DOI: 10.26346/1120-2726-227

Akabea (Great Andamanese) as an anumeric language and the problem of Akabea ordinals

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Akabea is (probably) an anumeric language, or (at least) a language with a highly restricted numeral system, and the same held for the other traditional Great Andamanese languages. Given this, it is surprising that Akabea is described by one of its two main documenters as having a system of ordinal numerals, including expressions like 'fourth of six'. We argue that Akabea does not in fact have ordinal numerals, but rather a system of dividing ordered entities into blocks and subblocks, such that precise positions can be expressed in sets up to size six, although the system generalizes only partially to larger sets.

KEYWORDS: numerals, anumeric languages, Great Andamanese languages, Akabea language.

1. Introduction: Anumeric languages

Much attention has been devoted recently to so-called anumeric languages, i.e. languages lacking any numerals, even 'one'.[1] The most famous and best investigated anumeric language is Pirahã; see for instance Gordon (2004), Frank et al. (2008), and C. Everett & Madora (2012). Pirahã has three terms that might be candidates for numeral status, in increasing order *hói*, *hoí*, and *baágiso*. Frank et al. elicited terms to describe sets of from one to ten objects, first gradually increasing the number of objects from one up to ten, secondly gradually decreasing the number of objects from ten down to one. On the ascending test, *hói* was consistently used for 'one' and only for 'one', *hoí* was consistently used for 'two' but also by at least some subjects for sets up to ten in size, and *baágiso* was used for sets three or more in size. This would be consistent with Pirahã having a word for 'one', followed by a word denoting a small number and starting at two, followed by a word indicating a larger quantity and starting at three. On the descending test, however, *baágiso* was used only for sets down to seven and *hoí* only for sets down to four, with *hói* being used exclusively for sets of three or fewer, suggesting that the three terms denote relatively small, intermediate, and large sets rather than sets with precise cardinality. It should be emphasized that

anumeracy does not relate to any innate cognitive lack, but simply to the absence of exposure to a numeral system; as noted by C. Everett & Madora (2012: 137-140), the Pirahã are perfectly capable of acquiring a numeral system if exposed to one, something that does not happen in their traditional environment but is found in one group with more exposure to outside Brazilian society.

Anumeric languages are extremely rare. Hammarström (2010: 20-22), in an attempt at an exhaustive listing, finds only two, Pirahã and Xilixana (a Yanomaman variety), both spoken in Amazonia, although he notes that the Xilixana data are less clear.[2] Hammarström (2010: 17-20) lists a further fifteen languages that have been claimed to have no numeral other than 'one', all from South America or New Guinea, though noting that some (including all from New Guinea) are questionable if not probably incorrect; for one of those considered more secure by Hammarström (2010: 17), (pre-contact) Jarawara, C. Everett (2012) presents elicited numerals going up to twenty, with cognates in other Arawan languages.

In this article, we provide extensive argumentation that Akabea, probably also traditional Great Andamanese varieties in general, is an anumeric language, following up on the brief suggestion in Comrie & Zamponi (2017: 65).

2. Akabea as an anumeric language

Akabea is one of ten traditional Great Andamanese varieties documented in the second half of the nineteenth and the early twentieth centuries. It is unclear how many distinct languages should be recognized, in part because of the meager documentation of some varieties; for one view, see Comrie & Zamponi (2019: 44-45). The varieties fall into three clear branches: South Andamanese[3] (Akabea and Akarbale), Middle Andamanese (Opuchikwar, Okol, and Okojuwoi), and North Andamanese-Akakede, the last dividing in turn into two subbranches, North Andamanese (Akajeru, Akachari, Akabo, and Akakhora) and the single language Akakede (Comrie & Zamponi 2019: 43-46). All traditional varieties are no longer spoken. What survives of the family is a handful of speakers, or more accurately rememberers, of a basically North Andamanese koine with Akajeru as its main component, Present-day Great Andamanese (PGA); see section 4. In the body of this article we will be referring exclusively to the traditional varieties, except where we make specific reference to PGA. Indeed, we will take material almost exclusively from Akabea, the best documented and described of the tra-

ditional varieties. Moreover, material on candidates for numeral status (hereafter: 'candidate numerals') in traditional Great Andamanese from varieties other than Akabea is found only in direct comparisons with Akabea, with the equivalent expression being given in the other language alongside the Akabea expression as translations of a given English expression. The sources vary between referring specifically to Akabea and more generally to 'Andamanese' (i.e. speakers of Great Andamanese languages).[4]

Our two main sources for Akabea, Edward Horace Man and Maurice Vidal Portman, were both administrators who spent extensive periods in the Andamans but were not trained linguists. Both made a concerted effort to understand the local languages, in particular Akabea. Man was posted to the Andamans from 1869 to 1879, and was placed in charge of relations with the Andamanese from 1875 to 1879. Akabea had become something of a lingua franca among the Andamanese living close to the main British settlement at Port Blair, and Man's linguistic consultants for Akabea included both first- and second-language speakers of the language. Portman succeeded Man as officer in charge of relations with the Andamanese in 1879, and occupied this post for over twenty years, with some breaks. His Akabea material is based on work with native speakers. He also worked to a lesser extent with native speakers of Akarbale, the Middle Andamanese varieties, Akakede, and Akachari, and it is to him that we owe the comparative material from varieties other than Akabea. The documentation of Akajeru, primarily by Alfred Reginald Radcliffe-Brown, unfortunately provides no candidate numerals, including among forms identified by Radcliffe-Brown simply as 'North Andamanese', whence the lack of any reference even to candidate numerals in Zamponi & Comrie (2021).

Other than in direct quotes, we present Akabea and other traditional Great Andamanese material in a 'tentative semi-phonemic transcription', the limitation being due to the fact that certain phonetic oppositions, though recognized as phonemic, are not distinguished consistently in the sources, in particular retroflection, aspiration, and the distinction between close and open varieties of mid vowels (Zamponi & Comrie 2020a: 67-68). In direct quotes, we give the original spelling with our transcription in square brackets. Our representations also include morphological analysis, in particular identification of affixes. The affixes found in the Akabea material used in this article are listed in (1). They include a number of somatic (body-part) prefixes that are a striking feature of Great Andamanese languages, and which prototypically refer literally to the body part in question, but often have extensions that can sometimes be related to the original somatic meaning but are sometimes

opaque, at least given the available material. In the relevant forms in this article, somatic prefixes are often lexicalized. For full explication of the morphological structure of lexical items, reference should be made to Zamponi & Comrie (*in prep*.).

