How to disclaim precision about numbers

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- 1. (NUM) APPROX means 'not much/many more than nor much less/many fewer than the quantity denoted by the numeral (with the speaker not vouching for any particular precise number of those within the relevant range)'
- 2. **Numerals** are lexical items (free or perhaps also bound), which (i) denote numbers, exclusively, primarily, or perhaps also secondarily (with primary denotations being, e.g., hands, feet, or other body parts); which (ii) can be used for counting (used on their own) and for quantifying (in construction with (numeral classifiers plus) items denoting whatever permits of quantification); and which (iii) form a word-class (fully or partly) grammatically distinct from other word-classes (determiner, quantifier, adjective, adverb, noun, verb), or perhaps also a distinct subclass of a more comprehensive word-class.
- 3. Neither lexical nor grammatical means for NUM APPROX
- 4. Special approximate amount expressions <u>other than numerals</u> and <u>without accompanying numeral</u>: PAUCAL, MULTAL

English MULT many/much, lots of, tons of, heaps of, a load of, countless, ...

PAUC (a) few/little, some, several, a couple-of, a handful, ...

- 5. Precise numerals culturally designated as <u>also</u> having approximate meaning; prime candidates:
- (i) "round" numbers, especially higher ones
 ("round" numbers are "complete" numbers, ones where a counting cycle has come full circle, e.g. a round dozen, within a duodecimal frame-of-reference, otherwise tens and hundreds and thousands);
- (ii) any arbitrary (?) numbers (for whatever reasons) attributed a symbolic value.

6. Special approximate numerals

(i) they are derived from parts of existing precise (high, round) numerals,

- (ii) represent mathematical formalism, or
- (iii) are borrowed (being precise numerals in the donor language, though designated for approximate meaning).

English ump-teen (ump < ?; OEtD, umpty = signaller's slang for 'dash' used in

reading morse code messages; by association with numerals in -ty used

for an indefinite fairly large number; whence umpteen after numerals in

-teen)

myriad (< Greek 10,000, via Latin)

German zig (regular suffix of complex numerals for tens),

x [iks] (i.e., the third last letter of the alphabet)

zig NOUN, zigmal, zigfach, zigtausend, zum zigsten Mal

— i.e. a numeral of exactly the same kind as numerals for tens in -zig,

non-inflecting, thus differing from low numerals

Myriade(n)

Schock '60', but also 'Menge, Haufen', MHG schoc 'Haufen'

Hungarian kis-millió

small-million

'too many' (derogative)

Tagalog indefinite numerals, consisting of a repeated utterance of certain of the

elements used in the formation of complex cardinal numbers;

can be used interchangeably to indicate a large number

daan-daan 'hundreds' (daan = times one hundred)

libu-libo 'thousands' (*libo* = times one thousand)

angaw-angaw 'millions' (angaw = times one million!)

milyon-milyon 'millions' (less common)

(Schachter & Otanes 1972: 214)

Udihe *tume* 'ten hundred, thousand, very many',

borrowed from Turkic tuman

7. Grammatical forms and constructions dedicated to just numerical approximation

7.1. dedicated approximative words

German circa NUM: borrowed unchanged from Latin (circā 'around',

also used for approximation in the donor language,

< local neighbourhood, an adnumeral derived from a prep)

plus minus NUM: technical terms for mathematical operations of

addition and subtraction, formally a compound

Dutch drie à vier; circa

Italian all'incirca

Qiang NUM-CLASS-(H)a:n 'about, approximately, more or less NUM'

the "modifier/quantifier" (*H*)*a:n* is apparently dedicated;

7.2. dedicated approximative inflection

Georgian svid+i-ode gogo-s

seven+NOM-APPROX girl-DAT

as-i-ode

100-NOM-up.to (bound as seen in as-i-ode-m 100-i-up.to-ERG)

