender, but it has given up its identity in the process. Above the question was raised what could conceivably have been a reason for introducing definites, of all articles, into ANPs. Crucial examples are hard to come by from the period of this innovation, but nothing on record suggests that definite articles in this context ever showed the internal behaviour to be expected of such words with regard to their influence on adjectival inflection, which in German comes in two declensions: definite articles (themselves inflecting strongly) regularly induce weak inflection on adjectival modifiers and nouns of adjectival provenance. Weak and strong inflections are syncretic in the dative plural, as in (34a/35a), but when they are distinct, as in the nominative plural exemplified in (32) (cf. also (32b) and (36) above), *die* in ANPs never seems to have had this effect.

- (37) a. *D-ie hundert randalierend-en Jugendlich-en wurden verhaftet*
 the-NOM.SG hundred (INDECL) rampaging-NOM.SG.WEAK
 youths-NOM.SG.WEAK were arrested
 b. *Hundert randalierend-e Jugendlich-e wurden verhaftet*
 hundred (INDECL) rampaging-NOM.SG.STRONG
 youths-NOM.SG.STRONG were arrested
 c. *An die hundert randalierend-e/*en Jugendlich-e/*-en wurden verhaftet*
 APPROX the hundred (INDECL) rampaging-NOM.SG.STRONG/*-WEAK
 youths-NOM.SG.STRONG/*WEAK were arrested
 ‘(Approximately) (the) hundred youths on the rampage were arrested’

As indicated in the schematic representation of the reanalysis in (2), what looks like the accusative/nominative plural of the definite article has become an invariable part of the adnumeral marker of numerical approximation, whatever degree of autonomy and definite force it may ever have had. What is undeniable is that its case marking was long felt to be sufficiently effective to retard the spread of ANPs into all external environments of NPs. Even today there are speakers who are ready to endorse examples like (37c), where the case marking on the “definite article” is overtly appropriate from an external point of view (subject, hence nominative), while adjective and noun inflections are not those expected with a real definite article, but who hesitate about (34a), where a real definite article would need to be in the dative as externally governed by the verb.

Accepting (37c) entails accepting (38), and accepting (34a) too entails accepting (39):

- (38) *D-ie an die hundert randalierend-en Jugendlich-en, die ..., wurden verhaftet*
 the-NOM.PL APPROX the hundred (INDECL) rampaging-NOM.SG.WEAK
 youths-NOM.SG.WEAK, who ..., were arrested
 ‘The approximately hundred youths on the rampage were arrested who ...’
- (39) *Er begegnete d-en an die hundert randalierend-en Jugendlich-e-n, die ...*
 he met the-DAT.PL APPROX the hundred (INDECL) rampaging-DAT.PL-
 .WEAK youth-DAT.PL.WEAK who ...
 ‘He met the approximately hundred youths on the rampage who ...’

That is, with what was a definite article reanalysed and inactivated more or less completely, the slot of determiner has fallen vacant in what is by now an impeccable NP for all internal and external intents and purposes — to be filled by a real definite article with full definite force, if such is required, and with all the usual grammatical trappings, including the power to make adjectives and adjectival nouns inflect weakly.

4.3 Temporary licence

For those whose grammars can produce and process constructions like (39), if perhaps not entirely without effort, the reanalysis of ANPs from AP (as per (1)) to NP (as per (2)) has reached completion. In Table 1 the combinations of internal and external properties of ANPs are summarized that have been found attested en route to this stage. Difficult though it is to establish the relative chronology of at least some of the individual reanalytical events, the account in the preceding section and its summary in the table suggest that the replacement

of “APs” by “NPs” is not random but patterned, proceeding, if perhaps somewhat gropingly, from the external to the internal grammar of such phrases, with the definite article as the obstacle to be cleared last.

Whichever steps are being taken, individually or in concert, towards adjusting ANPs to external requirements, they are manifesting themselves in rules of synchronic grammar. To account for structures like those exemplified in (10) and (12)–(14), there must have been synchronic grammars of German providing for further phrase types in addition to APs and NPs, namely ones of a hybrid nature partaking of both AP-hood and NP-hood. The *raison d’être* of such synchronic grammars is nonetheless, in a sense, diachronic: in essence, in the relevant respects grammars are the way they are because previous grammars were the way they were, having let themselves in for plausible semantic extensions which proved morphosyntactically flawed. Hybrid phrase types for numerical approximation with properties of APs and NPs intermingled result from the optimizing efforts of new generations of speakers faced with the experience of dilemmas when APs have to do what NPs are meant for. These efforts at optimization are typically piecemeal rather than global, attending to whatever are felt to be the most glaring contradictions on each particular occasion. Such hybrid phrase types as such are predictable as the result of reanalyses, probably helped along by ANPs whose analysis is ambiguous between a hybrid and a pure one (such as those exemplified by (19), (20), (26), (27), (28), (31a), (33a)). When optimization is eventually completed, such hybrid phrase types will predictably be phrases of the type of verbal arguments and complements of adpositions, namely NPs.

