

Expressions of Cardinal Directions in Nilotic and in Ubangian Languages*

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Abstract

In the Nilotic and Ubangian languages expressions for cardinal directions have been created on the basis of a wide range of conceptual sources: primarily cosmological, geographical and atmospheric concepts. But also names of neighbouring ethnic groups and even historical events are used as such. Borrowing of naming systems, however, do not occur.

1. Introduction

In current geographical terms there are only two main cardinal directions EAST-WEST and NORTH-SOUTH, EAST and WEST, and NORTH and SOUTH all of them being called orientations of the respective directions. In agreement with preceding anthropological and linguistic studies we speak of four cardinal directions. We are, however, aware of the fact that many indigenous knowledge systems do not know four cardinal directions, but only three, some only two or one (cf. Brown 1983, Heine 1997). In Africa, systems with only three cardinal directions are known in the Bantu languages Zulu (South Africa), Sesotho (South Africa, Lesotho), Kimatengo, Kihehe (both Tanzania), Tonga (Zambia, Malawi) and Shona (Zambia, Zimbabwe) (Brauner 1998:29).

We assume that before the modern compass direction system was distributed all over the world, different languages and language groups developed independent and self-contained systems of describing cardinal directions. While single linguistic groups have developed particular cardinal direction systems, a phenomenon we call 'isolated application', others share systems with neighbouring groups as a result of inheritance or borrowing.

Brown (1983:122) assumes that etymological transparency of lexical denotations for cardinal directions is a strong indication that they constitute a relatively recent phenomenon. His hypothesis is further based on the disputable assumption that people formerly were far less mobile than they are today. By consequence there would have been no necessity to create terms denoting cardinal directions. History shows, however, that geographic mobility even over long distances is almost as old as mankind. Even over a period of several centuries many ethnic groups in Africa remember the direction from where they came, before settling in their present locations.

We want to underline that cardinal directions are not necessarily identical with compass directions. Neither should every language be expected to distinguish conceptually and nomenclaturally four cardinal directions. In case that a language does, they need not be located on the axes of a Cartesian coordinate system. Brauner (1998:28) illustrates this with examples from Shona. With regard to Swahili he shows (Brauner (1998:30) that the system of cardinal directions has been reduced from six directions to only four. *Kusini* and *kaskazini* refer in the old system to SOUTH-WEST and NORTH-EAST respectively, the directions from where the two monsoons blow. They have replaced the old denotation for 'NORTH, North Wind' *shemali* and *papazi/ upapazi/uheli* for 'SOUTH, South Wind' and are used today with reference to SOUTH and NORTH. Cognates of these two terms, which are already documented by Bleek (1856), are also found in Pokomo (*kusi(ni)* and *kasikathi*) and Tuku

(*ruvutoni* and *kasikasi*), spoken in the hinterland, to denote the NORTH-EAST monsoon and the SOUTH-EAST monsoon respectively. These languages may also have a similarly reduced cardinal direction system or that they have modified a non Cartesian system into a Cartesian one.

With regard to Ewe, a language spoken in south-eastern Ghana and Togo, conflicting old and new names for cardinal directions coexist. Ameka and Essegbey (2006: 382ff) state that originally *dziehe* 'upside' referred to the SOUTH-WEST and *anyiehe* 'downside' to the NORTH-EAST. While people who live on fishing still use the term in that way, it is used in modern geography schoolbooks with reference to the upper part of the map, i.e. to the North.

Methodology and collection of data

The topic of the present paper arose from research on language contact between Ubangian and Nilotic languages in the Nile and Ubangian riverine systems. Our investigation is based almost exclusively on a survey of dictionaries and grammars of Nilotic and Ubangian languages, and, in addition a collection of field material by Anne Storch (2004) on Nilotic languages. Most of the older dictionaries and descriptions of African languages contain little or no information on expressions of cardinal directions. This fact does, however, not reflect geographical immobility of the speakers nor their lack of knowledge about the world. It results rather from the fact that until recently cardinal directions were not listed in the questionnaires and the topic was not often a matter of concern in linguistic research. The entries for cardinal directions which are given in the dictionaries and vocabularies we consulted confirm that a terminology for describing the world with reference to cardinal directions do exist in African languages. With regard to the Tugen in Kenya, Behrend (1987:15) outlines that they subdivide their world in agreement with the cardinal directions into four sections. The intersection of two axes at *kwen* 'middle' is not a fixed point, but moves to wherever the elders make a fire creating a ritual centre.