(1) Akabea affixes and clitics found in this article:

a. somatic prefixes

ab-/a-	body (Zamponi & Comrie 2020a: 99-101)
ar-	abdomen, back, legs (Zamponi & Comrie 2020a: 109-114)
iɡ-/iʤ-	face, arms (Zamponi & Comrie 2020a: 114-122)
on-/ɔyo-	hands, feet (Zamponi & Comrie 2020a: 122-125)
ot-/ɔt-	head (Zamponi & Comrie 2020a: 125-131)
ɔkɔ-/ɔko-	lips (Zamponi & Comrie 2020a: 131-134)

b. other prefixes

Vt-/t-	plural (Zamponi & Comrie 2020a: 243-246); *V* indicates a vowel identical to that of the adjacent somatic prefix
tar-	directional, though its occurrence is highly lexicalized (Zamponi & Comrie 2020a: 134-135)
V-/n-/d-	reflexive, with some lexicalized occurrences (Zamponi & Comrie 2020a: 137-141); *V* indicates a vowel identical to that of the preceding somatic prefix

c. suffixes

-ŋa	nominalizer (Zamponi & Comrie 2020a: 142-146)

d. clitics

l=	definite article (Zamponi & Comrie 2020a: 187-190)
=ba	non-past negative copula ('be not') (Zamponi & Comrie 2020a: 199-200)
=lik	comitative, perlative (Zamponi & Comrie 2020a: 212-214)
=tek	ablative, instrumental (Zamponi & Comrie 2020a: 214-215)

Portman (1887: 4) gives an apparently clear statement on Andamanese [i.e. Great Andamanese – BC/RZ] numeracy, as follows:

> As the Andamanese are unable to count more than two, all numbers higher than two are only vaguely expressed. The fingers would be held up for a small number, say up to twenty; above that some term such as "many" or "all" would be used.

This is echoed in Portman (1898: 33):

> ... they cannot count with any certainty above two, and though they profess to count up to five, the last three numbers are vague and might mean anything up to a hundred.

The candidate numerals for 'one' and 'two' across the traditional varieties of Great Andamanese, to the extent attested, are given in Table 1 (Portman 1887: 54-55, 84-85, 1898: 91, V114-115, V172-173).[5]

VARIETY	'ONE'	'TWO'
Akachari	*on-tɔlbɔ*	*er-pol*
Akakede	*luamo*	*ir-pol*
Okujuwoi	*luŋui*	*re-pɔr*
Okol	*luŋi*	*er-pɔr*
Opuchikwar	*lutuba*	*ir-pɔr*
Akabea	*ubatul*	*ig-pɔr* (> *ikpɔr*)
Akarbale	*ubatul*	*id-pɔr(otot)*[a]

[a] Portman (1898: V18) has *id-pɔr* for 'both' and *id-pɔrotot*, with an obscure ending *-otot*, for 'two' (p. 91) and 'twice' (p. V172).

Table 1. Candidate numerals for 'one' and 'two' in traditional Great Andamanese varieties.

This might suggest that Great Andamanese languages had a restricted numeral system, with numerals for 'one' and 'two' but no others. The first sentence of the following quote from Portman (1898: 91) echoes the preceding quote, but the second sentence introduces an interesting nuance.

> They are definite in speaking of "One" or "Two," but beyond that, though they pretend to count up to Five, the words are vague... Even "Two" is often used to mean a number above Two.

The word for 'two' is thus not, in fact, an exact numeral referring to a set of two, but rather a word that indicates a small number. This point is extended by Man (1923: 161) in the following quote.

> In respect to terms denoting *Cardinal numbers* the only specific ones are *(ab-)ûba-tûl-* [(*ab-)ubatul* – BC/RZ] or *(ab-)ûba-dóga-* [(*ab-)ubadoga* – BC/RZ] ("*ab*" is expressed for human objects only), one, and *îk-pōr-* [*ikpɔr* < *ig-pɔr* – BC/RZ], two. The latter word is also used to indicate "a few." In order to express a greater number the terms employed are usually (*a*) for human objects:—*âr-dûru-* [*ar-duru* – BC/RZ], several (is also used to denote "many" and "all"); *jeg-chàu-* [*ʤeg ʧau* – BC/RZ] (lit. "collected-body"), many (also "several" or "an assemblage"); *jîbaba-* [*ʤiba=ba* '(*X*) is not alone' – BC/RZ], very many and *at-ûbaba-* [*a-t-ubaba* – BC/RZ], innumerable; (*b*) for animals:—*âr-dûru-* [*ar-duru* – BC/RZ], several, many and *ôt-ûbaba-* [*ot-ubaba* – BC/RZ], innumerable; and (*c*) for inanimate objects:—*âr-dûru-* [*ar-duru* – BC/RZ], several, many; *jîbaba-* [*ʤiba=ba* – BC/RZ], very many; and *ûbaba-* [*ubaba* – BC/RZ], innumerable.

Two Akabea sentences in Portman (1887) confirm the paucal value of *ikpɔr*.[6]

(2) *meda lie otbadalire arla likpɔrlen*

m-eda	lie	ot-badali-re	arla	l = ig-pɔr = len
1PL-III.PL	calm_sea	SP-find-PRET	day	DEF = SP-some = LOC

'We found calm sea for some days.' (Portman 1887: 96: 'We shall have fine weather for some days.')

(3) *ten karin eda arla likpɔrlen ɔkɔliyate*

ten	karin	Ø-eda	arla	l = ig-pɔr = len	ɔkɔ-li = yate
INTDUB	here	3-III.PL	day	DEF = SP-a_few/some = LOC	SP-die = REL

'Has anyone died here lately?' (Portman 1887: 160)

This makes clear that the word translated as 'two' is also translatable as 'a few' and 'some', which suggests that its overall meaning is indeed 'a few, some' ('not many'), reaching down as low as two. In other words, the word translated as 'two' is not really a numeral, but rather an indefinite quantifier, on a par with the others introduced later in the quote and translated as 'several', 'many', and 'innumerable' to denote successively larger sets but without assigning a numerical value to the set. As Table 1 shows, the Akabea word for 'two, a few, some' has cognate forms (including both root and prefix) across traditional varieties of Great Andamanese; the root is not attested in Akabea outside this range of meanings.

What of the forms translated as 'one'? Akabea *ubatul* is attested by both Man and Portman with English translations 'alone', 'solitary', 'single', 'one', 'only' (see example (4)), 'sole', as well as adverbial 'once'.

(4) *o ka wai darodire ubatulda*[7]

Ø-o	ka	wai	d-ar-odi-re	ubatul = da
3-II.SG	DEM.PROX	FOC	1SG-SP-carry_in_one's_arms-PRET	single = COP

'He is now my only son.' (*ka wai* 'now, today', *arodire* 'son over three years of age (in relation to the father)') (Man 1923: 96)

Indeed, since it is also attested (with the somatic prefix *ab-*) in the sense 'one' in deRöepstorff (1875: 81), it is the earliest documented Akabea candidate numeral. Two issues are involved: First, whether the numerical interpretation is literally 'one' or whether it can also be extended to other small sets. Second, whether the numerical value 'one' is primary, or whether this is rather derived from the other senses of the type 'single'. The admittedly limited attestation of Akabea (and other traditional Great Andamanese varieties) does not contain any

unequivocal evidence that the word in question can refer to sets with more than one member. Zamponi & Comrie (2020b: 104-105) discuss a possibly plural form of *ubatul*, perhaps in the sense 'single/solitary people', although as noted there the form is suspect and cannot be used as evidence. The only evidence that might go beyond this is that Basu (1952: 66) describes PGA *un-tɔplɔ* as "the smallest figure" but then goes on to say "it is not the synonym of 'one', it denotes 'very few'". This is not repeated in later accounts of PGA (Manoharan 1989; Abbi 2012, 2013; see also section 4 below), but it could reflect an earlier stage prior to greater influence of the numeric language Hindi that might be generalizable to all of earlier Great Andamanese, i.e. traditional Great Andamanese would have been anumeric. Since Akabea is no longer spoken, and the same is true of the other traditional Great Andamanese languages, there is no possibility of using psycholinguistic methods to clarify the situation. If Akabea *ubatul* is restricted numerically to 'one', then the direction of semantic extension could in principle be either from 'one' to 'single' or from 'single' to 'one', in which case the possibility remains that Akabea could be an anumeric language in the strict sense. The alternative form *ubadoga* is attested only by Man, who describes it as "the emphatic form like our 'a single one'" (Man 1923: 10).