But does this appeal to previous grammars of a PARTICULAR language (German, in the case at hand) and the drive towards their optimization, as grammars of a PARTICULAR language, account for all that is predictable about the successive and partly co-existing analyses of ANP structure in German? Or is there explanatory work left for timeless universal principles which govern any grammatical structuring independent of particular linguistic experiences in the course of the transmission of language from one generation to the next, or also in the course of the linguistic biography of individuals? The general and the language-particular would seem to interact along the following lines, constraining grammars at any one time.

Table 1. Attested combinations of grammatical properties of ANPs in Middle High German and Modern German

Examples	Properties									
	a	b	c	d	e	f	g	h	i	j
(8)	AP					AP				
(9)	AP					AP				
(23)	AP					AP				
(24)	AP					AP				
(25)	AP					AP				
(29b)	AP					AP/NP				
(10)	NP					AP				
(28b)	NP					AP/NP				
(26)	NP					AP/NP	AP/NP	AP/NP		
(31a)	NP					AP/NP	AP/NP	AP/NP		
(31b)	NP					AP/NP	AP/NP	AP/NP		
(32b)	NP					AP/NP	AP/NP	AP/NP		
(14)	NP				AP	NP				
(12)	NP				NP	AP				
(13)	NP				NP	AP				
(19)	NP				NP	AP/NP				
(20)	NP				NP	AP/NP				
(27)	NP				NP	AP/NP	AP/NP	AP/NP		
(33a)	NP				NP	AP/NP	AP/NP	AP/NP		
(33b)	NP				NP	AP/NP	AP/NP	AP/NP		
(22)	NP				NP					
(21)	NP				NP	NP				
(15)		NP			NP					
(16)		NP			NP					
(17)				NP						
(18)				NP						
(36)	NP				NP	NP	NP	NP		
(34a)	NP		NP			NP	NP	NP	NP	
(35a)		NP	NP			NP	NP	NP	NP	
(37c)	NP				NP	NP	NP	NP	NP	
(38)	NP					NP	NP	NP	NP	NP
(39)	NP		NP		NP	NP	NP	NP	NP	NP

Key

a	external distribution:	valency-bound argument of verb;
b		complement of adposition;
c		argument or complement to which a case other than accusative or nominative is assigned;
d		derivational NP-like base;
e	control of verb agreement if subject;	
f	internal structure:	case on noun and modifiers externally assigned;
g		case on “def. article” not assigned by preposition;
h		“def. article” inflectionally inert;
i		“def. article” without influence on adjective declension;
j		vacant determiner slot filled in presence of inert <i>die</i> .

AP for a given property means the example in question is like an AP in this respect, NP that it is like an NP in this respect (being positive, the way the properties are phrased with one exception: case marking on the “definite article”); AP/NP means indistinctiveness between being like an AP and an NP.

Adpositions as a word class for relational markers, though widespread, are not universal; but wherever this word class is being differentiated from other word classes, the line is drawn as dictated by universal principles. (And these principles are hardly as minimalistic as merely to require that adpositions be maximally unspecified, $[-N, -V]$.) Equally, AP is not universally differentiated from other phrase classes; but wherever it is, the phrase typology reflects universal structural principles — principles which should admit of APs being in categorical opposition or only in gradual contrast to other phrase classes, in particular that of NP. In view of their non-universality, the recognition of adpositions and of APs for particular grammars needs to be triggered by language-specific experience. Also, for the particular language with adpositions and APs that is being acquired, it has to be figured out, on the historical evidence available to the learner, how well delimited phrases headed by adpositions are from other phrase classes.