Udihe za:-mba 'ana

ten-APPROX boats

Meithei *mENa-rom*

five-APPROX

7.2.1. bound to words in construction with numeral

Bavarian (a) Stuck-ar(a) fümf(e) < ein Stück einer fünf? 'a piece a five'

um-ara fümfe < um einer fünf 'at a (=APPROX) 5 [o'clock]'

cf. reciprocal adverbs: um-anand, um-ara-nand (generally: disorder,

perhaps indefiniteness; thus, not dedicated)

7.3. **dedicated approximative constructions** (with no specially APPROX overt markers)

7.3.1. syndetic disjunction of two (or perhaps more) neighbouring (round) numerals

looks like ordinary disjunctive coordination, but is subject to special constraints, as opposed to ordinary disjunction, presumably universal:

(a) lower before higher numeral, irreversible order

three or four, *four or three

(b) if more than two numerals: disjunctive connective not omissible *two or three or four, *two, three, or four*

7.3.2. postposed disjunct numeral

English a book or two

cf. one or two books, two or three books, twenty or thirty books

*one book or two, *two books or three, *twenty books or thirty

cf. for precise readings of numerals:

Have you read one book or two? *Have you read a book or two?

without an overt first numeral:

within the next hour or two, the last night or two, the patient or two

Italian tre polli o quattro

7.3.3. asyndetic juxtaposition of two neighbouring numerals (=syntactic combination),

with combination perhaps so tight as to be a case of compounding (even lexicalisation);

rationale: not really giving alternatives (as if a disjunctive connective 'or' were omitted, being non-omissible in other constructions), but <u>an (abbreviated) enumeration of those numbers falling within the admissible numerical range</u>

German drei vier

fünf ZEHN 'something between 5 and 10'

(cf. FÜNFzehn 'fifteen', compound stress rule)

Dutch drie vier

English *three four

but historically possible, continuing in dialects and in Scottish and

American English

Dhivehi de-tin 'two-three'

Sinhala de-tun 'two-three'

Hungarian háróm vagy négy

three or four

háróm-négy

three-four, a compound?

Turkish bir iki 'one two', 'a few'

iki üç ev 'two three house'

bes altı tane 'five six piece'

üç beş kuruş 'three five penny', meaning 'three or four' (dört '4')

[esp. with money]

bes on 'five ten'

Georgian daaxloeb-it sam-i an otx-i çiçila çaikca

approximation-with three-NOM or four-NOM chicken escaped

daaxloeb-it sam-i-otx-i çiçila çaikca

approximation-with three-NOM-four-NOM chicken escaped

a compound, with NOM -i a connecting vowel, as seen when the whole

is in a different case:

sam-i-otx-ma biç-ma

three-i-four-ERG boy-ERG

with higher round numerals this -i seems omissible

Vietnamese mot hai

one two, ten fifteen

Motlav François pc

Hoava *karu(a)kahike* 'two or three'

ka-rua 2, hike 3; k(a)- is a numeral prefix, lexical with 1 and 2, and

added to the other numerals when used in NPs;

Supyire people two three, five six

Basque? bizpahiru 'APPROX two or three' $(bi\ 2, hiru(r)\ 3)$

hiruzpalau 'APPROX three or four' (hiru(r) 3, lau 4)

("collocations" also possible for other numerals; -zpa- is not a conjunctive or

disjunctive connector; but what else? -z instrumental case, indefinite?)

Korean native numerals, not possible with Sino-Korean numerals

'one or two' handul hana + twul tuset (tue) 'two or three' $twul + s\epsilon ys$ 'three or four' $s \epsilon y s + n \epsilon y s$ senet (sene) 'four or five' tat $n \epsilon ys + tases$ 'four, five or six' netetat tases + ?'six or seven' yenilkop yeses + ilkop'seven or eight' iryetel ilkop + yetel(p)

7.3.4. reduplication/repetition of a numeral

is probably common to produce APPROX forms of certain high round numerals; formally similar to simple juxtaposition of different numerals, but would rarely seem to be dedicated to expressing numerical approximation

Fongbe $\partial \acute{e}gb\grave{a}$ 'four thousand' $\partial \acute{e}gb\grave{a}\partial \acute{e}gb\grave{a}$ 'thousands'

àfàt**00**% 'one thousand' (from 200 - 3800 built on 200-base)