2. Conceptual sources of cardinal directions

In the following we describe a wide range of conceptual sources on which expressions for the cardinal directions in Nilotic and Ubangian languages are based. It is, of course, conceivable that the total amount of concepts is not fully exhausted, but we are sure that the significant source concepts for cardinal directions are cosmological and atmospheric features, landmarks, ethnic groups, environment specific features, history related features, bodypart terms and right-left orientation as well as deictic orientation.

2.1. The sun

Among the celestial bodies, it is above all the sun which serves as a conceptual source for cardinal directions. The Morning Stars as well as the firmament also have this function.

On the basis of an investigation of 127 languages worldwide by Brown (1983) and of 125 African languages by Heine (1997) they both claim that the sun ranks among the most productive sources for orientation terms, particularly for those denoting EAST and WEST. These two directions are referred to by expressions like 'ascend', 'go up', 'descend', 'fall' or the like. Metaphorical extension of the meaning of items like 'morning' or 'sunrise' and

'evening' or 'dawn' for EAST and WEST respectively are documented fairly frequently in the languages of the world.

Brown and Heine claim furthermore that EAST and WEST play a significantly higher role in the languages of the world than NORTH and SOUTH. Heine's statistical evaluation of Brown's data confirms the priority of EAST and WEST over NORTH and SOUTH. It is deduced about 12 %, as shown in table 1. The table also shows a slight priority of EAST over WEST of 3 % and of SOUTH over NORTH of 2 %.

The question may arise why EAST and WEST are the more important directions. It appears that this results from the easiness with which these directions can be determined by observing the daily movements of the sun. Heike Behrend (1987:18) describes how the Tugen, a subgroup of the Nandi in Kenya, do so, and as a consequence not only know with precision where is EAST and WEST, but they also when the sun reaches the northern solstice (lower house of the sun) and the southern solstice (upper house of the sun).¹

Items, other than the sun, on the basis of which NORTH and SOUTH are determined do not necessarily allow determination of directions with similar precision. The directions of winds show more variation from one day to the next than does the movement of the sun. More important is, as shown above with regard to Swahili, that these directions need not cut the EAST-WEST axis in a right angle.

Table 1
Occurring combinations of cardinal direction terms among the 127 languages surveyed
(cf. Heine 1997)

Number of languages	EAST	WEST	SOUTH	NORTH
18	0	0	0	0
2	2	0	0	0
1	0	0	1	0
1	0	0	0	1
12	12	12	0	0
1	1	0	0	1
2	0	0	2	2
5	5	5	5	0
2	2	2	0	2
1	1	0	1	1
1	0	1	1	1
81	81	81	81	81
127	104	101	91	89
Occurrences of WEST, SOUTH, and NORTH as compared to occurrences of EAST in %	100	97,16	87,5	85,58

The sun is, however, not only the conceptual source of denotations for EAST and WEST, but in some languages the highest point, where the sun stands at noon, is used to refer – depending on which hemisphere the language is spoken – to either NORTH or SOUTH. In Shambala (Tanzania), e.g., the expression *lw-azu lw-ekila zuwa* (side sink sun) refers to SOUTH, i.e. to the direction where the sun stands when it starts to sink (Brauner 1998: 29).

In many languages of the world atmospheric features as winds and seasons, environment specific features and landmarks play a mentionable role for reference to NORTH and SOUTH and to deictic orientation systems (Brown 1983:28). Brauner (1998) serves, however, that with regard to many African languages – in particular those spoken in the interior of the continent, e.g. Shona – cardinal directions are not related to winds.