Presumably, there are limits to what is universally permissible in the way of APs which are NP-like, or NPs which are AP-like. What is to be found on the AP–NP cline includes: (i) AP/NPs with relational markers not morphologically bound, and in this respect resembling adpositions, but performing a purely syntactic rather than a semantic function, marking subjects or direct/indirect objects, thus resembling case affixes; (ii) AP/NPs with relational markers intermediate between being free or cliticized and being morphologically bound; (iii) phrases with the internal structure of an AP which can nonetheless occur where NPs are subcategorized for and which can do all or much that NPs can do (like phrases with “adverbial” or “locative” nouns in Bantu, or also certain local APs in English, *Under the table was very dark*); (iv) the other way round, phrases with the internal structure of an NP which can nonetheless occur where APs are called for (as in *I gave him the book this morning*); (v) APs related to a possessor or similar pro head which is non-overt, though with NP properties, such as the ability to trigger verb agreement, nonetheless prevailing over AP properties (as in associative constructions in the regional French of Poitou-Charente: *Chez tonton Paul sont venus* [those] at Uncle Paul[’s place] are.3PL come.PL ‘Uncle Paul and his [family] have come’; Hagège 1995:80).

Also, as has been seen in the course of the ANP history in German, certain combinations of structural properties of phrases, though perhaps unorthodox even vis-à-vis other permissible AP/NP mixtures, cannot be proscribed by universal grammar, for any and all times: they may be BAD grammar, licensed only by the better grammars of a preceding generation of grammar acquirers and restructurers, who, with the best of intentions but with unfortunate

grammatical consequences, were giving certain words a new meaning and use — but they are POSSIBLE grammar. Nonetheless, given the recognition that German is, and always was, a language where adpositions are relational markers easily distinguished from case affixes and where AP and NP are well-delimited phrase classes, with mixtures of AP and NP properties that are fairly common elsewhere always remaining unlicensed (such as in **Unter dem Tisch war sehr dunkel* ‘under the table was very dark’), structural reanalyses were forced on subsequent grammar acquirers.

On the evidence of reanalyses that have NOT been tried on ANPs in German, one is entitled to suspect that it was again by universal grammar, rather than by lack of experience or imagination, that grammar optimizers were discouraged to envisage conceivable other remedial measures, restructuring APs as something other than straightforward NPs. In particular, having an in every relevant aspect live definite article in a phrase would seem to imply, timelessly and prior to any encounter of primary linguistic data, that that phrase must have other internal and external properties of an NP, too.

1. The lure of labelling

To finally pose the question that, to some, might have seemed an obvious one all the way: Is what has been described here a case of grammaticalization?

It shares much with developments often subsumed under that label.

APs more loosely linked with verbs or nouns are getting more tightly integrated with the syntactic frame of the clause. Words as well as phrases change form and distribution classes. There is some fusion, perhaps even univerbation, of adjacent words, namely the old preposition and the definite article, with the latter becoming inflectionally inert and syntactically inactive in the process. The scope of relators reanalysed from local to approximative (semantically speaking) and from preposition to adnumeral (syntactically speaking) is shrinking, from being a full NP to a mere numeral.⁷ Heads become dependents. A kind of paradigm is being created for numerical approximation, with ‘upper limit’, ‘mid range’, and ‘lower limit’ as its cardinal terms. This whole chain of grammatical events is set off by semantic change, familiarly extending local meanings to another domain, perhaps more abstract than the source domain. This metaphorical extension from local to numerical is one-way, as allegedly is all grammaticalization: reversing the direction and going from region in the number space to that in local space is unheard of.

However, the concomitant word class reanalysis does reverse the direction of one kind of development through which members for the grammatical word class of adpositions are commonly recruited: instead of adverbs becoming adpositions, in the case at hand adpositions become — are “degrammaticalized” into — a sort of modifier, though of a rather specialized ad-numeral rather than the general ad-X kind (where X = adjective, verb, sentence).

Also, grammar is not “emerging” through grammaticalization in the reanalysis of (1) as (2), nor is it undone through what might be seen as the degrammaticalization of an adposition: it is simply that existing grammar — that of NPs — is reasserting itself. Essentially all that can be explained, about the direction of change and about the individual developments co-occurring, follows from the external and internal grammar of NPs of whatever language remaining ultimately UNchanged, thereby forcing ANPs into the same mould, once they are used as NPs are being used, as subjects and objects of verbs and as complements of adpositions. The approximative adnumerals in Modern German have the grammatical properties they have owing to their origin in prepositions and their subsequent grammatical downgrading, so as no longer to head NP complements of their own. Any other language lured into the same grammatical trap by conceptual needs and the temptation to satisfy them through spatial imagery will have to get out of it in some such manner, *ceteris paribus*.

