CHAPTER ?
EMBODIMENT IN ZANDE[1]

1. Introduction

It is commonly accepted in linguistics that the denotations for human body parts may provide the specific lexical sources for expressions of emotion and cognition (Wierzbicka 1992, Aikhenvald, this volume). They are also used metaphorically in expressions of spatial orientation and temporal relations (Heine, this volume, Heine et al. 1991, Svorou 1994, Heine 1997, Lakoff & Johnson 1980). In many languages, terms for human body parts serve as the major conceptual sources for the basic spatial concepts DOWN, IN, UP, FRONT, BACK (Heine 1997: 46).

The most frequent pattern of a spatial concept originating in a body part of an animal is UP which is derived from the term for 'back'. It can be observed primarily in languages of pastoral societies. The fact that UP is either lexically derived from 'back' (i.e. the back of an animal) or from 'head' (i.e. head of a human being) suggests that the topological meaning which a body part term acquires is determined by the position of the body part in relation to the major axis of the body. When 'head' is the lexical source for UP, this correlates with the position of the head at the top of the human body. When 'head' is the metaphor for FRONT, the human body is conceived of as leaning forward in walking or running (Heine 1997:46). Alternatively, the spatial concept FRONT derives from the forehead as a frontal body part being directed forward as Heine (1997: 48, Figure 3-5) indicates graphically. The concept may also derive from the head as the frontal body part of an animal.

Landmarks such as 'heaven' or 'ground' are the second source for the basic spatial concepts (Svorou 1994: 79). While some languages derive all of the five basic spatial concepts from body part terms, others use combinations of both sources. According to Heine et al. (1991: 130) there is, however, no language which derives all spatial concepts from landmarks. The order in which the basic spatial concepts are listed, DOWN, IN, UP, FRONT, BACK, is a hierarchical scale: DOWN is the category most likely to be derived from a landmark term and BACK is the least likely. In any given language, if a given category is expressed by a body part term, then all those to its right on the scale are also derived from body part terms (Heine 1997: 47).

Zande is no exception to these observations, although in this language the metaphorical use of body part terms is far less frequent than in other languages, e.g. Ewe (Claudi & Heine 1985, Ameka 1995) or Sango, the national vehicular language of the Central African Republic (cf. Bouquiaux et al. 1978). Nevertheless the language uses a number of body part terms, in particular the terms for 'eye', 'hand' and 'tail', in contexts where they are not found in many other languages.

This paper will investigate the body part terms of Zande which are used metaphorically in the above mentioned functions: in expressions of emotions and cognition or as models for geometrical and architectural shapes where the metaphors are purely lexical, and in expressions of spatial and temporal relations, where they have undergone grammatical-ization and got new functions as prepositions or adverbs.

The paper is organized as follows: After a short overview of the typological characteristics of Zande in section 2, section 3 discusses body part terms in expressions of emotion and cognition, their morpho-syntactic behaviour and semantic-syntactic roles. Section 4 is concerned with spatial and temporal relations metaphorically expressed by body part terms and denotations for landmarks. The highly grammatical functions of the body part term *be* 'hand' are the topic of Section 5. Body part terms are also used as numerals or in the formation of numerals whose components and etymologies are analyzed in Section 6. Section 7 presents references to animal bodies or their constituent parts as models of geometrical shapes and architectural constructions. Conclusions are drawn in section 8.

The Zande data are drawn from various stories collected, translated and edited by Evans-Pritchard (1956, 1962, 1963, 1965a, b, 1974). They have been discussed with speakers of Zande during my fieldwork in Bangassou in 2010. Other data were elicited or recorded in spontaneous

speech in Arua (Uganda) with my language consultants Daniel Badagbu, Justin Tambua, Gervais Zanga, Pierre Chrysostome, François Mbolifouye, J. Goto, and P. Katawa. A number of examples were taken from the dictionaries by Gore & Gore (1952) and Lagae & Vanden Plas (1925).

2.   *An overview of Zande*

Zande is genetically classified as an Ubangian language, Ubangian being a sub-branch of the Niger-Congo language phylum. Zande is spoken by about one million speakers in the Sudan, Central African Republic (CAR), and DR Congo triangle. Globalization has caused large groups of Zande to moved to the urban centres of these three countries as well as neighbouring countries and overseas. In the 18th and 19th century, when the Zande were politically influential, their language was an important lingua franca. This function has been lost and in all three countries and has been adopted by Sudan Arabic in South Sudan, Swahili in DR Congo, and Sango in Central African Republic. In South Sudan Zande is used as a written by the Christian missions use medium, but in DR Congo and in CAR this is not the case.

The language is fairly well documented. There are a number of general grammatical descriptions (Gore 1926; Tucker 1959; Boyd 1980) and specialized studies (Claudi 1985; Boyd 1995; 1998; Pasch 2007, 2011, in print a, b, Pasch & Mbolifouye 2011).

Zande has eight vowels phonemes: /i̧, i, e, ä, a, o, u, ų/ and unlike the other Ubangian languages Zande has ±ATR vowel harmony. The syllable structure is [CV]C(w)V, i.e. there are only open syllables. Tone is both lexically and grammatically relevant.

The language has a rich derivational and compositional nominal morphology, but no nominal inflexion. The four-gender system (masculine, feminine, animate (non-human), inanimate) is marked only on 3rd person pronouns. Zande verb morphology is characterized by a complex TAM-system and a number of extension suffixes. There are two morphological verbs classes: one distinguishes between a perfective and an imperfective stem while the other does not.

