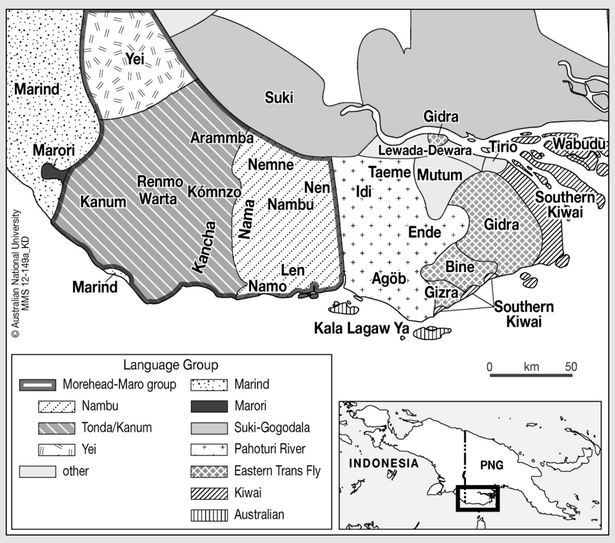
Nen and Kómnzo

Two languages of Southern New Guinea

This project delivers a detailed multi-angle documentation of two undescribed Papuan languages from an almost completely unknown family in Southern New Guinea. The team includes a German PhD student (Christian Döhler), a seasoned Australian field linguist (Nick Evans), a sociophonetician (Julia Colleen Miller), and two Germany-based collaboration partners (Prof. Bernard Comrie, MPI-EVA, Leipzig, and Prof. Volker Gast, Jena). A special feature of the project, given the rich ecological environment of the region, is the participation by an ethnobiologist (Chris Healey) and a botanist (Kipiro Damas) on targeted fieldtrips. The project began in mid-2011.



Nen and Kómnzo are each spoken by a few hundred people in isolated villages in the Western Province of PNG. They belong to a family, Morehead-Maro, comprising around 20 languages located in a highly diverse part of New Guinea. Yet, these languages have not so far received any significant documentary or descriptive work. For each of the two languages we will produce extensive documentation across a wide range of domains that include the natural world (particularly plant and bird names), mythology, auto-ethnography, swidden cultivation, fire management, and place names, as well as recordings of yam-counting ceremonies that employ unusual base-six counting algorithms.

Abraham Maembu holds up a counting tally, called *tiftif* in Kómnzo. The different lengths of the stalks indicate various senary values.

This base-six or senary number system is highly relevant for the counting of yams which are the staple diet of the region. Individual pride and wealth is derived from the number of yams a man and his family produce. The counting of yams is a public ceremony that takes place during exchange feasts or when preparing the annual harvest for storage in yamhouses.

Yam counting

Two men pick up three yams each and together place them in a pile of six; for each such pile, one man calls out a number until six piles of six (36) have been assembled. This amount equals one *prta* in Nen or one *féta* in Kómnzo and it is marked by putting a single yam to the side. After this, the two counters start the cycle again. Later the 'counter yams' are counted, yielding multiples of thirty-six. It is presumably because of this method of counting yams that both Nen and Kómnzo have developed base-six ('senary') numeral systems which (along with other languages of the same family) are unique in the world in possessing power-of-six terms up to the fifth or sixth power (see Table).

(senary) value	Nen term	Kómnzo term
1	*ämbs*	*nämbi*
2	*sombes*	*enta*
3	*nambis*	*etha*
4	*sombes a sombes*	*asar*
5	*widmatand*	*tambuthui*
6	*pus*	*nimbo*
6^2 (36)	*prta*	*féta*
6^3 (216)	*taromba*	*tarumba*
6^4 (1296)	*damno*	*ntamno*
6^5 (7776)	*weremaka*	*wärémäké*

Counting ceremonies like that described stretch over several days, and are carefully watched over by the elders of the community. The counting is accompanied by drum-beats to make surrounding villages or bypassers aware of the event. During feasts large quantities of yams are exchanged. In order to keep track of the mutual debts, the exact number of yams is marked on a tally stick made from a coconut frond (see picture).

The base-six system has been harnessed in our DoBeS project to keep track of the growing number of dictionary entries. To generate a sense of village pride, a ‘dictionary pole’ was erected in front of the language house in the village of Bimadbn, and the cumulative word-count from each year’s fieldwork carved on it, in English and Nen. For the Nen version, Nen speakers wanted to use their base-six system for their lexical tallies.

Nick Evans and Jimmy Nebni put the word-count to paper

But if we use senary place value to write with arabic numerals, e.g. writing 50 as 122 (1 x 36 + 2 x 6 + 2), how do we know if 122 means '50' (senary) or '122' (decimal)? The solution adopted, after examining ten candidate symbol systems for representing numerals, has been to use Devanagari symbols from Sanskrit to represent the numbers. This allows the cumulative count of dictionary entries in the year 2011, namely 2327 entries (= 1 *damno* + 4 *taromba* + 4 *prta* + 2 *pus* + 1) to be written, in senary notation, in the way shown in the photograph. In order to do this, Jimmy Nebni, Michael Binzawa, Grmbo Blba and other senary enthusiasts all taught themselves not just to write, but also to carve, the devanagari numerals.

Dictionary pole showing senary numerals in Devanagari

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