There is no explanatory surplus, then, that might accrue from seeing the reanalysis of structure (1) as (2), triggered by the metaphorical extension of spatial notions into the domain of numerical approximation, as “grammaticalization”. Using that label might serve as a reminder that individual reanalyses in this chain of developments bear some similarity to developments of other forms in other constructions; but to explain this chain of developments as a whole, or at any rate some links in this chain, appeal must be made to principles of grammar, and nothing else is needed.

2. ... and wherever

2.1 English (and other Germanic)

As to other languages lured into this same trap as German, for English, getting out of it could not have been easier. Soon after suitable local prepositions had begun also to be employed for numerical approximation — such as Old English *ymb(e)* ‘around’ (an adverb-cum-preposition of long Indo-European standing),

in Middle English replaced by *around* (created under Old French influence from an AP, *à la reonde* ‘in the round’), and *on-būtan/a-būtan* (today’s *about*, also lately deriving from an AP, *on bē-būtan* ‘on by out, i.e., on the outside’) — case marking inside ANPs disappeared entirely, forestalling potential conflicts between case as governed by the preposition and as assigned from outside, depending on the ANP’s grammatical relation. Also, unlike in German, APs in general were becoming permissible as direct objects and even subjects. So, essentially the only special overt manifestations of the reanalysis of ANPs as impeccable NPs were that verb agreement became responsive to them (unlike to APs) and that a determiner slot opened up outside the ex-preposition (unlike with APs):

- (40) a. *The around twenty tables over there have/*has to be removed*
 b. *Around the tables was/*were very dark*

The other Germanic languages essentially followed the same path, starting out on it more or less independently, and some (the Continental Scandinavian ones) were further helped along by the loss of verb agreement.

2.2 French (and other Romance)

Essentially the same story could be told for French (and its Romance relatives), too, where approximative *près de*, *vers*, *autour de*, *dans les* have local prepositions as their sources.

2.3 Greek

Some time after Homer, Ancient Greek was drawing on about the same set of local prepositions as German to express about the same distinctions in the domain of numerical approximation — centrally ἀμφί ‘around’; eventually displaced by its dialectally less restricted competitor περί, which came to be accompanied by the enclitic indefinite local adverbial που ‘somewhere’ in approximative uses; εἰς ‘to, into, towards’ in combination with ὥς ‘as, thus; so (approximately)’ (which is presumably adverbial, although it can itself also be used as a kind of local preposition ‘to’, governing the accusative), meaning ‘up to, on the whole about’; and also ὑπέρ ‘above’. And about the same story as that in Section 3 could be told about their fate.

ANPs with these prepositions originally behaved like any other APs when not valency-bound to verbs, in perfect internal and external harmony. Then

they would occupy grammatical relations reserved for NPs, especially direct object and subject, with the prepositional and the external case requirements often coinciding for direct object uses (an accusative being demanded on both counts) and with the accusative often being syncretic with the nominative (probably alleviating the assumption of subject rank). To case-inflecting words within these object and subject ANPs, case eventually came to be assigned externally (41b), rather than by the prepositions, as had been the rule (41a).⁸

- (41) a. ἀπέθαν-ον αὐτ-ῶν περὶ τριακοσί-ους
 perished-3PL they-GEN.PL.MASC **PREP**_{APPROX} **three.hundred-ACC.PL-**
.MASC
 ‘approximately three hundred of them perished’
 (Xenophon, Hellenica)
- b. εἶναι περὶ που ἑκατόν στρατιῶτ-αι
 be.3SG/PL **APPROX** somewhere hundred (INDECL) soldier-NOM.PL-
.MASC
 ‘there are approximately hundred soldiers’
 (quoted from Mullach 1856:384, who attributes similar examples to Herodian, 2nd century A. D.)

Even as case inside ANPs was still governed by prepositions, when they occurred as subject, they would govern verb agreement, as seen in (41a). (Owing to syncretism between 3rd plural and singular at this late stage, with the form that of the infinitive, example (41b) is ambiguous in this respect.) Definite articles could not retard the reanalysis as they did in German because their use in ANPs had been discontinued with the replacement of ἀμφί by περὶ. Fully reanalysed as an ad-numeral in ANPs, the old local preposition περὶ plus πόν continued into Modern Greek, complemented by other adverbial devices, including for a while the negative-polarity indefinite pronoun κανείς/κανένας ‘any’ (itself a composite grammaticalized from ‘and’ and ‘if’, yielding generalizing ‘ever’, plus ‘one’).