Zande verb morphology is characterized by a complex TAM-system involving a large number of tense and aspect marking prefixes, and by several derivational suffixes including causative, emphatic and pluractional. There are two morphological verb classes: verbs of one class distinguish between a perfective and an imperfective aspect stem, verbs of the other class do not make this distinction.

There are two series of personal pronouns. The pronouns of series 1 are used in subject position and those of series 2 in object position. The pronouns of series 1 are also used in alienable possessive constructions, and those of series 2 in inalienable possession of body parts. Certain kin and affinal relations are again expressed with pronouns of series 1 (Pasch & Mbolifouye 2011).

The basic word order is SVO, and the structure of the noun-phrase is PL-DEF + 'other' + ADJ + PL-Noun + NUM/QUANT + DEM. Quantifiers, numerals and the demonstrative float, however, quite frequently to the right into a position of an adverb. Grammatical relations are defined by the order of constituents. Only personal pronouns, with the exception of those referring to HUMAN antecedents, are morphologically marked for their syntactic functions. Other syntactic relations are indicated by prepositions or adverbs. Zande has a rich system of tense and aspect marking prefixes; furthermore, many verbs distinguish two stems, a perfective and an imperfective one.

3.   Cognition and emotion

Universally languages employ different body parts as containers for emotions and intellectual capacities or instruments producing feelings or ideas.

In English, for instance, the body part term 'heart', is associated with a wide variety of expressions relating to emotional or mental activities, appears in different grammatical constructions. It may co-occur with qualifiers to render expressions such as 'warm-hearted', 'cold-hearted', 'soft-hearted'. Syntactically, 'heart' may function as the subject of intransitive clauses, e.g. 'one's heart jumps/sings with joy', 'one's heart falls apart', and 'one's heart stands still with deception/grief', 'one's heart beats with happy expectation/fear'. In expressions like 'to have no heart' or 'to set one's heart on something' 'heart' syntactically functions as head of an object noun phrase. In the following expressions, 'to act in a heartless way' or 'to play on one's heart strings' 'heart' is part of a peripheral constituent.

Languages differ in their selection of body parts for the expression of specific emotions and cognitive patterns as well as in the choice of verbs, adjectives and adverbs that may be combined with the respective body part terms. Nevertheless certain characteristics are almost universally ascribed to specific body parts. The heart for example is quite commonly

the seat for affection, humor and courage while intellect and knowledge are located in the head.

In Zande, *ngbadu-se*[2] 'heart, chest' can be used to express feelings, but not frequently. The speakers normally express their feelings by means of the verb *bera* 'think, estimate, feel in one's heart'. When they actually speak about feelings in combination with *ngadu* 'heart', it is done in a metaphorical way. This strategy can be considered typical with respect to internal organs since these evoke "imaginary bodily images" describing non-observable actions or processes which taking place inside the body (Wierzbicka 1999: 297-302, Yu 2002).

(1)   *wi*   *ngbadu-ko*   *gbe*
      well.cooked   heart-3m   very
      'he is courageous'

(2)   *ngbadu-ri*   *zera*
      heart-3f   be.cold
      'she is calm, at peace'

It must be noted that without qualification by an adjective (1) or by the action of a verb (2), 'heart' need not be understood as a container of friendliness, but also of evil intentions (3). The compound *boro-ngbaduse* (person-heart) 'selfish, - grasping person, beggar' confirms that the equivalent of 'heart' does not have a basic notion of friendly feelings.

(3)   *Wa*   *ka*   *mi*   *za*   *ka*   *birika-ro*   *mi*   *ka*   *igi*
      how   SUB   1s   start   SUB   deceit-2s.2   1s   SUB   hide
      'How I would go about to deceive you: I would keep

         mi   *biriki*   *kina*   *ku*   *ti*   *ngbadu-re.*
         1s   deceive   just   DIR   at   heart-1s.2
         my deceit [I would hide and deceive] in my breast.'

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[2]   Body part terms in their citation form have often, albeit not always, a suffix *–se*, which is replaced by a pronoun of series 2, marking the object or the possessor (Pasch 2011: 214) or by a noun referring to the possessor. Infthe last syllable of the stem begins with /r/, as in *vuru-se* 'belly' it is dropped before pronouns which begin with /r/, e.g., *–re* 'me, my' or *-ro* 'you (obj.), your'.
In this paper body part terms are given without the suffix *se-* except in the contexts where it is required.

The head, *ri*, is referred to in expressions of emotions more often than the heart. It has neither the notion of positive nor of negative emotions in and of itself , but the quality of the emotions depends on the adjectives that modify 'head' or the verbs that affect it (4).

(4) *manga   nyaka   ri*
    make   strong   head
    'be stubborn'

When nominalized, such constructions denote character features of persons, e.g., *nyaka-ri* (strong-head) 'obstinacy'.

Being an external body part, *ri* allows verbs describing emotions as actions or processes which Yu (2002: 349) characterizes as "supposedly visible", such as "being in flames". In many Trickster stories the protagonist Ture, driven by greed and envy, invests all his physical and mental strength because he wants to achieve his goal at any price. The description of this furious fervor is that of a burning head.

(5) *ko   ki   mere   pa-vuru   di   ki   za*
    3m   SEQ   walk   side-belly   river   SEQ   launch
    'He went along the river and began to catch fish

          ka   ba   a-tio   wa   ri-ko   na-gbi.
          SUB   throw   PL-fish   like   head-3m   II-burn
          as though his head was on fire.'