7.3.5. reordering of numeral relative to head noun

Russian and other East Slavonic

NUM N (=precise) N NUM (=APPROX)

pjat' knig knig pjat' five books books five

'some five books'

za pjat' knig za knig pjat'

knig za pjat'

for five books

Bavarian *a Stuck-a(-ra) fümf Kinda*

[a piece-PL(-APPROX) five] children

fümf Kinda

(precisely) five children

8. (at least incipiently) grammatical forms which are multi/macro-functional, one function being numerical approximation

8.1. general purpose approximation, regardless of historical source of expression

English approximately X derived adverb; basic term an adjective, or also a verb

(but no grammaticalizing/lexicalizing changes)

German etwa X a complex local <u>indefinite-interrogative</u> pronoun,

forming part of a whole paradigm, has been rendered opaque and isolated (etwa < MHG ëte-wār 'wherever', with its second part distinct from wo 'where'; compare ëte-wēr 'whoever', ëte-wan 'whenever', ëte-was 'whatever', with only the latter surviving) not dedicated: etwa in der Mitte 'about in the middle', etwa in Leipzig 'perhaps in Leipzig'

ungefähr X a prepositional phrase <u>disclaiming ill will and</u>
<u>dishonesty</u>, should a number prove not entirely accurate (< epistemic),
underwent univerbation as an adverb, with its original component parts
no longer transparent
< MHG \bar{a} ne gevær(d)e 'without ill will'

not dedicated: *Er sagte ungefähr folgendes; ungefähr dort* 'he said APPROX the following; APPROX there'

Hungarian *nagyjából* 'by and large'

Georgian 'with nearness'

8.2. approximation in space: local neighbourhood

English in the region of, close to NUM

Hungarian körül-belül 'around-within'

Italian circa, all'incirca — but formally in fact dedicated to approximation (also

'concerning'), no longer literal meaning 'around'

8.2.1. adnumerals (ex-local adpositions or adverbs)

morphosyntax: a specifically ad-numeral kind of modifier, grammaticalized from

adpositions/adverbs in construction with entire noun phrase (Plank 2004)

semantics: local or also temporal neighbourhood, 'in the region of';

two (or three?) variations on this theme of "region":

- (a) around a centre, with boundaries unspecified;
- (b) in a space (interval) with (perhaps somewhat indeterminate)

boundaries around (or at beginning/bottom and/or at end top, when traversed);

(c) region identified through a landmark (not necessarily in the centre).

English (a) about, around

(b) between LOWER NUM and/to HIGHER NUM

German bis (zu), nahezu, beinahe, an die, unter, gegen, um die, über, ab

Dutch om en bij de honderd kippen

'around and close to 100 N'

Latvian *lihds NUM* 'at most NUM', *lihds* a preposition, 'mit, zugleich, bis'

French environ

près de dix hommes vinedront 'close to 10 people will come'

autour de trois

Chinese Hagège 1982: 36-37, 44

Bantu Hagège 1982: 36-37, 44

Georgian 'until', especially higher round numerals, 'until 100'

Hungarian száz körül

100 around; can only be used wirth round numbers

8.2.2. movement: coming from or going to

Chinese wu shí lái suì

50 ? come years

'about 50 years old'

8.2.3. movement: vertical, up/down

Turkish üç aşagı beş yukarı

3 down 5 up

'a little more or less'

is an adverbial; this only works for 3 and 5

8.2.4. local/directional case marking

Dhivehi dative case of the nominal form of the ordinal numeral, up to 60:

ha-ekk-as

six-NMN-DAT

'up to a six' (= APPROX six)

8.3. temporal neighbourhood, simultaneity, future

Nama 'be' + FUTURE

five full-ten FUT COP person-3PL.MASC PAST

'there were approximately 5000 men'

8.4. thematic aboutness (approximation to a topic/subject matter)

English about

8.5. approximation and notions other than (based on) spatial

8.5.1. speaker disclaiming knowledge and/or responsibility

8.5.1.1. epistemic adjective or adverb: certainty (lower limit), uncertainty

German bestimmt/sicher/wohl/vielleicht NUM

Dutch drie of misschien vier kippen

Rhaeto-Romance often based on Latin vere 'truly'

Italian how many have escaped? -- forse tre 'possibly three' (*circa tre)

Hungarian a what should I say fifty

8.5.1.2. tendency for using non-affirmative, non-realis mood, future tense

Italian La mamma avrà più o meno sessanta

German Mutter wird (so) (an die) sechzig sein

Georgian see below

8.5.1.3. interrogative pronoun (how many?):

Motlav three chickens or how many?