2.4 Latin

Latin is another language to land itself in the same predicament, and to get out of it by the same route — or at any rate to try to. The local preposition primarily exploited for numerical approximation as early as in classical times was *ad* ‘to, up to, towards’; more marginal and later in this role were *circā* ‘around’ and its derivative *circiter* (which was, however, hardly used as a case-governing

preposition to begin with), *suprā* ‘above, beyond’ and *sub* ‘under’, and even later also *versus* ‘towards’.⁹

When drawn into the verbal frame, ANPs with these prepositions initially retained accusative case marking as regularly governed by them, even if this was in conflict with the case that would have been assigned externally — e.g., nominative for a predicate nominal:

- (42) *fui-mus ad ducent-ōs*
 were-1PL PREP_{APPROX} two.hundred-ACC.PL.MASC
 ‘we were approximately two hundred’
 (Cicero, ad Quintum fratrem)

Frequently there was no conflict, because the externally assigned case would have been accusative too, or nominative overtly non-distinct from accusative, owing to syncretisms of nominative and accusative for nouns and adjectives or the non-inflectability of the respective numerals themselves. What appears not to have been very common were ANPs which were subjects governing verb agreement, in the manner of normal NPs, but which had distinctively non-nominative case marking that could only be attributed to the preposition, as in (43):

- (43) *Rōmān-ōrum statīōn-is prīm-ae et e-ōrum, quī circā quaestōrium oppressī, perī-ēre ad septingent-ōs trīgintā*
 Roman-GEN.PL.MASC outpost-GEN.SG first-GEN.SG and those-GEN.PL.-
 MASC who near quaestorial.tent [had been] attacked perish-3PL.IND.PERF
 PREP_{APPROX} seven.hundred-ACC.PL.MASC thirty (INDECL)
 ‘Among the Romans perished approximately 730 of the first outpost and
 of those who had been attacked unexpectedly at the tent of the quaestor’
 (Livy 10.32.6)

What abound, for instance in writers like Livy, are ANPs as subjects governing verb agreement, and also case, gender, and number agreement on predicative adjectives, and with non-distinctive case (44a) or with case unambiguously assigned externally (44b) — i.e., as ostensibly full-fledged NPs:

- (44) a. *ad octō mīli-a Histr-ōrum sunt caes-ā* are.3PL
 APPROX eight (INDECL) million-NOM.PL.NEUT Histr-GEN.PL.MASC
 slain-NOM.PL.NEUT
 ‘approximately eight thousand of the Histri were slain’
 (Livy 41.4.7)

- b. *in maiōra castrā ad sēscent-ī ēuāsēru-nt*
 into bigger towns APPROX six.hundred-NOM.PL.MASC escaped-3PL
 ‘approximately six hundred escaped into bigger towns’
 (Livy 22.50.11)

Although Latin did not have definite articles to retard the expansion of ANPs into subcategorized positions where the externally assigned case would have been any other than accusative or (preferably syncretic) nominative, this does not appear to have been a routine extension. For instance, amidst the hundreds of examples in Livy of ANPs with *ad* (Packard 1968: 126–200), only one has a case other than accusative or nominative — and this is in an ablative absolute construction (45a), analogous to Caesar’s (45b):

- (45) a. *ad uīgintī mātṛōn-īs ... accīt-īs*
 APPROX twenty (INDECL) matron-ABL.PL.FEM ... summoned-ABL.-
 PL.FEM
 ‘with approximately twenty matrons ... summoned’
 (Livy 8.18.8)
- b. *occīs-īs ad homin-um mīli-bus quattuor*
 killed-ABL.PL.MASC APPROX man-GEN.PL.MASC thousand-ABL.PL.-
 MASC four (INDECL)
 ‘with approximately four thousand men killed’
 (Caesar, Bell. Gall.)

ANPs with datives / ablatives or genitives governed by verbs or adpositions do not seem to be on record. So, although ANPs in later Latin were clearly NPs rather than APs for virtually all common purposes, they seem to have been reluctant to exploit to the full the distributional potential of NPs when it meant acquiring a case from outside that would have been too far a cry from the one governed by the local prepositions of old, namely accusative and, overtly often non-distinct from it, nominative.