Brown (1983) claims that identification of EAST through reference to the rising of the sun and of WEST to the setting of the sun constitutes the most conventional manner of developing terms for cardinal directions. Verbally. EAST may be referred to as the place where the sun rises as in Päre (ex. 1), where it is in the morning as in Belanda Bor (ex. 3) or where the sun comes as in Baka (ex. 6). In a similar way WEST is referred to as the place where the sun sets as in Päre (ex. 2), the place of the evening as in Belanda Bor (ex. 4) a hole into which the sun falls in the evening like in Banda-Mono (ex. 5) or where it sleeps as in Baka (ex. 9).

- | | | |
|-----|-----------------------|---|
| (1) | Päre
(Nil.) | <i>kur tɔŋɔi cɛŋ</i>
place rise sun
East (Storch p.c.) |
| (2) | | <i>kur päththi cɛŋ</i>
place set sun
West (Storch p.c.) |
| (3) | Belanda Bor
(Nil.) | <i>kùr túuró</i>
place morning
East (Storch p.c.) |
| (4) | | <i>kùr tíínó</i>
place evening
West (Storch p.c.) |
| (5) | Banda-Mono
(Ub.) | <i>cá-kùdú-òlò</i>
of-hole-sun
West (Kamanda-Kola 2003) |
| (6) | Baka
(Ub.) | <i>gàje na ðɔ bakɔ</i>
side PREP come sun
East (= from where the sun comes) (Brisson & Boursier 1979) |
| (7) | | <i>gàje na lɛji bakɔ</i>
side PREP come sun
East (= where the sun goes [out] Brisson & Boursier 1979) |
| (8) | | <i>gàje ke bakɔ ʔá làti 'bo nɛ</i>
side REL sun 3s sleep there here
West (= where the sun sleeps) (Brisson & Boursier 1979) |

- (9) *gàje na go bakɔ*
 side PREP go sun
 West (= where the sun goes) (Brisson & Boursier 1979)

In the studies by Brown (1983) and Heine (1997) source categories related to body parts ascribed to the sun hardly play a role. Heine (1997: 58) indicates that body part terms may be indirect cognitive sources of expressions for cardinal directions. Our investigations confirm that body-part terms constitute common conceptual sources in both Ubangian and Nilotic languages direct conceptual sources for expressions of cardinal directions. EAST is quite often referred to as 'face of the sun' or as 'eye of the sun'. Both expressions indicate that the sun is "facing" the spectator from its position in the EAST, hence are in agreement with Heine 1997:42) who states that 'face' and 'eye' are the most common conceptual sources for 'front' in African languages.

- (10) Nuer *nhíam*
 (Nil.) face
 East (Storch, p.c.)
- (11) Mayak *áng yâmi*
 (Nil.) sun face
 East (Storch p.c.)

With regard to the Tugen, like the Kalenjin a subgroup of the Nandi (Southern Nilotic), Behrend (1985: 9) outlines the philosophical background of this concept. Here the expression 'eye of sun' is the name of the creator god. "Dass mehr als eine Welt vorhanden sei, möglicherweise sogar zwei oder drei Welten koexistieren, halten Tugen für denkbar. Doch interessieren sie sich allein für die eigene. Diese wurde von Asis, einem otiosen Gott, erschaffen, der sich nach der Schöpfung zurückzog und nun in Gestalt der Sonne am Himmel steht. Obwohl er als 'Auge des Himmels' alles sieht, kümmern ihn die Menschen nur wenig; er straft und belohnt sie nicht."

The Tugen share the denotation for EAST, *kong Asis*, with the Kalenjin. They equate it with life, light and fertility. The time from sunrise till noon, when the sun is in the zenith, is considered a good time. Everything that is successful will take place in this period. The WEST they call *cherongo*. It is identified with death, darkness and infertility (Behrend 1987:15).

- (12) Kalenjin *koong' asiis*
 (Nil.) eye sun
 East (Toweet 1979)

It is apparent that the front part of the head, i.e. 'face' or 'eye' is the ideal bodypart of the sun to refer to EAST. Nevertheless, in Shilluk the expression 'eye of sun' is used in the denotations for both EAST and WEST, though complemented by reference to the respective time of the day, 'morning' and 'evening'.