8.5.1.4. "restricted randomness" (Bultinck)

Dutch pakweg honderd kippen ontsnapten

take.away 100 chickens escaped

'take your choice: 100 N'

general let us say 100 chickens escaped

8.5.1.5. concessive, conditional

general lower NUM if not next higher NUM

three if not four

three chickens escaped, if it was not more/four

Hungarian száz-valahány

hundred-however.many

8.5.2. disjunction

8.5.2.1. non-exclusive disjunctive co-ordination of two or more neighbouring numerals

English two or three

fifty or sixty

(vs. exclusive disjunction: Is 17 minus 14 two or three?

8.5.2.2. non-exclusive disjunctive co-ordination (or other syntactic or morphological combination) of a numeral and a deictic degree/amount word, or an interrogative expression

English five or so

Hungarian harminc vagy hány tere

thirty or how.many its.square

8.5.3. indefiniteness: indefinite article or pronoun, free choice indefinite

rationale: <u>Non-unique identifiability of a precise numerical value</u> would thus be metaphorically derived from <u>non-unique identifiability of a referent</u>.

Bavarian (a) zwoar-a drei

(a) siam-a acht Bia < ein sieben ein acht Bier

only when there are two numerals in a row;

in earlier German ein accompanying a single numeral too

Dutch een tachtig à negentig kippen

only round numerals?, only when two numerals are combined by \dot{a} ?

zo'n honderd kippen (only with 100, where 1 is there anyhow?)

Italian un dieci, un cinque

with single (round) numerals

English *NUM (or) whatever* (free choice indefinite: *whatever books*)

a hundred (vs. (one) hundred)?

He read a hundred books vs. (one) hundred books

Latvian *lihds kahds NUM* 'at most some NUM'

kahds indef pro, 'irgendwelcher', interrog pro 'was für ein, welcher Art?'

Hungarian egy ötven ember

INDEF.ART fifty people

usually only used with round numbers

Basque bat numeral 'one', indef. article; batzak plural of bat, quantifier 'some'

etxe bat 'one house; a house'

ume-ren bat child-GEN one/a 'some child or other'liburu bat-en bat book indef-GEN indef 'some book or other'

same construction with numerals (though genitive may be dropped):

hogei(-ren) bat twenty(-GEN) indef 'APPROX 20'

Cl. Tibetan dge.slong lnga. brgya. zhig.

monk five hundred INDEF

'about 500 monks'

zhig an indefinite particle ('one'), meaning APPROX after a numeral or a plural

Georgian erti orași çi çila mainc çaikca

one two-hundred chicken at.least escaped

'at least some two hundred chickens escaped'

erti cardinal numeral 'one', also '(ein)mal' as in 'komm mal her',

as APPROX apparently limited to combinations with mainc 'at least', or

postposition 'until/up to'

see further Heine & Kuteva (2002) on 'ONE (NUMERAL) > (8) SOME', mentioning Basque, Lezgian (clock times), Tamil, Yagaria, ||Ani, Seychelles Creole French; also alluding to the possibility of an opposite shift 'some (more)' + 'plain, unmarked' > numeral 'one'.

8.5.4. interrogative pronoun (how many?): ignorative, like indefinite

8.5.5. definiteness: definite article

rationale: <u>inclusiveness or totality of reference</u> as model for <u>the entire relevant region</u> is to be taken into consideration as a possible amount

German an <u>die</u>, um <u>die</u>

Cl. Greek

Dutch tussen de tachtig en de negentig kippen

('either precisely 80 or precisely 90'???,

cf. een tachtig à negentig kippen, with indef article/'one',

which could be true if, say, 78 chickens were involved)

om en bij de honderd/driëndertig N

8.5.6. **possessive** (related to definite?)