2.5 Lithuanian

Lithuanian (a member of Baltic within Indo-European) uses two local prepositions for numerical approximation, *apiẽ* ‘about, around’ (of old Balto-Slavic standing) and *apliñk* ‘around’ (from a verb ‘to turn, twist’), nearly synonymous and both governing the accusative:

- (46) a. *apiē peñk-t-q vāland-q*
 PREP_{APPROX} five-ORDINAL-ACC.SG.FEM hour-ACC.SG.FEM
 ‘at approximately five o’clock’
- b. *sveřti/nupīrkti apiē dū kilogram-ūs*
 weigh/buy PREP_{APPROX} two-ACC.PL.MASC kilogram-ACC.PL.MASC
 ‘weigh/buy approximately two kilograms’

It is or was possible to overrule the prepositional government of case marking in such ANPs by external case assignment (cf. Fraenkel 1929:219, 222); but this is not common, on the evidence of the standard national grammar (Ambrazas (ed.) 1997), where this possibility is not even mentioned. ANPs can be used as objects subcategorized for by verbs, as with ‘to buy’ in (46b); but here the verbally governed case is the same as that governed by the preposition. Mostly, ANPs of this kind are bound to remain outside the sphere of verbal influence: they are almost exclusively used for times of the day (46a) and measures (46b, with ‘to weigh’), predestined to occur in adverbial relations not subcategorized for. For numerical approximation in other contexts Lithuanian has a variety of other grammatical means at its disposal, including plurals of numerals for round numbers (‘tens’, ‘hundreds’, ‘thousands’) and collective cardinal numerals for lower numbers (‘a threehood’, meaning ‘approximately three’). With prepositional ANPs therefore limited to environments other than those where NPs flourish, it is not surprising that their reanalysis as NPs did not make much progress. If other things HAD been equal, a more resolute reanalysis of ANPs from APs to NPs would have been as inevitable in Lithuanian as it was in German, Greek, and Latin.

2.6 Russian

In Russian (as elsewhere in East Slavonic, Indo-European), numerical approximation is expressed by reversing the usual order of numeral and noun: prenominally, numerals have precise values; postnominally, they are approximative. But local prepositions can also be used for that same purpose, on their own or in combination with reversal, in particular *s(o)* ‘from’ and *pod(o)* ‘under’, governing the accusative with this meaning, and, more commonly, *okolo* ‘near’, governing the genitive:

- (47) a. *On žil-Ø tam s dv-a god-a*
 he lived-MASC.SG there PREP_{APPROX} two-ACC.MASC year-GEN.SG.MASC

- b. *On žil-Ø tam okolo dv-ux let*
 he lived-MASC.SG there **PREP_{APPROX}** **two-GEN** year (GEN.PL)
 'He lived there approximately two years'

(When numerals from 'two' to 'five' are in an NP in a direct case, their noun is in the genitive singular (47a); in NPs in an oblique case they agree with their noun (47b). Numerals above 'five' govern the genitive plural on nouns. To complicate matters further, *let* is the suppletive plural of *god*.) Now, *s(o)* and *pod(o)* remain limited to specifying times and measures (and often combine directly with a time or measure noun and with no numeral, as in 'towards evening'), hence ANPs headed by it are unlikely to advance to object and subject. *Okolo*, on the other hand, shows less relational restraint. ANPs with *okolo* can be direct objects and subjects; as subjects, they are undecided as to whether to stay APs and not govern verb agreement (with the verb in the default finite form, viz. 3rd person singular, as in (48a), or neuter singular in the preterite) or whether to govern verb agreement like ordinary NPs do (48b):¹⁰

- (48) a. *V institute obuča-et-sja okolo desjat-i tysjač student-ov*
 at institute study-3SG-REFL **PREP_{APPROX}** **ten-GEN** thousand (GEN)
student-GEN.PL
 'There are approximately ten thousand students studying at the institute'
- b. *Okolo vos'm-i tysjač ne imel-i professional'noj podgotovki*
PREP_{APPROX} **eight-GEN** thousand (GEN) not had-PL professional prep-
 aration
 'Approximately 8,000 did not have professional preparation'

The step that has not yet been taken in Russian is to let case be assigned to ANPs with *okolo* from outside, in the manner of true NPs. *Ceteris paribus*, this is only a question of time. But then, perhaps everything else is not sufficiently equal, insofar as Russian also permits other phrases, in particular ones with distributive *po*, to behave as NPs externally which internally are like APs, impermeable to outside case assignment.