The head is the only body part the burning of which expresses metaphorically a feeling of anger or fury. This fury, which may result from panicking in a highly unfavorable situation as in example (5), affects only the owner of the head. When similar fury is directed towards another person the furious person is described as burning in the direction of the other person (6) without reference to the head.

(6) *ko   ki   gbi   ku   ti   Kperende   ni-ya,*
    3m   SEQ   burn   DIR   at   Cicada.   X-say
    '… and he became furious with Cicada, saying …'

In expressions of emotion and cognition, the term for 'eye' appears more frequently than the denotations for 'heart' and 'head' is that for '.

The denotation for 'eye' is more frequent in expressions of emotions and cognition than 'heart' and 'head'. In such expressions the eye, an external body part, is the subject of supposedly visible actions. It is not only conceived of as a container into which a person other than the owner of the eye, can fill emotions (7), but also as a body that may be transferred from one place to another by another person (8) or that can explode (9). The owner of the eye who is affected by emotions is not encoded as the subject of the respective actions, which reflects that s/he has neither control over the given situation nor over the – quite violent – emotions that it provokes in him/her.

(7) *... ka ba iliwa-a ku bangiri a-vuru Yakpati*
     SUB throw fear-INAN2 DIR eye PL-subject Y.
     '[N. did this] to strike terror into the hearts of Yakpati's people.'

(8) *Ri di bangiri-ko koyo du ri ni*
     3f take eye-3m there be 3f ANAPH
     'she fascinated him'

(9) *... bangiri-ko ki su.*
     eye-3m SEQ explode
     '[When Ture saw these yams] his greed overcame him.'

While emotions located in the eye are beyond the control of the owner, s/he does have control over intellectual activities and hope which are likewise located in the eye. S/he is encoded as the subject carrying out actions with the eye (10, 11), and may even be the addressee in an imperative (12, 13).

(10) *mi na-baka bangi-re ti gi pai re*
      1s.1 II-assemble eye-1s.2 at DEF.P matter DEM
      'I am thinking about it.'

(11) *mi na-ma bangi-re tipa mai*
      1s.1 II-place eye-1s.2 for rain
      'I am hoping[3] for rain.'

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[3] The basic meaning of *ma bangirise* is 'to look for'.
     I a-ma-ki bangiri-yo tipa ga-yo gbia
     3p III-put-FREQ eye-3p for POSS-3p chief

(12) *mo   dua   bangi-ro   ti   gi   pai ...*
      2s.1 build eye-2s.2   at DEF.P matter
      'Put your attention to this matter [which I am telling you about].'

(13) *mo   mai bangi-ro ku   mbata yo   kindi   tipa ...*
      2s.1 put eye-2s.2 DIR ahead there continually for
      'still hope for [that thing]'

The examples indicate that *bangiri* does not only denote the location of intellect and hope, it is in itself a metaphor for intellect. Gore & Gore (1952: 11f) only offer 'mind' as a possible translation, but in expressions like (14, 15) *bangirise* clearly has the meaning 'thought, attention, thinking capacity'. The citation form is used here because there is no part-whole relationship between the 2nd person and *bangirise* 'capacity to think'. The speaker rather asks his interlocutor whether there is any 'capacity to think' in him, expressed in a topological construction. Any question about the interlocutor's eyes would require a possessive construction.

(14) *Bangiri-se   ti-ro   te?*
      eye-SUFF   at-2s.2   NEG
      'Have you no thought?'

(15) *bangiri-se   ti   ni   te*
      eye-SUFF   at   ANAPH   NEG
      'thoughtless(ly), there is not thought in it'

The thinking capacity can be made use of in various ways. This can be expressed by transitive verbs which supposedly manipulate the eye by putting it in specific positions, e.g. *ru bangiri-se* (plant eye-SUFF) 'be clever' or *dua bangiri-se* (erect eye-SUFF) 'pay attention' (16, 17). These infinitive constructions can be nominalized to create highly abstract terms, e.g. *rubangirise* 'cleverness, exactitude'. When used in context the suffix *–se* is again replaced by a possessive pronoun or a noun referring to the owner. In subject position *rubangirise* may supposedly become self-acting in maintaining its position, and stand upright[4]' (16).

They looked for their chief.

[4]   *Ru* is a labile verb 'stand (upright), put s.th. in an upright position'.

(16) *ru-bangiri-ko   a-ru   ni   rengo*
    plant-eye-3m   III-stand   MANNER   truth
    'He is truly clever.' (his cleverness stands truly)

(17) *mo   dua   bangi-ro   ti   gi   pai*
    2s.1   erect   eye-2s.2   at   my   matter
    'Fix your attention to my words.'

A person's impressions about certain things which come to his/her mind without effort are, from a linguistic point of view, treated similarly to emotions insofar as the owner does not have control over the situation. They are located in the eye, have a certain quality and are referred to by the subject (18).

(18) *si   a-kia   bangi-re*
    INAN.1   III-be.different   eye-1s.2
    'it is different to my mind'

General impressions cannot be located in one's eyes. Because there is no definite person affected who could be referred to, the impressions are themselves called *bangirise* in the citation form, which now constitutes the predicate (19).

(19) *si   bangiri-se   wa*
    INAN.1   eye-SUFF   like
    'it seems that'

Lack of control is also associated with forgetting pieces of knowledge, which is expressed as 'matters departing from the eye' (20). We may assume that they move metaphorically behind the eye where they are not visible; they are recoverable, but they remain secret: *gi bangirise* (back eye) 'in secret'.