German er trinkt jeden Tag (so) seine fünf Bier Italian Il costo della macchina è sui 40 milioni

8.5.7. <u>showing</u> (approximately) rather than specifying: (situation-)<u>deictic</u> degree or amount word, or also manner

German so (seine) NUM

(extended from adjectives of quality and quantity to numerals)

Dutch zowat tachtig (tot negentig) kippen

zowat drieëndertig kippen zo ongeveer honderd N

zo'n honderd kippen (only with 100, where 1 is there anyhow?)

Georgian ase 'so'

çaikca ase as-i çiçila

escaped so hundred-NOM chicken

Hungarian úgy 'in that way': úgy száz ember

so 100 persons

olyan 'of that kind': egy olyan száz méterre

a such 100 meters

8..5.8. limiting rather than specifying

8.5.8.1. (positive) evaluative adjective or adverb

German gut (und gern) NUM

English a good three kilometers

Rhaeto-Romance often based on Latin bene 'well'

Hungarian jó száz méterre

good 100 metres

Italian una diecina buona / una buona diecina di chilometri

Lo stadio dista tre chilometri buoni / *?tre buoni chilometri

8.5.8.2. **comparison** (a quantificational strategy, see below)

8.5.8.2.1. quantitative comparison of inequality: MORE (disjunctive connector) LESS

Italian *più o meno NUM* 'more or less'

Polish mniej wiecej trzy kurczaki

more less three chickens

Tagalog h(um)igit-kumulang na/-ng NUM

exceed-fall.short LINKER NUM

'more or less NUM'

equivalent to plural word mga, which does not take the linker, though

8.5.8.2.2. quantitative comparison of equality

Italian *Maria ha quasi dieci anni*

Lele (Chadic) gìna wèlè sùbù máàní

like day three ANAPH

'about three days'

gìna preposition 'as, like'

máàní propositional anaphor

anaphor to a previous proposition

reference to events: káyá máàní

thing so/thus

tù gìna dùbàngú máàní

goat like sheep ANAPH

'a goat is like a sheep' (cf. deictic degree/amount word)

8.5.8.3. **limitors** (see above, Comparison): not more than, not less than

English at least, at most

German mindestens; fast

Georgian at least

8.5.8.4. negator (upper limit)

German keine NUM

8.5.9. grading: attenuation, diminution

8.5.9.1. marking of numeral itself

English six-ish (like green-ish)

Italian for decades: -ina

una trent-ina di polli 'about 30 chickens'

una dec-ina 'approx 10' (base: dieci)

verb agreement in number either semantic (plural) or syntactic (singular)

cf. grand-ino 'somewhat large, kind of big'

but synchronically perhaps a case of homonymy,

also coqu-ina 'kitchen, place for cooking'

French une cent-aine, trent-aine???

8.5.9.2. diminutive of noun in construction with numeral

Italian *un' oretta* 'about an hour'

German drei Stündchen?

8.5.10. general adjectivalizing affix on numeral

Finnish kolme '3'

kolm-isen vuotta 'about three years'

viit-isen-sataa kanaa 'about 500 hens'

five-APPROX-hundred hens

-ise, -isen, -inen 'made of, like, -ish, -ly, belonging to, of the nature of'

8.5.11. exploiting quantificational resources: lexical and morphological

8.5.11.1. generic designation of odd (as opposed to even) numbers

English fifty-odd books

= somewhat more than 50, but closer to 50 than to 60,

could well be an even number, e.g. 52 or 54

grammaticalized? a suffix? compare with fifty odd books NUM ADJ N

Qiang hod u-ma-XtBe

ten-NEG-stop

'ten-odd', 'APPROX ten' (apparently limited to '10') (spatial: movement?)