2.7 Hungarian

Outside Indo-European, though within its area and in close contact with some of its members, Hungarian (Ugric, Uralic) uses *körül-belül* as its perhaps most common expression for numerical approximation:¹¹

- (49) *Körülbelül három csirke el-szaladt*
 approximately three chicken (SG) away-ran (PAST.3SG)
 ‘Approximately three chickens escaped’

Körülbelül is a modifier, adnumeral but also more generally adverbial, which is free to occur in NPs of any grammatical relation (including subject, as in (49)) and which has no undue influence on the syntax and inflection of the containing NP and the whole clause. Literally, *körül-belül* is a composite local relator meaning ‘around-within’, and thus illustrates the ‘in the region of’ theme of approximative numerical imagery. *Körülbelül* is a modifier PRECEDING its numeral, but its component parts also occur independently — and then they are POSTPOSITIONS: *körül* ‘around’ governs the nominative of its NP complement, *belül* ‘within’ governs the superessive. Agreement is not really a problem for such ANPs in Hungarian as for instance in German: nouns in construction with a numeral are singular in Hungarian, and verb agreement with such subjects or direct objects then is also singular. But there would seem to have been enough of a dilemma for ANPs with postpositions such as *körül* and *belül*, owing to subcategorization and case assignment conflicts, to have discouraged their continuing use in the approximative numerical domain, and to have encouraged a morphosyntactically more harmless exploitation of this source in the form of a composite modifier preceding numerals.

Körül is in fact used for numerical approximation as a postposition, but only with round numerals (e.g., *száz körül* hundred around ‘approximately a hundred’). Since these inflect for case like nouns, and such an ANP could be externally assigned a case other than nominative, the case requested by the postposition, there could be a conflict — which seems to be evaded by only using such postpositional ANPs in nominative contexts.

And there is yet another local postposition secondarily utilized for numerical approximation: *felé* ‘on, towards’, governing the nominative.¹² However, since *felé* is restricted to numerals giving the clock time (e.g., *öt felé* five towards ‘towards 5 o’clock’, that is shortly before and up to 5, but not after), conflicts arising from the integration of such ANPs with core clausal syntax remain minimal.

2.8 Amharic

Outside Europe, though not at a great distance, local imagery is exploited for numerical approximation in Amharic (South Semitic, Afro-Asiatic), among other means, including the combination of the relevant numeral with the numeral-cum-indefinite marker ‘one’ (Leslau 1995:260–261, 607, 655–656).

The preposition *wädä* ‘toward’ and the postpositions *gädäma* and *gädäm* ‘in the region of’ (themselves transparently deriving from a noun, ‘area, location, whereabouts’) are used for that purpose, individually or in combination. Such ANPs can occur in relations otherwise reserved for NPs, and when they are subjects, they govern verb agreement like NPs do:

- (50) *wädä hamsa gädäm mot-u*
 PREP_{APPROX} fifty POSTP_{APPROX} died-3PL.COMMON
 ‘approximately 50 died’¹³

Conflicts between internally and externally assigned case cannot arise because the category of case is altogether lacking. Although this should facilitate the reanalysis, ANPs with such local adpositions are typically used for giving the time of day, age, or price, and thus remain more at home in adverbial relations rather than as arguments of verbs.

As is confirmed by Hungarian and Amharic, it should make no difference whether it is PREpositions or POSTpositions that inevitably get such a reanalysis started. Still, postpositions on their own in purely postpositional languages do not seem to be involved in this kind of scenario all that often. There are three possible reasons why. First, there are probably many more such cases but they have so far escaped Eurocentric researchers (such as myself). Second, purely postpositional languages probably do not fall into the trap of metaphorically extending local postpositions into the domain of numerical approximation as frequently, and tend to take care of this domain otherwise, possibly because they do not have suitable postpositions to begin with, relying on suffixes for distinguishing relevant local relationships. Third, it probably does make a difference whether postpositional ANPs or prepositional ANPs want to be NPs, with postpositional APs perhaps not really sufficiently different from NPs to cause such offence that a reanalysis of their internal structure is called for.

Notes

* My class on numerals (Universität Konstanz, summer semester 2001) provided stimulation and feedback; and by now everybody accepts as self-evidently grammatical sentences they used to balk at. Earlier versions of this paper were read at the workshop on morpho-syntactic change at Schloss Freudental near Konstanz, 6–9 June 2001, and at the 16th International Conference on Historical Linguistics at København in Denmark, 11–16 September 2003. The final revision owes much to the myriad comments from the audiences assembled there, as well as from precisely three reviewers for *Studies in Language*, anonymous

as usual but unusually sympathetic, not requesting that the analysis be redone in OT, and even taking objection to my innocent use of the term “optimization”.