(20) *Pa   ime   ki   go   a-go[5]   bangiri-yo.*
    matter   water   SEQ   go.away   III-go.away   eye-3p
    'They even forgot about the water.'

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[5]   Repetition of the main verb by the same verb with the prefix *a-* is a marker of emphasis.

4.   *Locative and temporal relations*

The denotations for 'heart', 'head' and 'eye' are not only used in expressions for emotions, but also for spatial relationships, a function which they share with an additional number of body part terms that are not used to refer to emotions.

Just as *ngbadu* 'heart' does not play a major role in the expressions of emotions, it is of relatively little importance for the expression of spatial relations. It is used to express the concept IN, but not for the description of a figure being inside a three-dimensional ground[6], a situation which is expressed in many languages by the respective terms for 'heart' (Svorou 1993: 75).

Only one example could be found where *ngbadu* is used to describe the position of a figure in the centre of a physical space, more specifically in the middle of the back of a shield which is invisible to the beholder (21). It is conceivable that the invisibility of the heart as an internal body part makes it a model for that example. The shield covers the area behind and at the centre of which the hand holds the spear so that it cannot be seen.

(21)   *... ki   gbe   be-ko   na   ni*
       SEQ   brandish   hand-3m   with   ANAPH
       … and [he] brandished his hand with it [the spear]

       ku   ngbadu   ga-ko   vura.
       DIR   heart   POSS-3m   shield
       behind the centre of his shield.

In a number of African languages the concept IN is described by means of the term for 'belly, stomach' (Heine et al. 1991: 130, Svorou 1993: 71). This metaphor is also found in Zande, though not in many examples, all of which describe three-dimensional insideness, e.g. *vuru*[7] *dimo* 'interior of the house, room', *vuru kporo* 'courtyard of a residence, inside of the village', *vuru kporo diwi* 'halo, area enclosed by the halo around moon'. The three-dimensionality becomes also apparent in compounds like *pa-vu-se* 'side of the body', *pa-vuru-ri* (side-belly-head) 'temples'.

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[6]   The terms 'figure' and 'ground' are used according to Talmy (1985).
[7]   The citation form is *vu-se* or *vuru-se*.

This three-dimensionality is also apparent in compounds like *pa-vu-se* 'side of the body', *pa-vuru-ri* (side-belly-head) 'temples'. The nearly total restriction to three-dimensional situations might be due to the notion of *vuru* as a compact body (5, 22) besides that of a hollow body (23).

(22) *Ani   na-da   pa-vuru   di   ku gare be.*
       we   II-arrive   side-body river at left hand
       'We arrive at the left side of the river.'

(23) *Mo   ngere   vuru   bukuru   yo*
       2s.1 look   inside box   there
       'Look inside the bandbox (there).'

Vuru is documented in only one expression with a non-topological meaning, *vuru-be* (inside-hand) 'in the power of'. Here *vuru* is combined with *be* (originally 'hand') 'territory, power, influence'. The basic meaning of the compound is 'palm, inside of hand' (cf. Section. 6).

(24) *Gi   pai   a-tona   vuru-be   gbia.*
       DEM.P   matter III-begin   belly-hand   chief
       'This affair started through the chief.'

In the vast majority of cases, insideness – whether three- or two-dimensional – is expressed by the preposition *rogo* 'in' (25), the origin of which is not clear. *Rogo* is also used to express the change from one category (species, language) into another (26, 27).

(25) *Mo   uka   ime   ku   rogo   kambu   yo.*
       2s.1   pour   water DIR   in   bottle there
       'Pour water into the bottle.'

(26) *A-zande   kpi,   i   sa   ti-yo   rogo   nya.*
       PL-Z.   die   3p   change   REFL-3p   in   animal
       'When the Azande die they turn into animals.'

(27) *Ani   na-sa-ha   ku   rogo   pa-Zande.*
       1p.1   II-change-INAN.2 toward   in   speech-Zande
       'We are translating it [the Bible] into Zande.'

The topological position of a figure in the middle of a flat space is expressed by *bangiri-se* 'eye'. 'Middle of a space' may mean the line that is equidistant from the two sides of a linear space, e.g. a road, which is narrower than it is long (28), or the current of a river (29). An exception is *bangiri we* (eye fire) 'in the fire' which describes the position of a log in the flames.

(28) *mo   ndu   kina   bangiri   gene*
      2s.1   go   just   eye   path
      'go only in the middle of the path'

(29) *Kurungba   da   bangiri   di   awere.*
      canoe   arrive   eye   river   now
      'The canoe has now arrived in the current.'

However, *Bangiri* does not only refer to the position in the middle of an item. It may refer to the surface of still waters (30) or the presence of one person in front of another (31). In a non-locative sense *bangiri* may refer to the important point in a discussion', e.g. *bangiri fora* (lit. eye word) 'piece of advice'.

(30) *mo   bi   nga   gbiwi   du   bangiri   ime.*
      2s.1   see   COP   duck   be   eye   water
      'See the duck on the surface of the water.'

(31) *Mo   sungu   bara   bangiri-ko.*
      2s.1   sit   place   eye-3m
      'Sit down in front of him.'

Furthermore, *Bangiri* may refer to the highest part of a growing thing, i.e. the top of a complex body when that body has acquired its final shape, e.g. *bangiri moru* 'head of eleusine', *bangiri ngbaya* 'head of maize', *bangiri oro* 'head of an ulcer'.