Internal morphological analysis of the Akabea forms for 'one', and comparison with other Great Andamanese languages, alas, do not provide any clear further evidence one way or the other. In Akabea, the initial *uba* appears to be the same element used as a phrasal emphatic marker. However, neither of the otherwise attested two roots with the shape *tul*, in the lexical items *tul* 'especially' (Man 1923: 55) and *tul* 'to pick' (Portman 1887: 56), seems relevant, so the *tul* of *ubatul* would be a distinct, cranberry morph. The root *doga* is found in a number of lexical items, some with and some without somatic prefixes, in the general meaning 'big' (e.g. Man 1923: 31), although *ab-doga* also has the sense 'child aged two to three' (Man 1923: 173, 174). It is unclear how the combination of emphasis and 'big' would give 'one'. The sequence *uba* is also found in some other expressions that might be related, e.g. *ubaya* 'entirely, completely' (Man 1923: 54, 107), and *ubaba* 'many' (Man 1923: 86) (from **uba*=*ba*, i.e. '(*X*) is not single/one' or '(*X*) are not a very small number'). Although *uba* is not attested on its own as a quantifier in Akabea, Portman (1898: 91) gives *uba* in isolation as the Akarbale translation equivalent of 'one', alongside *ubatul* (Portman 1898: V114). Links outside South Andamanese are less clear. The first part of the root of Akachari *on-tɔlbɔ* (*tɔl*) certainly resembles Akabea *tul*. The Akakede and Middle Andamanese forms all begin with *lu-*, and Portman (1898:

91) notes "[i]t would almost seem as if the *Púchikwár* [Opuchikwar – BC/RZ] word for "one," was an anagram of the Áka-*Béa*-da [Akabea – BC/RZ] word", though without pursuing the point. If the initial *lut-* of Opuchikwar *lutuba* is a metathesis of *tul-*, then one would be on the way toward reconstructing a single Proto Great Andamanese root for 'one'. Moreover, metathesis is involved in the relation between the only attested traditional North Andamanese form, Akachari *on-tɔlbɔ* (with *-lb-*), and the attested PGA forms with *-pl-* (see section 4). However, none of this helps with the semantic interpretation.

One difference between Akabea (and Great Andamanese more generally) and Pirahã is that Akabea does have a grammatical category plural, whereas Pirahã lacks any grammatical number distinction (D. Everett 2005: 623). In Akabea, personal pronouns always distinguish number in the first person, nearly always in the second and third persons (Zamponi & Comrie 2020a: 166, 167). In addition, plurality can optionally be marked on inflecting nouns and adjectives and fully inflecting verbs (Zamponi & Comrie 2020a: 243-246), i.e. a form marked as plural explicitly indicates a set of two or more, while a form not marked as plural is vague (and there is thus no corresponding grammatical means of indicating that a set has only one member). Some verb concepts have distinct lexemes depending on whether or not one of the participants is interpreted as plural (Zamponi & Comrie 2020a: 196). Perri Ferreira (2017: 132) notes that the anumeric language Yanomama of Papiu distinguishes singular, dual, and plural markers on noun phrases, thus providing a parallel to Akabea on this point. More generally, there is no requirement that a grammatical category be reflected lexically in a language, and for some categories, such as tense-aspect-mood, grammatical categories frequently lack lexical counterparts.

We therefore conclude that Akabea and other Great Andamanese languages definitely had no numerals higher than 'one', and may well also have lacked a numeral 'one'.

Portman's comment noted above on the use of finger counting to count up to about twenty is expanded by Man (1923: 161); cf. also Man (1885: 32) for an earlier formulation.

> In order to express a certain small number with exactness, as, say, nine, a man – and only the more intelligent are capable of this – will proceed as follows: tapping his nose with the tip of the little finger of either hand he will say "*ûba-tûl-*," [*ubatul* – BC/RZ] then, with the next finger, "*îkpōr-*," [*ikpɔr* < *ig-pɔr* – BC/RZ] after which, continuing to tap with each successive finger, he will utter "*an-ka*" [*an ka* – BC/RZ] ("and this") until the forefinger of the second hand is employed, when both

> hands, with the second thumb clenched, are held up and the necessary number of digits exposed to view, whereupon the word "*âr-dûru-*" [*ar-duru* – BC/RZ] (all) is pronounced.

(The expression *an ka* is literally the polarity question marker *an* followed by the proximate demonstrative *ka* 'this'; Portman (1898: 120) gives the translation 'Do you mean that one?' in a different context, alongside 'one more' (in counting).) Andamanese finger-counting does not, however, give rise to numerals, since the representations are not given linguistic labels: One can show nine fingers, but there is no way of labeling this as 'nine', apparently even by naming the last finger used. Further details unfortunately remain unclear: Portman gives no indication how the fingers are used to count up to twenty, and the system described by Man readily extends to ten, but it is not clear how it would extend beyond this; indeed, Man (1885: 32) claims explicitly that ten is the highest value in Andamanese finger counting.

It is worth returning to Portman (1898: 91) to elaborate on what he might mean by saying that the Andamanese 'pretend' to count up to five. He gives the Akabea items in (5) with corresponding literal translations (with parallels in Akarbale, Opuchikwar, and Okojuwoi, which are sometimes cognate, sometimes not, but all subsumed under the same English translation). In (5), the third column gives what the expression 'really means' according to Portman.

(5) Akabea 'pretend' counting (according to Portman)

'three'	*ed-ar-ubai*	'one more'
'four'	*e-iʤ-i-pegi*	'some more'
'five'	*ar-duru*	'all'

The form *ar-duru* 'many; all' was introduced in the first quote from Man above; it is an indefinite quantifier and does not specifically denote 'five'. Our morphological analyses of the other two forms are tentative, in particular of the first prefix in the 'translation' of 'four'; Portman's actual transcriptions are <éd-ár-*úbāī*> and <é-íji-*pàgi*>.[8] The elements *ed* and *e* are obscure. Given that the Okojuwoi expression for 'three' supplied by Portman, <*n*'rá-*lúngúi*>, contains a proclitic third person plural pronoun *n*=, we suspect that *ed-* (and perhaps *e-*) may actually be the Akabea proclitic third person plural pronoun *et*=. The root *pegi* means 'a few' – see below. The root (?) *ubai* may be related to *uba* in translations of 'one', for which see above. What does, however, emerge from Portman's presentation is that these are not really expressions of precise cardinality, but rather indications that the size of an unspeci-

fied set is being increased. In English, I could in principle 'count' *one*, *two*, *one more*, *one more again*, *another one more again*, but this does not mean that *one more again*, for instance, is a specification of the number four; if I had omitted *two* from the count, then the numerical value of each of the following terms would decrease by one. The Akabea expressions cited by Portman have, as he himself indicates, the meanings given in the rightmost column of (5). Elsewhere, Portman notes some other expressions that approximate to numerical values: *ikpegi* (< *ig-pegi*) 'a few, two or three' (Portman 1898: 121), and *ot-pegi* "also used to mean "Three" being inferentially, "Besides two," i.e. "One more"" (Portman 1898: 208).