8.5.11.2. **the noun 'number'** (collective?, see below)

Swedish ett tio-tal/hundra-tal arbetare

a ten-/hundred-number workers

'about 10/100 workers'

Dutch een honderd-tal kippen

8.5.11.4. **repetition** (aktionsart quantificational (pluractionality))

German Aber-tausend(e), aber-hundert(e)

cf. (aber und) aber-mals 'wieder und wieder'

8.5.11.5. **collective**

8.5.11.5.1. a noun for collectives

Finnish kunta 'community, parish' > NUM-kunta

8.5.11.5.2. derivational collective, special collective numerals

German eine Hundert-schaft,

is a noun, though, not a numeral, meaning 'a group of (precisely) hundred'

Italian cento 100, cent-inaio 'hundred',

un centinaio/migliaio di N 'approx hundred/thousand N'

verbal number agreement either plural or singular

le centinaia 'the 100' (plural is old neuter)

due centinaia, tre migliaia 'approx two hundred/three thousand'

a centinaia 'zu hunderten'

(-aio agentive nouns, also locative-collective)

Lithuanian NUM-etas N-GEN.PL

Dhivehi for higher degree of uncertainty, limited to numbers 2-10, indefinite

collective numerals in dative form (collective numerals formed by

adding 'thing' or 'people' after numeral stem) (Addū dialect)

Finnish kymmene- '10' kymmen-kunta 'approx 10'

sata '100' sata-kunta tuhat '1000' tahat-kunta

complex words behave like numerals,

cf. kunta 'community, parish'

Georgian as-ob-it

hundred-COLL-INS

'by the hundreds'

at-as-ob-it

ten-hundred-COLL-INS

cf. misxl-ob-ita 'by the ounce, ouncewise'

urm-ob-ita 'by the cart, cartwise'

8.5.11.6. multiplicative numerals

English a tenfold

8.5.11.7. mid-range quantifier

English some NUM
German einige NUM

Er ist höchstens einige 30 Jahre alt

= 30 years and some more?

8.5.11.8. **plural word**

Tagalog proclitic *mga* as a marker of plural with unmarked nouns, deictic pronouns,

personal nouns, adjectives, nominalized verbal and adjectival phrases, as a

marker of approximation with cardinal numerals and time expressions:

mga sampu 'about ten'

nang mga ala una 'at about one o'clock'

sa mga buwan ng Enero 'around the month of January'

mga kamakalawa 'about the day before yesterday'

8.5.11.9. plural inflection of round numerals

very common when higher numerals are nouny

English tens, dozens, hundreds of

Lithuanian Ambrazas 1997: 587

Hungarian not with 10

Oriya hundred-REDUPL years 'hundreds of years'

8.5.11.10. **paucal marking on noun** (without accompanying numeral or also in construction with numeral)

9. Specialization of approximators for numerals in context of

9.1. clock time

German gegen NUM
Bavarian um-ara NUM

English six-ish 'around six o'clock'

Dutch rond drie uur (= ongeveer om drie uur)

French vers trois heur, vers midi

Italian verso le tre, verso mezzogiorno

(verso 'nach, gegen, gegenüber')

alle tre circa, circa alle tre

(circa also postposed: circa cinque polli/*cinque polli circa)

Hungarian körülbelül három órakor

APPROX three o'clock

harom-felé

three-towards (shortly before the time mentioned)

can only be uswed with full hours, quarter, half, and three-quarter hours,

not with minutes (*towards five ten)

felé 'towards' temporal and local (e.g. towards north)

9.2. age?

Italian La mamma è sulla sessantina
German Mutter ist in den sechzigern

9.3. **money**

Georgian the postposition/suffix -mde 'up.to' is not joined with the numeral, as

elsewhere, but with the following noun for 'meter' or 'dollar'

five dollar-/meter-mde, rather than five-mde NOUN

9.4. measures

Georgian mood difference for APPROX (conditional)

'the wish weighed six pounds' vs. 'the fish would weigh six pounds',

'so [2nd person deictic], six pounds it would come out'

(cf. German Er wird dir so seine sechs Pfund wiegen, Sie wird dir so ihre 60

sein)