Ngba 'mouth' looks like a synonym of *bangirise* in some compounds and like an antonym of it in others. In a number of compounds the starting point of items is referred to by *ngba*, e.g. *ngba-di* (lit. mouth-river) 'source', *ngba-wirinzaga* (lit. mouth-finger) 'finger-tip'. Instead *bara-ngba* (lit. place-mouth) 'in front' refers to the area in front of something or someone (32). No other compound is known where *ngba* is used in this sense.

(32) *Ko   sungu   bara-ngba-ko.*
      3m   sit   place-mouth-3m
      'He sat in front of him.'

It is probable that *ngba* has not grammaticalized into a preposition referring to the area 'before, in front of' something or someone because this function is carried out by *bangiri* and by the locational and temporal preposition *mbata*, 'in front of, before, formerly'. The origin of *mbata*, which also functions as an adverb, is not clear.

However, the mouth is not only a frontal body part, but it constitutes a border where certain things (food, drink, inhaled air) enter the body, and where other things exit it (words, saliva, exhaled air). This notion of a border which is crossed on the way from one space (outside) to another (inside), or from one element (air) to another (water, fire), has led to the notion of *ngba* as '(be)side' (33) or 'edge, riverbank' (34).

(33) *ti   ngba   we*
      at   mouth   fire
      'near, beside the fire'

(34) *ko   de   vu-ri   ti   ngba   ime*
      3m   cut   belly-3f   at   mouth   water
      '… he cut open her belly at the edge of the water'

While *ngba* refers to the border close to the deictic centre, the far end is referred to by *ri* 'head' (35).

(35) *mangu   na-du   ni   asiasi-e   ti   ri   ati   yo.*
      bag   II-be   ANAPH   hang-INAN.2   at   head   field   there
      '… [his] bag which was hanging at the end of the cultivation.'

Normally *ri* refers to the upper part of objects, e.g. *ri we* 'on the fire', or the location of a figure on or above a ground *ri mbisa* (head-table) 'on the table' or the motion over a ground (36).

(36) *... wa   ka   toro   a-ndu   ri   sende.*
       like   SUB   spirit   III-go   head   ground
      '[she came] like a fairy queen walking on the ground.'

Ri, 'head', is not the only conceptual source of UP; the landmark term *uru* 'sky' is another one. To the best of my knowledge the preposition or adverb *auru* 'on, above' and *ri* are used in the same contexts in order to describe the position 'on s.th.' or 'above s.th.', and both occur with similar frequency.

Only one speaker gave an example referring to the head as the place of memory and knowledge (37), as is the case in Sango, *ri ti lo a-woko* (head POSS 3s soft) 'he is intelligent' and French e.g. *il n'a pas de tête* 'he is forgetful', *il n'a rien dans la tête* 'he lacks intelligence'. This speaker lived for several years abroad and did his university studies in French. It is conceivable that the metaphorical usage of *ri* 'head' to mean 'intelligence' is an interference from French or Sango or from both.

(37) *...ka kɛ̃ kura a-gu pai na-ye ku ri-yo.*
      SUB   write other PL-DEF.D matter II-come DIR head-3p
      '… in order to write down the things which they remember.'

The concept BACK has also two conceptual sources. The first is *gi-se*, the back of the human body. As a noun it denotes the back part of s.th., e.g., *gi bambo* 'backside of the house', and as a preposition it refers to the area behind an object, where things cannot be seen (38). In a metaphorical sense, it may refer to the back parts of non-physical items, such as a language, which from this position cannot be understood (39). We may assume that the position of an object described by *gi* is not just situated behind an item, but that it is physically and mentally inaccessible. This assumption is confirmed by the expression *gi bangirise* 'in secret' (40).

(38) *Mo   ndu ka   sopa bina gi   gu   bambo*
      2s.1 go   SUB clear field back DEF.D house
      'Go and clear the field behind that house.

      du   yo   re
      be   there DEM
      (which is) over there.'

(39) *I   na-pe   pa-zande   gi-he   yo*
      3p II-speak langue-zande back-INAN.2 there
      'They speak Zande incorrectly [i.e., at its back/behind it].'

(40) ka   mo   mangi nga   ha   gi   bangi-re   ya.
      SUB   2s.1 do   NEG   INAN.2 behind   eye-1s.2   NEG
      'Do not do it behind my back.'

A second conceptual source for BACK is *sa* '(an animal's) tail'. The grammaticalization of this bodypart term does not have many parallels in other languages.[8] Unlike *gi* it is not restricted to spatial relations, but it can also be found expressing temporal relations. In the compound adverb *ku-sa-yo* (DIR-tail-there) 'over there; thereafter, later' it may refer to a place distant from the speaker or a moment later than that of speaking.

(41) sunga   kusayo
      sit   there
      'stay behind'

(42) oni   ye   kusayo
      2p.1 come   there
      'come (PL) later.'

The preposition *sa* refers to places which are located at some distance from the speaker frequently follows verbs of motion (43, 44). This is not in agreement with Svorou's (1994: 204) observation that directional concepts "are invariably associated with the landmark model" (cf. example (48)).

(43) mi   ndu   sa   nya
      1s.1 go   after animal
      'I go for a wild animal'

(44) mi   na-ndu   sa   sunge
      1s.1 II-go   after work
      'I go to work'

In example (43) *sa* may be understood either as a local preposition or as a purpose marker, but in example (44) its function is definitely that of a

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8   On the basis of Owens' (1985: 142f). data O'Dowd (992) claims that the term for 'tail' in Harar Oromo has developed by grammaticalization into a temporal conjunction.

purpose marker. The conceptual source is the noun *sa* in the sense of 'reason, cause' as in *sa du re* (reason be here) 'here is the reason of it'.