In light of our claim that Akabea is an anumeric language, it is perhaps surprising that both Portman and Man give an Akabea word meaning 'to count': *ar-lap*, with cognates across traditional varieties of Great Andamanese (Portman 1887: 22-23, 1898: V34-35) as well as in PGA (Abbi 2012: 55). Portman (1898: 225) specifies that this use of the root *lap* refers to finger counting ("The Root *Láp* appears to refer to the *action* of counting with the aid of the fingers"). The same Akabea lexeme also translates as 'to choose' (Man 1923: 39) and 'to select' (Portman 1898: V140), so perhaps the sense 'to count' is an extension of this. The same root *lap* occurs in one other lexeme, *ig-lap*, with the translations 'to enumerate' (Man 1923: 54), 'to explore in search of honey' (Man 1923: 56), and 'to repeat (an old song)' (Man 1923: 110). All derivatives of this root are possibly linked by the sense of performing the successive parts of a goal-directed activity, something that is also true of counting, including Andamanese finger counting. The available material does not permit us to go beyond this.[9]

3. Akabea 'ordinals'

But perhaps the most surprising claim, given the anumeric or near-anumeric status of Akabea, is that by Man (1878: Grammar, etymology, classification and inflection, Nr. 3, The adjective;[10] 1885: 194, 1923: 161) that Akabea has a rich set of expressions for ordinal numerals, requiring English translations of the type 'third of five', 'fifth of six', i.e. what one might call Rank/Set ordinals that specify both the rank and the size of the set by means of exact numerical values. While such concepts can be expressed in most languages by means of periphrases, as in the English translations just given, the existence of conventionalized expressions is at best cross-linguistically exceedingly rare.[11] Table 2,

which is a composite from Man (1878, 1885, 1923), shows the forms in question as interpreted by Man, who himself comments (Man 1885: 32):

> When it is stated that only the more intelligent are in the habit of computing by even the primitive method I have here described [i.e. finger counting as described in the second quote from Man in section 2 – BC/RZ], it is somewhat remarkable to find that their system of denoting ordinals is more comprehensive...

	of two	**of three**	**of four**	**of five**	**of six**	**of seven or more**
first	*ɔt-ɔ-la*	*ɔt-ɔ-la*	*ɔt-ɔ-la*	*ɔt-ɔ-la*	*ɔt-ɔ-la*	*ɔt-ɔ-la*
second	*tar-ɔlo*	*mugutʃal*	*ar-ɔlo / ar-tonau*	*ar-ɔlo / ar-tonau*	*ar-ɔlo / ar-tonau*	*ar-ɔlo / ar-tonau*
third		*tar-ɔlo*	*mugutʃal*	*mugutʃal*	*mugutʃal*	*ɔt-ɔ-ralaʤat-ŋa / ɔt-ɔ-yolo dɔk-ŋa*
fourth			*tar-ɔlo*	*mugutʃal tar-ɔlo*	*ɔt-ɔ-tir*	
fifth				*tar-ɔlo*	*ɔt-ɔ-tir tar-ɔlo*	
sixth					*tar-ɔlo*	
last but one						*ɔt-ɔ-tir tar-ɔlo*
last						*tar-ɔlo*

Table 2. Akabea 'ordinal' numerals 'as in a race' according to Man.

A few initial comments are in order regarding Table 2 in its own right, since there are certain discrepancies across Man (1878), Man (1885), and Man (1923). First, in Man (1923) the bottom right cell is empty, *tar-ɔlo* is positioned in the row 'last but one', and *ɔt-ɔ-tir tar-ɔlo* in the row 'sixth'. This seems to be a simple typographical error, both on internal grounds (the unexpectedly empty final cell as well as the general meanings of the two terms mentioned, as discussed below) and in comparison with Man (1878, 1885). We therefore follow Man (1878, 1885) here. Secondly, the different sources differ in the distribution of *ar-ɔlo* and *ar-tonau*. Man (1878) gives both as alternatives for Set size four-six, only *ar-tonau* for Set size seven or more. Man (1885) gives only *ar-ɔlo*, with a note that *ar-tonau* is often used for 'first of two' – this seems to be an error judging from the other sources, the note probably having been attached to the wrong item. Man (1923: 161) gives only *ar-ɔlo* for Set size four-six, only *ar-tonau* for Set size seven or more, although in the body of the dictionary (Man 1923: 115) *ar-ɔlo* is given for Set size four-six, *ar-tonau* for Set size six or more, i.e. there is overlap

for Set size six. In the absence of independent evidence there is no way of reconciling these contradictions, though there may be some indication that *ar-ɔlo* is preferred for smaller Set size, *ar-tonau* for larger Set size. In Table 2 we have somewhat arbitrarily assumed that *ar-ɔlo* and *ar-tonau* are always alternatives.

The main aim of section 3 is to present our reanalysis of Man's claims about Akabea ordinals. But before turning to this, it is worth noting that even in a numeric language like English there are often alternative means of indicating the rank of an individual within a set. This can be shown using Man's example of a race. The person who comes in first can also be described as the *winner*, as the *person in front*, or as the *person ahead*, the last two especially in referring to positions during the race. The person who comes in second can also be described as the *runner-up*. The person who comes in last can be described by means of an ordinal number if one knows the number of participants, e.g. *fifth* if there are five participants, but whether or not one knows the number of participants this person can always be referred to as *last*. While *last* has some properties in common with ordinal numerals, and often appears as one of a pair as antonym of *first*, it is not an ordinal number, for instance in that it has no corresponding cardinal value, since it does not identify a specific numerical rank starting from one/first. The person before the last person can be referred to as the *last but one*, the person before that as the *last but two*, using cardinal but no ordinal numerals, or they can be referred to as *penultimate* and *antepenultimate* respectively, even if these terms sound odd stylistically when speaking of runners in a race as opposed to the position of stress in phonology. The crucial point is that there are ways of referring to rank within a set without the use of ordinals. While ordinals have no serious rival when exactly specifying ranks away from the edges of large sets, e.g. *twenty-fifth* in a race with forty-five participants, with smaller sets or with ranks near the edges there are other possibilities, and we will argue that Man's Akabea 'ordinals' are indeed such other possibilities. As a final point in this introductory note, it should be borne in mind that there can be interaction between ordinal and non-ordinal descriptions of rank, e.g. English *first* derives historically from a root meaning 'in front, ahead', while Latin *secundus* 'second' derives from the root of the verb *sequor* 'I follow'. But such expressions only become ordinals when they are embedded in an extended sequence of ordinals, at which point they may lose their original non-ordinal sense.

Our consideration of Man's ordinals will work toward the reanalysis presented in Table 3, which should be consulted as we gradually build up the analysis; some parts of the analysis may initially seem unjusti-

fied, but will become clear as the analysis proceeds. In Table 3 we have included, for comparison, the English ordinal equivalents given by Man, but we emphasize that this is for comparison only and that these are not presented as translations of the Akabea expressions.