1. See Plank (2003) for a crosslinguistic survey.
2. The amount particle can also be used in a disjunctive construction: *fünf Flaschen oder so* ‘five bottles or so’; but this is less common than in English.
3. Note that the preposition assigns case (dative in these examples) to ALL case-inflecting word in its NP complement, not just the numeral (which may not even inflect for case). This would be impossible to account for if the approximative preposition were in construction with only the numeral, with [ADP NUM] itself an adpositional phrase forming a constituent of an NP — illustrated from English:

[[*about*_{PREP} *ten*_{NUM}]_{AP} *years*]_{NP}

Such an analysis, suggested by a reviewer, has nothing to recommend itself as the original stage for languages such as German, and very little (namely immediate constituency, but not word and phrase categories) as the intermediate or final stage.

4. There does not seem to be an extensive literature tracing these developments in any detail. Perhaps most explicit is Hermann Paul in Volume 4 of his *Deutsche Grammatik* (1920: §314), who characterizes the reanalysis as a “fusion” of the prepositions with their NPs, enabling them to be used as subjects and objects, despite an initial retention of the case governed by the preposition. To say the least, this does not account for the full range of variation found in the external and internal grammar of such ANPs. The evidence on which the present paper is based is a smallish, though arguably representative collection of examples from Paul (1920), from the *Deutsches Wörterbuch* (Grimm & Grimm 1854ff., where the phenomenon at issue is surprisingly ill-documented) and the *Frühneuhochdeutsches Wörterbuch* (Goebel & Reichmann 1997, with only *bei* covered in the volumes so far available), and from a few Middle and early Modern High German texts (published with concordances), complemented by informant judgments of more complex constructed examples from the present-day language. Grammars of contemporary German do not agree on whether *um*, *an* etc. in ANPs are prepositions or some sort of adverbs, and seem vaguely uncomfortable with either view.
5. The general inclination in Ancient Greek indeed was to use a definite article also with non-approximative numerals when a quantity was conceived of as an ENSEMBLE rather than as a random number (Kühner & Gehrt 1898: 637–639).
6. Fairly recently a peculiar constraint has been imposed on the local preposition *in*, to the effect that the accusative for the directional reading must be overtly distinguished from the dative for the static reading, which precludes place names without articles as complements of directional *in* (another directional preposition has to be used instead: *nach*):

- (i) a. *Jan lebt in d-en Nederland-en / in Holland*
 Jan lives in the-DAT.PL Netherland-DAT.PL / in Holland
 ‘Jan lives in the Netherlands / in Holland’
- b. *Jan radelt in d-ie Nederland-e / *in Holland*
 Jan bikes in the-ACC.PL Netherland-ACC.PL / *in Holland
 ‘Jan bikes to the Netherlands / to Holland’

Other constraints to do with articles and their case marking, which apparently must not be too distinctive, are observed with *bis* ‘until; as far as’, now that it can take NP complements:

- (ii) *Jan radelt bis Holland / *bis d-ie Nederland-e*
 Jan bikes to Holland / *to the-ACC.PL Netherland-ACC.PL
 ‘Jan bikes as far as Holland / the Netherlands’

Perhaps some such case-marking requirements had a hand in the introduction of definite articles into ANPs with accusative-governing prepositions (and only with these), too.

7. But then, it has recently become an issue whether scopes might not be expanding rather than shrinking in “real” grammaticalization. Insofar as this is not a confusion over terms, the conclusion would seem to be that scope shrinkage or extension is independent of other changes in grammaticalization developments.

8. This is aptly called “Erstarrung von Präpositionen zu Adverbien” by Kieckers (1926: 116), i.e., freezing or inactivation of prepositions. For further relevant examples see Kühner & Gehrt (1898: 469, 472, 491, 494) and, tracing the development towards modern Greek, Mullah (1856: 384).

9. See the entries in the standard dictionaries for relevant examples, or syntactic handbooks such as Menge (2000: 253–257, 281), rarely dwelling on the inflectional and syntactic subtleties of the transition from AP to NP, though.

10. This vacillation is documented in Crockett (1976: 351–354), who assumes a deleted quantified noun like ‘people’ in examples like (48b) to account for plural verb agreement. With approximation expressed by postposing the numeral after the noun (and without a preposition), verb agreement is similarly variable (cf. Crockett 1976: 356–357).

11. I am grateful to Edith Moravcsik for filling in my numerical approximation questionnaire for Hungarian, on which this section is based.

12. There are signs that *felé* is on the way to becoming a suffix, and thus even more inoffensive in the relevant respects.

13. Since 3rd person plural is also a form of respect for 3rd (and 2nd) singular, (50) can also mean ‘He died at approximately 50’.

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