(45) *Sa   kwata   nga   gine*
      tail   fight   COP   what
      'What is the reason for this battle?'

A semantic shift 'tail' → 'reason, cause' is not appear to be very likely. However, this is, not a unique example: a similar use of these same three body part terms 'head', 'leg' and 'tail' and – in addition – 'mouth', all of which are extremities of the body, is documented for Basque (Ibarretxe-Antuñano 2001: 478).

An explanation is given by Lagae & Vanden Plas (1925: 137) who state that *sa* in *sa ngbanga* (tail palaver) "fond de la palabre" may be replaced by *ri* 'head', or *ndu* 'foot' without any difference in meaning. They add: "Quand on tient la palabre par la queue, ou par la patte, ou par la tête, on voit clair"[9], and thereby ascribe to the palaver a number of zoomorphic features. The following examples show that also terms other than *ngbanga* which refer also to problems under discussion, e.g. *pai* 'matter, affair', can likewise supposedly have body parts (46) representing their cause.

(46) *ndu   gu   pai   nga   gine?*
      foot   DEF.D   matter   COP   what
      'What is the cause of this matter?'

(47) *ngbanga   kuru   ri   gu   pai   re*
      palaver   appear   head   DEF.D   matter   DEM
      'A palaver developed because of this affair.'

Evidently it is denotations for the extremities that are used to refer to the cause or the point of a problem or discussion. With regard to the human body these are the head and the feet, with regard to an animal body it is the head, the feet and the tail.

In the contexts of motion and of temporal relations the concept back may also be expressed by the landmark term *fuo* or *fwe* 'trace'. It is about

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9   "When you take a palaver by the tail, or the paw or the head one sees clearly." (Translation by David Roberts)

as frequent as *sa* with which it is synonymous as the examples (48), (49), (50) show (cf. (42) and (43).

(48) *mo   ndu   fwe-ko*
      2s.1   go   trace-3m
      'I went after him.'

(49) *mi   na-ndu   fwe   sunge*
      1s.1   II-go   trace   work
      'I am going to work'

(50) *i   bangita   de   fuo   kumba*
      3p   give.birth   woman   trace   man
      'a girl was born after the boy' (Landi)

The concept DOWN at the left side of Heine's hierarchy is frequently expressed by the landmark term *sende* 'ground, earth'. Only rarely is *rumbu-se* 'buttocks' used in that function, e.g. *rumburu akoro* 'bottom of the pot'.

5.   Special case, the denotation for 'hand'

The denotation for 'hand', *be*, differs from the other body parts terms discussed in this paper in that it is not used to describe mere local relations, but alienable possession and situations which are determined by power. The grammaticalization process of the body part term to become a preposition is outlined in what follows.

Possession of an item is described in many languages as holding it in one's hand (Heine et al. 1991: 34). This image is linked to the notion that the acquisition of an object is prototypically carried out by taking it into the hand (51). In Zande the hand functions as a tool for taking hold of things, and it has an inside (*vuru-be* 'palm', cf. ex. 24) that renders it a container where they are kept. The supposed location of the possessed item in the owner's hand is expressed by the copula *du* 'be somewhere' (51).

(51) *...ko   ki   di   wiri-gaza,   ki   zadi-he   be-ko.*
       3m   SEQ   take   small-drum   SEQ   hold-INAN.2   hand-3m
      '… and he took a little drum and carried it in his hand.'

(52) *Dungu*   *a-e*   *du*   *be*   *A-mbomu*   *nga*   *gu*
      many   PL-thing   be   hand   PL-Mbomu   COP   DEF.D
      'Many things the Ambomu possess (in their territory) are what

      i   *a-bi*   *kina*   *be*   *kura*   *a-boro*   *kia.*
      3p   III-see   just   hand   other   pl-person   ?
      they have seen in the territories of other peoples.'

The notion of taking hold of an item in order to obtain possession of it has been metaphorically extended to the acquisition of items which cannot physically be seized, among other things geographical entities, such as roads or territories. Here, possession of an item may have the notion of control rather than of alienable ownership.

(53) *Si*   *du*   *i*   *ki*   *ni-di*   *kina*   *Sue*   *ku*   *be-yo.*
      INAN.1   be   3p   SEQ   X-take   only   S.   DIR   hand-3p
      'For this reason they migrated following the course of the Sue.'

Such control indicates that the owner of the road or area is powerful. It is *be*, grammaticalized into a preposition which introduces the powerful owner. In most examples this person is dangerous for those who approach him or her. The territory in his control need not be mentioned, but may be understood if the danger emanating from the owner or controller is in focus. In example (54) it is the place of a famous yam-planter, a wicked old woman, where men who go to eat yam to eat have to submissively ask for it.

(54) *...u*   *ni-ye*   *ka*   *li*   *gwara*   *be-ri*
      LOGs.1   X-come   SUB   eat   yam   hand-3f
      '[… that] he had come to eat yam at her's (i.e. her place)'

In example (55) *be* does not refer to definite places in specific owner-ship, but to any place where elephants and buffalos happen to be and which is therefore dangerous for any other creature.

(55) *Oro*   *be*   *a-mbara*   *ti*   *ku*   *be*   *a-gbe.*
      run   hand   PL-elephant   fall   DIR   hand   PL-buffalo
      'Running away from elephants is falling among the buffalos.'

In a more grammaticalized reading *be* may introduce inanimate items, which are in no relation to a territory. In these contexts, it is irrelevant whether they belong to somebody or not. Even processes or actions (56, 57) may be introduced by *be*. What is important is that they constitute the causes of usually negative effects.