Irrespective of the Set size, *ɔt-ɔ-la* always indicates the first, *tar-ɔlo* always the last. The word *ɔt-ɔ-la* also appears as a spatial and temporal adverb meaning 'in front, before' (e.g. Man 1923: 22, 30, 63, 95), and as a verb meaning 'to go forward in advance, to lead, to precede' (Man 1923: 66, 80, 104). Other words with the same root include *ot-la* 'to lead the way' (Man 1923: 80, 148). All of these suggest a basic meaning for the root of the type 'in front, ahead', and of the word *ɔt-ɔ-la* as 'being in front', with English 'first' often being a reasonable translation equivalent, but not a suitable gloss corresponding to the lexical structure of Akabea. The word *tar-ɔlo* includes the same root as *ar-ɔlo*, which latter indicates Rank two in a Set of size four or more. As a verb, *ar-ɔlo* means 'to follow' (Man 1923: 62; Portman 1887: 32), as a noun 'space behind' (in translations of 'after', e.g. Man 1923: 22; Portman 1898: 118, 193, V4), and as an adjective 'next' (Man 1923: 92). The directional prefix *tar-* has the effect here of indicating the one that follows all the others, i.e. the last one.[12] In any event, in indicating rank order *tar-ɔlo* can and should be translated as 'last', a meaning that is constant irrespective of Set size, indeed even if one does not know the Set size. At this point in our reanalysis, we introduce a division of the Set into two blocks, a Start block and an End block, the former containing so far only the expression *ɔt-ɔ-la*, the latter only the expression *tar-ɔlo*. The motivation for this will become apparent subsequently. So far we have accounted fully for Set size two, distinguishing the one ahead and the last one.

Moving up to Set size three adds a middle member to the set, and it is precisely this specification, rather than 'second of three', that Akabea chooses, using the expression *mugutʃal*, which in Akabea serves both as a noun ('space in the middle', in translations of 'between' (Man 1923: 31)) and as an adjective ('medial' (Man 1923: 87)), the latter being relevant here. This opens up the third and last highest-level block, which we refer to as the Middle block. Further increasing the Set size requires subdividing one or more of these blocks.

With Set size four to six, 'middle' is reinterpreted as Rank three – the Concept 'middle' is expected to change its precise numerical denotation as the Set size changes, since while second is unequivocally middle in a Set of size three, this is not the case with a Set of size five or six, and would indeed surely be judged wrong here if the term denotes one and only one Rank. The decisions made by Akabea speakers are all reasonable, even if they are not fully predictable. In order to specify Rank

two in a Set of size four or above, the Start block is split into two, which we refer to as Initial and Postinitial. Rank one falls consistently into Initial and is the only member of Initial, while for Set size four and up Postinitial corresponds to Rank two. The term *ar-ɔlo*, as noted above, has other meanings like 'to follow', and in the Start block it is interpreted specifically as following the Initial. The alternative *ar-tonau* contains a root that is not otherwise attested in the documentation of Akabea, and we are unable to say anything about its etymology. We have now fully accounted for Set size up to four.

Set size five involves splitting the Middle block, in a way that will also recur within the End block. The Ranks that are so far not distinguished are three and four. For Rank three Akabea continues with *mugutʃal* 'middle', while Rank four is described as 'the last middle', *mugutʃal tar-ɔlo*. So one way of splitting a block into two is by using the already existing expression *X* for the lower Rank (we refer to this as the 'First' instance) and referring to the higher Rank as the 'last *X*' (which we refer to as the 'Last' instance).

For Set size six, the splitting of the Middle block is abandoned, instead the End block is split twice, once to distinguish a Prefinal subblock (including Ranks four and five) from the Final (Rank six, i.e. *tar-ɔlo* 'last'), second to split the Prefinal subblock into First prefinal (with no qualifier) and Last prefinal (with the qualifier *tar-ɔlo* 'last'). The term common to both Prefinal expressions, *ɔt-ɔ-tir*, contains a root *tir* that is not otherwise attested – the verb *ar-tir* 'to mark time during a dance to recover breath' (Man 1923: 86, 138) seems too far removed in sense – and we can therefore say nothing about its etymology. The fact that the Prefinal subblock is split into two has the effect, perhaps surprising to those accustomed to Latinate derivatives of *ultimate*, that 'penultimate' is derived from 'antepenultimate', as if in English one were to distinguish, counting from the end, *ultimate*, *postantepenultimate*, and *antepenultimate*. However, the Akabea terminology makes perfect sense given the use of expressions *X* and *X tar-ɔlo* for the first and last members of a pair, respectively.

For Set size seven and above, the Middle block is extended to cover all but the first two and the last two positions, which has the interesting effect that *ɔt-ɔ-tir tar-ɔlo* is used but not the simpler *ɔt-ɔ-tir*. All Rank values within the Middle block receive the same designation, without any distinction other than the exclusion of the first two (Start block) and the last two (End block), either *ɔt-ɔ-ralaɠat-ŋa* or *ɔt-ɔ-yolo dɔk-ŋa*. The first variant differs from the word for 'crew' (of a canoe or ship), *ɔt-ralaɠat-ŋa* (Man 1923: 44), only in the presence of the reflexive prefix, and an expression meaning 'crew' seems a not implausible way of referring to

those runners in a race who have distinguished themselves neither particularly positively (first two positions) nor particularly negatively (last two positions), those whom we might refer to in English as the *also-rans* or as the *rank-and-file* (although in English these terms can also exclude only the first positions). The alternative expression *ɔt-ɔ-yolo dɔk-ŋa* is related to the expressions *yolo dɔk-ŋa* 'Indian file' (Man 1923: 75) and *a-d-yolo* 'a number of men in a line' (Portman 1898: 330).

			of 2	**of 3**	**of 4**	**of 5**	**of 6**	**of 7 +**
Start block		**Initial**	*ɔt-ɔ-la* 1st	*ɔt-ɔ-la* 1st	*ɔt-ɔ-la* 1st	*ɔt-ɔ-la* 1st	*ɔt-ɔ-la* 1st	*ɔt-ɔ-la* 1st
		Postinitial			*ar-ɔlo / ar-tonau* 2nd	*ar-ɔlo / ar-tonau* 2nd	*ar-ɔlo / ar-tonau* 2nd	*ar-ɔlo / ar-tonau* 2nd
Middle block		**First middle**		*mugutʃal* 2nd	*mugutʃal* 3rd	*mugutʃal* 3rd	*mugutʃal* 3rd	*ɔt-ɔ-raladʒat-ŋa / ɔt-ɔ-yolo dɔk-ŋa*
		Last middle				*mugutʃal tar-ɔlo* 4th		
End block	**Prefinal subblock**	**First prefinal**					*ɔt-ɔ-tir* 4th	
		Last prefinal					*ɔt-ɔ-tir tar-ɔlo* 5th	*ɔt-ɔ-tir tar-ɔlo*
	Final		*tar-ɔlo* 2nd	*tar-ɔlo* 3rd	*tar-ɔlo* 4th	*tar-ɔlo* 5th	*tar-ɔlo* 6th	*tar-ɔlo*

Table 3. Reanalysis of putative Akabea Rank/Set ordinal numerals.

Table 3 might initially seem no less complex conceptually than Man's analysis in terms of ordinals, although it does have the advantage of assigning a consistent meaning to each of the Akabea expressions, including *mugutʃal*, once one recognizes that this means 'middle', and will therefore surely receive different numerical interpretations depending on Set size. However, the reanalysis succeeds in capturing the information expressed by Man in terms of Rank and Set size by means of a limited number of operations. The number of levels is only three (block, subblock, and terminal node), and at no level is the number of divisions greater than three (and this only at the highest level, which distinguishes Start, Middle, and End blocks); these numbers fall within

the range of subitizing, "the quick, reliable, and accurate discrimination of small quantities (usually with numerosities 1-4)" (Núñez 2017: 411), and thus do not require counting. The overall system thus combines simple operations in a way that gives an impression of complexity. In this, it is in principle in no way different from the Akabea kinship system (Man 1923: 175-177), which can be presented as a complex algebraic construct, although it is based on a relatively small number of basic concepts that combine in ways that then appear intricate.

Table 3 is surely not the only way of reanalyzing Table 2 in a manner that does not require numeracy, and in the principled absence of further data, there is no reliable means of evaluating alternatives with respect to their accuracy in reproducing the Akabea's own representation; we cannot, for instance, carry out psychological tests or even check for and analyze inconsistencies, which one might expect especially around the Set five to seven range. So in one sense Table 3 is a 'proof of concept', showing that it is possible to reanalyze Man's data without surreptitiously bringing in numeracy. However, Table 3 does have some clear advantages, when viewed from the practical perspective of solving the problem of identifying positions in a race rather than as a purely abstract construct. It aims at maximal processing plausibility in that there are only three blocks and that none of these contains more than three terminal nodes. In a race, interest is primarily in the first positions and possibly the last positions, with the middle ground comprising, as noted above, the less interesting 'also-rans', and Table 3 generally provides greater (or at least as much) differentiation at beginning and end, the only exception being with Set size 5, which is both the only Set size for which there is internal differentiation within the Middle block and the only one where the Middle block has more internal differentiation than one of the other blocks. The lack of interest in differentiating within the Middle block is even clearer for Set size seven and above. Moreover, in the reanalysis attention is paid to the internal structure of the Akabea expressions, with each expression being given a constant interpretation, with *X tar-ɔlo* always being grouped with *X*, and with *ar-ɔlo*, derived from the verb root 'to follow', grouped with the preceding expression.

Man (1923: 161) also presents the 'ordinals' in (6) as used in reference to a row or line of animate or inanimate entities.

(6) Akabea 'ordinals' in referring to a row or line according to Man

'first'	*ɔkɔ-tap*
'second'	*tɔkoyolo*
'next'	*tar-ʤana*

'middle one'	*mugutʃal*
'last'	*ar-tɔ kapari-ŋa*

As is clear from the translations, the last three are not identified as ordinals even by Man. The word he gives for 'first' also means 'end, extremity' (Man 1923: 54; Portman 1989: 247), and therefore probably denotes the one at the end of the row. The internal structure of the word given for 'second' is unclear to us, though *yolo* also appears in words meaning a line or row of people (cf. the discussion of *yolo dɔk-ŋa* and *a-d-yolo* above), as well as in words meaning 'reflection, image' (*ig-yolo*, *ot-yolo*) and 'soul' (*ot-yolo*) (Man 1923: 74, 109, 125, 159; Portman 1898: 330, 351). The meanings 'reflection, image' and 'soul' suggest a relevant shared meaning of 'double' (as already suggested by Portman), and the shared meaning of all could be something like adjacency. The expression for 'last' seems to contain the noun *ar-tɔ* 'buttock (of animal)' (Man 1923: 36), the verb *kapari* 'to stand (of more than one)' (Man 1923: 127), and the nominalizer *-ŋa*.

Finally, Portman (1898: 91-92) presents the Akabea ordinals shown in (7), along with equivalents in Akarbale, Opuchikwar, and Okojuwoi. However, he notes with respect to all the languages that the expression he gives for 'second' means 'afterwards', likewise the expression he gives for 'third', while the expression he gives for 'fourth' means 'after all', which would mean that they are not actually ordinals.

(7) Akabea 'ordinals' according to Portman

'first'	*ɔt-ɔ-la*
'second'	*tar-ɔlo*
'third'	*ai ig-niliya*
'fourth'	*ar-at-log*

Portman's word for 'first' is the same as that discussed with respect to Tables 2 and 3. We have already discussed above the problem with Portman's interpretation of *tar-ɔlo* as 'second' rather than 'last'. Portman (1898: V140) gives another word for 'second', *aka-tɔrobuya*, with an alternative English translation 'another (some other)' (p. V6), and parallels to this latter translation ('another', 'not the same', 'different') are the only ones found in Man (1923: 24, 48, 97). Our transcription of Portman's word for 'third' is tentative, as his original form <āī-ig *íliya*> is problematic: we do not understand the element <āī>; *ig-niliya* is attested in Man (1923: 22, 133) in the sense 'after', and we assume that Portman's <ig *íliya*> should be so read. The word *ar-at-log* seems to be the plural form of the noun *ar-log* meaning 'the proper place (for anything)' (Portman 1898: 320, V:120).

4. A note on Present-day Great Andamanese numerals

Our interest in Present-day Great Andamanese (PGA) numerals lies primarily in any light they may throw on numerals in traditional Great Andamanese languages, although for completeness this section includes all documented candidate numerals. There are three major sources: Basu (1952), based on fieldwork conducted in 1951 and 1952 (Basu 1955: 214);[13] Manoharan (1989), based on fieldwork conducted in 1976-1977 and 1981; and Abbi (2012, 2013), based on fieldwork since 2005. Basu (1952), Manoharan (1989), and Abbi (2013) cite material from their own fieldwork, except when other sources are explicitly cited, while Abbi (2012) includes material both from her own fieldwork and from other sources. Arranged chronologically, the three sources reflect increasing coverage of material, with a major jump between Manoharan and Abbi. Conversely, consultants' competence in PGA decreases while that in Hindi (a numeric language) increases, with Basu (1952: 57-58) suggesting dominance in PGA with limited Hindi, while Abbi found Hindi the sole current means of communication within the community and only a handful of rememberers of PGA. We also cite occasional forms from Yadav (1985), based on very limited fieldwork in 1980 (Yadav 1985: 188), and from Narang (*n.d.*),[14] based on fieldwork since 1989 (Narang 2008: 334). We follow the transcription of our sources: *c* and *j* are for IPA [ʧ] and [ʤ], while Abbi uses *š* for [ʃ] and Basu uses *ñ* for [ɲ] and a macron to indicate vowel length.

Basu (1952: 66-67) claims that PGA is an anumeric language, as already noted in section 2, and it is worth quoting him at length on this:[15]

> The Andamanese are too backward to have a conception of numerical figures. The smallest figure is *untɔplɔ*, but it is not the synonym of 'one', it denotes 'very few'; the still greater is denoted by *erentāpol*; greater than that is *eicɔωphe* meaning 'bahut' (H) [i.e. Hindi *bahut* 'many' – BC/RZ] and still greater is *nārākhāmo* meaning *sabse jyādā* [i.e. Hindi *sabse jyādā* 'the most' – BC/RZ], the most numerous and the whole is *nerdūrōm*.