(56) *be-re   ma   be   pene   gita*
     hand-1s.2   blister hand   handle   hoe
     'My hand is blistered by the handle of the hoe.'

(57) *... ka   kumba-ri   gbere   be   ga-ri   pai*
     SUB   husband-3f be.bad   hand   POSS-3f   matter
     '… when her husband was infuriated by her behavior …'

The notion 'territory', i.e. the 'place under the control of a ruler' is also given in example (58). Here the conquest of a population group is expressed by the verb *dia* 'take' which is also used to take possession of an object (51), but in a completely different construction. *Be* 'hand' is not used as a preposition introducing a possessed item, but in the syntactic position of the direct object. This means that the conquerors do not metaphorically take the defeated people into their hands, but – metaphorically applying a more clever strategy – they seize the hands of the defeated people. Therewith they get hold of their enemies' most powerful and effective tool of defence disabling them from resistance or counter-attack.

(58) *...ko   ki   ta   dia   be   a-giyore*
      3m   SEQ   yet   take   hand   PL-these.here
     '… and when he had overcome them [i.e. the Abarambo]'

Graph 1 shows the grammaticalization processes of *be* becoming first a preposition marking possession, and then a marker of the non-animate cause as an effect or the animate source of danger.
Insert Graph 1:

6. *Numerals, counting, specification/emphasizing*

Ever since Müller's (1889: 5) early sketches of some Central Africa languages, European linguists have known that Zande, like a number

of other languages, uses body part terms for counting. The best known example is *boro* 'body, flesh' which is also used as a denotation for '20'. It may be pluralized, but more often than not, it is used in the singular when referring to multiples of 20: *boro sa* (person one) '20', *boro ue* (person two) '40', *a-boro biata na bisue* (PL-person three and five) '65'. *Bawe* '10' looks like a lexicalization of *be ue* 'two hands', an observation already made by Müller (1889: 5). Müller also assumes that *bisue* '5' is composed of *be* 'hand' and the numeral *sa* 'one' (**bi sa* 'one hand').

However, *boro* is not only used as a number word, but may also determine new constituents (59) or emphasize the following noun (59), adverb (60) or adjective (61).

(59) *Rago   ki   ta   gira   kina   boro   ngbawiso*
       place   SEQ   yet   shine   just   person   morning
       'Very early next morning [Gbudwe came into court].'

(60) *Wawa   Ture   ni-ye   kina   boro   ari   yo*
       cry   T.   X-go   just   person   up   there
       'Ture's cries went up', i.e. they were really loud

(61) *ako   gu   gbia   re,   boro   kere   gbia   du   a!*
       EXCL   DEF.D   chief   DEM   person   terrible chief   be   ?
       'Oh, that prince, a real fierce prince is he!'

The term for 'head', *ri*, may be used when counting units of non single items, but there are only few examples which might be a rare construction. The increasing use of French in DR Congo and CAR to count goods and money in the market makes the Zande numerals more and more obsolete.

(62) *ri   kpwakaya   sa/biyata*
       head   sandal   one/three
       'one/three pairs of leather sandals'

7.   Geometry and architecture

Not many body parts play a role in the descriptions of geometrical shapes. Apparently, only *vuru* 'belly' may be used to denote geometrical shapes of two or three dimensions. In a compound, the first component of which is *pa* 'side' (likewise a body part), it is used in order to describe a rectangular house (63). However, the same type of house may also be described by referring to its four corners (64). It must be kept in mind that these circumscriptions apply to two-dimensional rectangular shapes as well as to three-dimensional cuboids.

(63)   *pa-vuru-he*   *biama*
        side-belly-INAN.2   four
        'its sides [are] four' (L&V 131)

(64)   *si*   *na*   *tukpwu*   *biama*
        INAN.1   with   outside.corner   four
        'it has four corners'

Animal body parts of play a minor role for terms expressing spatial relations, but the body of at least one animal, the elephant, serves as an allegory for the architectural shapes of two types of shelter. The first is the common rectangular house, often called *bambo mbara* (house elephant) 'house [of the type] elephant'. The four legs of the elephant supposedly constitute the four outside corners.

The second is a type of grass-thatched half-open shelter referred as *bambo ngongo mbara* (house back elephant) 'house of the type «elephant's back»' (see Picture 1). The slant at the far end somehow calls to mind an elephant's backside.

Insert Picture 1: A house of the type *ngongo mbara* (in Bangassou)

8.   Conclusion

A number of body part terms of Zande have a wide range of metaphorical meanings. Most of these are purely lexical, only a few result from grammaticalization. Specific subsets of usages are linked to restricted sets of body part terms.

Specific types of usages are carried out by restricted sets of bodypart terms. Purely lexical metaphors of the denotations for 'heart', 'head' and 'eye', are used for the expression of emotions, the term for 'eye' being by

far the most frequent. Compound of the terms for 'side' and 'belly' plus a numeral indicate the number of sides or corners respectively that designate geometrical shapes such as rectangles and cuboids. Animal bodies or their body parts are found in two compounds used as allegoric designations for certain architectural shapes.

Some of the uses of the term for 'hand', *be* are quite exceptional among the languages of the world. While it is not uncommon to express possession of an item as holding it in the hand, the term *be* has acquired additional specific functions in Zande by further grammaticalization. The first one is that of marking origin from a powerful, often dangerous animate source, and the second is the marking of the (usually negative) effect of an action or from an inanimate object.