According to Basu, then, PGA has indefinite quantifiers, but no numerals. This point is not taken up in the other principal sources for PGA, and as noted in section 2 the sources for the traditional Great Andamanese languages do not question the existence of a numeral 'one'. It seems unlikely that the Great Andamanese would have gone from being numeric in the second half of the nineteenth century to being anumeric in the mid-twentieth century, and then back to being numeric

in the 1970s. More plausible is a shift from earlier anumeric to later numeric between the mid-twentieth century and the 1970s, suggesting that traditional Great Andamanese varieties were anumeric in the strict sense. Our only hesitation is the first sentence of the quote from Basu above, which can unfortunately be interpreted as indicating bias to find traits of backwardness.

The cardinal numerals documented by Manoharan (1989: 81) and Abbi (2012: 187-188, 280, 267, 2013: 114-115, 133, 190) are given in Table 4.

	MANOHARAN	ABBI (2012)	ABBI (2013)
1	*ondoplɔ*	*ontoplo*	*ʈɔplɔ, ontoplɔ, onʈoplo*
2	*oñjinkɔ*	*onjiŋkɔ* *ɛrtubui* *ertap^{h}ul, etp^{h}ole*	*ɛrtubui, tatɛrbui* *nɛrtap^{h}ul*
3	*onda:ɸol*	*onda:fol* *incinkɔ*	*incinkɔ*

Table 4. PGA cardinal numerals.

The forms for 'one' are congruent across all sources, apart from the possibility of no prefix noted in Abbi (2013: 115), and as already noted in section 2 these forms are relatable to the traditional Akachari form *on-tɔlbɔ* via metathesis of the lateral and the labial. If the Akachari form is indeed related etymologically to the South Andamanese forms, with a Proto Great Andamanese root *tVl, then Proto North Andamanese must have had the order lateral-labial. However, the metathesis cannot be dated precisely, since the order labial-lateral could already have been present in traditional North Andamanese varieties other than Akachari. Abbi (2012: 376) notes that the word can also mean 'alone', while Abbi (2013: 190) indicates that it can also mean 'single'.

For 'two', the form *ertap^{h}ul/nɛrtap^{h}ul* (the latter with the proclitic 3PL personal pronoun *n=* in the function of a plural marker) could contain the root found in all the traditional Great Andamanese languages (Table 1), with particular closeness to Akachari *er-pol*, which also presumably shares the same prefix (although the sources do not provide a morphological analysis of the PGA forms).[16] The form *ɛrtubui* is presumably the same as in PGA *er-ʈɔbui* 'other one (partner)' (Abbi 2012: 191), perhaps also related to the element *tubui* 'pair' in the expression for 'pair of fingers' (Abbi 2012: 194). The form *tatɛrbui* seems related to the element *terbui* found in the words for 'stepfather' and 'stepmother' (Abbi

2012: 251), perhaps meaning something like 'other'. The form *oñjinko* given by Manoharan for 'two' seems to be the same word in origin as traditional Akachari *on-ʧinkɔ* 'some' (Portman 1887: 97), and thus at least originally a paucal indefinite quantifier. This use in Akachari is exemplified in (8).

(8) *bat tonʧinkɔl*
bat t = on-ʧinkɔ = l
night DEF = SP-a_few/some = LOC
'lately' (lit. 'in a few/some nights') (Portman 1887: 161)

Portman (1887: 129, 153) also has *on-ʧinkɔ* as a translation of 'two'. Among our PGA sources, only Yadav (1985: 192) explicitly gives both numerical and indefinite quantifier translations, for the form <nónk̂énkó>, i.e. *nɔntʃɛnkɔ* 'two, many', with the proclitic 3PL personal pronoun *n* =. One cannot exclude a later reinterpretation as 'two' in PGA, perhaps under the influence of the numeric language Hindi.

The form for 'three' that Abbi (2013: 115) elicited from one consultant only seems to be the same root as the preceding with a different (obscure) prefix, and may reflect a differentiated reinterpretation of an indefinite quantifier, again perhaps under the influence of Hindi. The form for 'three' given by Manoharan seems restricted to that source, and Abbi (2012) gives no morphological analysis; it might be related to *ertap^{h}ul/nɛrtap^{h}ul* 'two' in Abbi (2012, 2013) and/or to *erentāpol* in Basu (1952), where it is the second of the indefinite quantifiers in ascending order of Set size, though with a different somatic prefix (*on-*). While there are remaining unclarities in the relations among the various PGA forms translated as 'two', 'three', and 'a few', the evidence would be compatible with original indefinite quantifiers subsequently assigned different specific numerical values. Finally, Abbi (2013: 115) cites a word for 'four' from Manoharan, but in Manoharan it appears only as an ordinal and is therefore discussed below.

Turning now to the ordinals, Basu (1952: 67) has the following to say:

> Of the corresponding ordinals, *tottoāʃulo* denotes 'the foremost', *tārāʃulo* is next to that; next to that is *tārābei* and then comes the word *tārāmulkorā* meaning 'the hindermost'.

From what Basu says, it would appear that *tārāmulkorā* actually means 'last', rather than being an ordinal. Of the four forms, the only one that is directly attested elsewhere is *tarašulo* 'after that; behind; last, previous' (Abbi 2012: 386). The element *tara-* occurs with the gen-

eral meaning 'after' in a number of words in Abbi (2012: 385-386), and the overall listing is semantically reminiscent of Portman's for Akabea shown in (7) above, i.e. the expressions would not be ordinal numerals.

Table 5 presents the ordinals attested in the other sources: Manoharan (1989: 81, 132), Abbi (2012: 92, 225, 265, 111), and Abbi (2013: 192-193).

	Manoharan	**Abbi (2012)**	**Abbi (2013)**
1st	*tujulo:*	*tujulo:* *tabɛcɔ* *ʈʰimikʰe*	*tabɛcɔ*
2nd	*tara:turo:kkɔ*	*taʈʰurokɔ*	(no example)
3rd	*mɛxutta:wlu*	*mɛxutta:wlu*	*mɛxutta:wlu*
4th	*mɛxuccol*	*maɛxuccol*	(no example)

Table 5. PGA ordinal numerals.

The form *tujulo:* for 'first' is based on *tujul* 'earlier; before that' (Abbi 2012: 389), while *tabɛcɔ* is noted as being specifically of Akabo origin (Abbi 2012: 92). Abbi divides *ʈʰimikʰe* as *ʈʰi-mi-kʰe*, but does not gloss or otherwise identify the morphemes. Abbi's form for 'second' is actually glossed as 'second one' (unlike the other ordinals), while Manoharan's includes the *tara-* element already alluded to; in Abbi (2012: 386) *taratʰurɔkɔ* is 'back side, rear', while *taratʰuro* is 'last; far away'. The nearly identical forms for 'fourth' given by Manoharan and Abbi also mean 'last' (Manoharan 1989: 132; Abbi 2012: 153), and Abbi's consultant gave only this interpretation ('the last one') (Abbi 2013: 115). The form for 'third' is given in exactly the same form by both Manoharan and Abbi from their respective fieldwork, and Abbi (2013: 192) comments specifically on the absence of cardinal 'three' versus the presence of ordinal 'third'. Manoharan and Abbi's documentation suggests specific ordinal interpretations, although Manoharan's form for 'second' seems to have other interpretations according to Abbi. We see two interpretations of the data, both of which may be true to some extent (e.g. for different speakers). First, the items may have other literal interpretations, as we have suggested for traditional Great Andamanese languages and as is suggested by Basu (although his forms are different). Second, the items may have been assigned more specific ordinal interpretations under the influence of Hindi. We have no basis on which to make a firm decision.