The use of body part terms to denote the five spatial concepts of Heine's scale is also important. Eight body part terms are used with this function, next to five terms that have landmarks as their conceptual sources. This means that each landmark based term is used for only one specific concept, and – in addition – all concepts, with the exception of DOWN, are expressed by several body part terms, of which *bangiri* 'eye' can even express three concepts, Four body part terms are extremely frequent: *bangiri*, 'eye' having the widest range of spatial notions ('in the middle', 'in front', 'on top'), *ri* 'head' *gi* 'back' and *sa* 'tail'. Another four are less frequent: *rumburu* 'buttocks', *ngba* 'mouth', *ngbadu* 'in' and *vuru* 'in'. Graph 2 shows the distribution of highly frequent and not frequent terms with respect to the different spatial concepts. The former are represented in large-size bold letters, the latter in small-size narrow letters. Body part terms are written in TNR-italics, landmark terms in ARIAL regular.

Insert Graph 2

Graph 2 shows that all of the five basic spatial concepts listed by Heine (1997: 46) can be expressed by means of body part terms, but all of them can also be expressed by landmark terms. Apart from DOWN, at the left end of the scale, all concepts can be expressed by several body part terms, whereas the landmark terms cover only one concept each.

With regard to Zande the order of the concepts on Heine's scale has to be modified as follows: DOWN < FRONT < IN < UP < BACK. There is no one concept marking a boundary between body part based concepts and landmark based concepts. It is rather a scale showing increasing importance of bodypart terms from left to right and increasing importance of landmark terms from right to left. UP and IN are the concepts where the two types have similar importance.
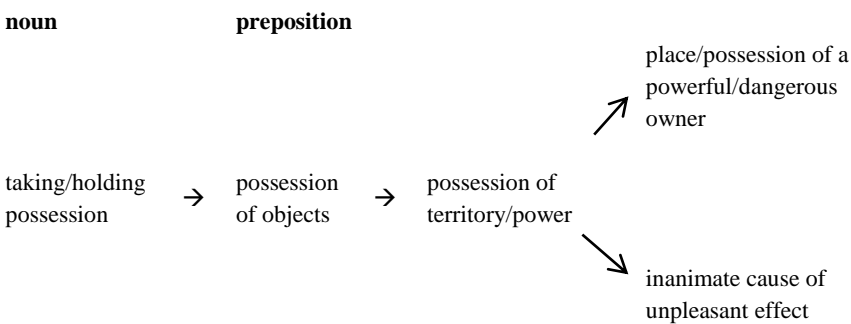
Abbreviations

AN	animate, but non-human gender
ADJ	adjective
ANAPH	anaphoric pronoun
COP	copula
DEF(.P/D)	proximal/distal definite marker
DIR	direction marker
EXCLAM	exclamation
INAN	inanimate gender
LOG	logophoric pronoun
NUM	number word
PL	plural
POSS	possessive
QUANT	quantifier
RED	reduplication
REFL	reflexive
SEQ	sequential
SUB	subordinator
1s, 2s, 3s	1st, 2nd, 3rd person singular pronoun
1p, 2p, 3p	1st, 2nd, 3rd plural pronoun
.1/.2	pronouns of the first/second series
3m/3f	3rd masculine/3rd feminine pronoun
II/III/X	TAM markers according to Boy 1995

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Graph 1: Polygrammaticalization of *be* 'hand'

noun   **preposition**

place/possession of a powerful/dangerous owner

taking/holding possession → possession of objects → possession of territory/power

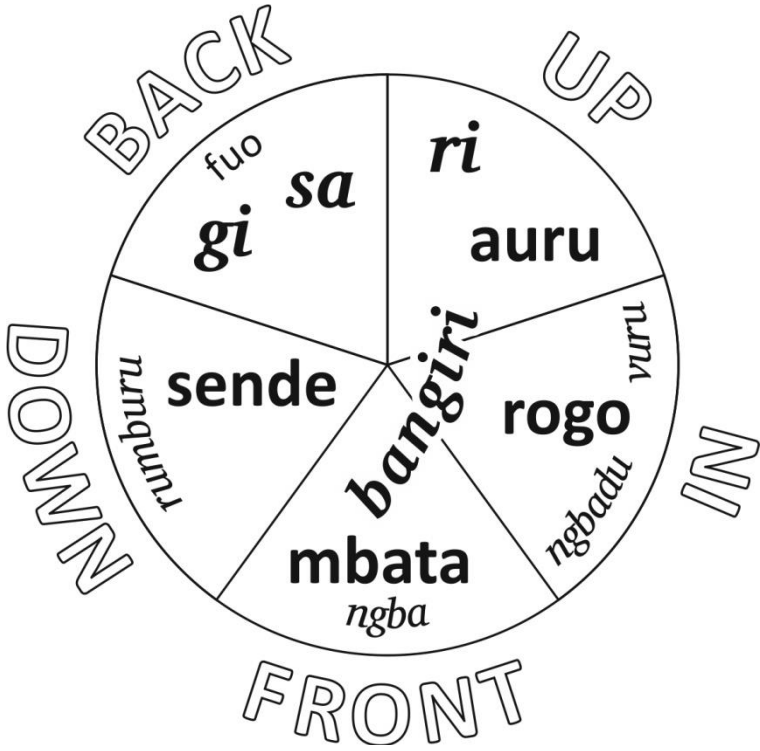inanimate cause of unpleasant effect

Graph 2 (to be replaced by a technically better drawing)

Photo 1: Shelter of the type *Ngongo mbara*