5. Conclusion

Akabea and the other traditional Great Andamanese languages may well have been anumeric languages. While only Basu (1952) explicitly makes this claim, and that with respect to Present-day Great Andamanese, all sources agree that the word often translated as 'two' actually means 'a few, some' ('not many', small number). Sources other than Basu give only the meaning 'one' for the candidate numeral, but the presence of other meanings – 'single', 'alone' – suggests that the numerical interpretation could be secondary. Candidates for higher numerals are ad hoc expressions that lack conventionalization with specific numerical values. So Akabea and other Great Andamanese languages definitely had no numerals higher than 'one', and may well also have lacked a numeral 'one'.

The system of ordinal numerals presented by Man is interesting, although his analysis in terms of Rank but also Set size (of the type 'fourth of six') is problematic, and an alternative analysis is preferable whereby sets are broken up into blocks and subblocks, such that one has to identify at most three blocks and three levels, a system that does not presuppose counting.

Acknowledgment

We are grateful to two anonymous reviewers whose comments have enabled us to improve this article substantially.

Abbreviations

1, 3 = 1st, 3rd person; II = base of set II personal pronouns; III = base of set III personal pronouns; BC/RZ = the present authors; COP = (affirmative) copula; DEF = definite (article); DEM = demonstrative; FOC = focus; INTDUB = interrogative-dubitative; LOC = locative; PGA = Present-day Great Andamanese; PL = plural; PRET = preterite; PROX = proximal; REL = relative; SG = singular; SP = somatic prefix.

Notes

[1] By 'numerals' we mean forms that express the cardinality (exact number) of a relevant set, such as English *three*. The concept excludes indefinite quantifiers, whose presence in all known languages appears not to be in dispute. See Núñez (2017) for further development of this distinction and its cognitive correspondents, using the terms 'numerical' versus 'quantical'.

[2] There are other Yanomaman varieties that have been clearly described as being close to anumeric, with at best a numeral 'one'. Moreover, at least two varieties may also lack an exact numeral 'one': Yanomamɨ of Manaviche (Lizot 1996: 48-49) and Yanomama of Papiu (Perri Ferreira 2017: 169-170). We are grateful to Harald Hammarström for discussion of Yanomaman varieties, though we bear full responsibility for our interpretation.

[3] Note that in the title to Man (1923), 'South Andaman' refers specifically to Akabea, while in Portman (1898) 'South Andaman' is used to group together our South Andamanese and Middle Andamanese.

[4] The two (known) members of the separate Ongan family of the Andaman Islands, Jarawa and Önge, are not anumeric languages. Jarawa has a counting system up to three, and recently its speakers have coined a word for 'four' (Kumar 2012: 102). Önge also seems to have numerals up to three (Ganguly 1972: 10; Abbi 2006: 84, 86), with 'one' and 'two' cognate to their Jarawa equivalents (and so traceable to Proto Ongan; see Blevins 2007: 194).

[5] In Portman (1898) the Vocabulary, which constitutes the last part of the book, is paginated separately; we have indicated page numbers in the Vocabulary by means of prefixed 'V'.

[6] See also, in Man (1923), *arla likpɔr* (p. 166) translated 'two or more days' (p. 168) and *arla likpɔrtek* (arla l=ig-pɔr=tek) supplied as the Akabea translation of *from a recent date* (p. 79) and *recently* (p. 109).

[7] The pronoun *o* was not recorded as a 3SG form by Portman. Based on his documentation, in the same pronominal set (II) to which *o* appears to belong, the 3SG form is *da* (*Ø-da*; see Table 4.4 in Zamponi & Comrie 2020a: 166).

[8] <à> presumably stands for /ɛ/. The root *pegi* is also written <pegi> by Portman, while Man spells it <pägi>.

[9] A similar semantic extension seems to link Present-day Great Andamanese *elob* 'to count' (Abbi 2012: 55) to such verbs as *etlub* 'to choose' (Abbi 2012: 44), *itlobe* 'to select' (Abbi 2012: 227), and *itlup* 'to pick stones (e.g. from pulses)' (Abbi 2012: 198).

[10] Man (1878) is an unpaginated loose-leaf manuscript, with interspersed pages of commentary by Richard T. Temple.

[11] French *second* '2nd', a suppletive ordinal alongside regular *deuxième*, is sometimes claimed to denote the second of a set of two, and some speakers may follow or aim to follow this restriction. However, the *Dictionnaire* of the Académie française (<www.dictionnaire-academie.fr/article/QDL029>, consulted 2023-10-09) considers this a "distinction qui jamais ne s'est imposée dans l'usage, même chez les meilleurs auteurs" ('distinction that has never prevailed in usage, even with the best authors' – our translation BC/RZ), a conclusion repeated in other sources.

[12] This, including the distinction between *tar-ɔlo* and *ar-ɔlo*, is absolutely consistent in Man. Portman (1898: 92) assigns to *tar-ɔlo* the translation 'second', although Portman (1887: 44) gives *tar-ɔlo=lik* as the Akabea translation of 'last' (and also 'behind' (p. 14), 'after' (p. 10), and 'shortly, after a little while, presently' (Portman 1898: 345)). Portman (1898: 193, V4) says that *tar-ɔlo* is temporal and *ar-ɔlo* spatial, though the aforementioned translation of *tar-ɔlo=lik* as 'behind' would seem to contradict this. We cannot extract a consistent distinction from Portman's material, and

suspect that *tar-ɔlo* 'second' may be an error for *ar-ɔlo*.

[13] Basu (1955) presents no information on numerals beyond what is in Basu (1952).

[14] We downloaded this unpublished list of Jero, i.e. PGA, words from the author's web site on 2011-09-18. Unfortunately, neither version of the URL for this website, <www.jnu.ac.in/jero_andamanese/index.html> and <www.jnu.ac.in/Faculty/vnarang/jero_andamanese/index.html>, seems currently accessible.

[15] The *ω* in *eicɔωphe* in the quote seems to be an inadvertent insertion. The symbol *ω* is not one of those listed in Basu's transcription system. Narang (*n.d.*: 6) has *eicɔpʰe*, and Abbi (2012: 177) has *cɔpʰe*.

[16] PGA *erpʰolkɔe* 'bigamous' (Abbi 2012: 21) contains a cognate of Akachari *er-pol*, which suggests a morphological analysis *er-ta-pʰul* for the PGA numeral, though the nature of the apparent *ta-* prefix is unclear to us; PGA has a causative-applicative prefix *ta-* (Abbi 2013: 101, 103, 226-230), but it remains unclear why and in what function it might be attached to a numeral.

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