- (25) *ndàvâ zân*
 base sky
 West = buttocks of sky (Roulon-Doko 1996:47f)

The translation 'head' for *zû* in the Gbaya expression *zû zân* is mistakable. The sky is not perceived as an animal, and WEST not as the bodypart 'head' of this animal. 'Buttocks of the sky' is indeed regarded as a bodypart, referring to the location in the EAST where the daily birth of the sun takes place. It must, however, be underlined that the endowment of the sky with a bodypart does not imply that the Gbaya perceive of it as a zoomorphic creature (Roulon-Doko, p.c. Sept. 2006).

2.3. Deictic expressions denoting cardinal directions

In our data there are three only examples where directions are built by reference to the FRONT-BACK deictic axis. The point of reference is either the sun (Ngbandi, ex. 17, Bari, ex. 18) or the earth (Dinka, ex. 19).

The deictic axis LEFT-RIGHT as a source of direction terms is found in a number of West Nilotic languages. They are all egocentric, reflecting the line of vision which itself results from equating the outflow of a river to the speakers' line of vision. In an environment, where a big river is the most important geographical feature, it is likely to be chosen as object of reference for the determination of cardinal directions. This is done in equating the flowing direction to the line of vision of a person.

The Acoli who live North of the Victoria-Nile flowing from East to West NORTH is identical with right and SOUTH with left. The Kipsikiis living on Mount Elgon use the flowing direction of the Victoria Nile in the same way. For the Belanda Bor and the Dinka who know the tributaries of the Nile in the Bahr el Ghazal province of Sudan as flowing from West to East, NORTH is identical with 'left' and SOUTH with 'right'.

- (26) Acoli *lacuc*
 (Nil.) right
 North (Storch p.c.)
- (27) *lacam*
 left
 South (Storch p.c.)
- (28) Kipsikiis *(murat) kataam*
 (Nil.) (arm) left
 North (Toweet 1975)
- (29) *murat-taai*
 arm-right
 South (Toweet 1975)
- (30) Belanda Bor *kùr cám*
 (Nil.) left
 North (Storch p.c.)

- (31) *kùr kúc*
right
South (Storch p.c.)

More problematic is the case with regard to Dinka. In one dialect, Rek Dinka, *cien* means WEST, while in another, Ruweng Dinka it means EAST. In this latter, however, *tueng* means EAST while in Rek Dinka means West (Dimmendaal/Rottland 1996: 68f.). This contrast can be explained by fact that the Rek live North of the Bahr et Arab River, which flows from West to East, while the Ruweng live North of it.

A different pattern of deictic orientation is found in Zande (DR Congo, Sudan, CAR). The deictic centre is the entire territory of this ethnic group or the riverine system of the northern tributaries to the Ubangi. The relative geographical situation serves as the conceptual source for cardinal directions in Zande.

- (32) Zande *bangiri² pia*
(Ub.) interior (dry) land
East (Canon & Gore 1931)

- (33) *pa-vuru-rao*
place-inside-country
North, South (Canon & Gore 1931)

Note that this language has only three cardinal directions: EAST, WEST and SOUTH/NORTH. The latter refers to the area located between higher drier areas at the eastern end of the Zande territory and the lower lands at its western end.

2.4. Atmospheric features

In many languages of the world atmospheric features, in particular winds and seasons, are metaphorically extended to refer to the direction from which they come. In the northern hemisphere warm weather is often brought by winds from the South, and the North-Wind brings rather cold weather. Here, in many languages names for the directions NORTH and SOUTH are often related to winds, but with regard to EAST and WEST this is rarely the case (Brown 1983:132).

Climatic conditions are significantly different in areas close to the equator, but in the interlacustrine area, direction terms related to winds are found in several languages. According to Brauner (1998:29) the denomination for WEST in Kinyoro, is related to the heavy winds. In Shilluk and Dinka the denotations for NORTH and SOUTH are also related to winds and seasons respectively.

- (34) Shilluk *wàŋ wùudò*
(Nil.) opening/eye westwind
North (Storch, p.c.)

- (35) *wàŋ údúluàl*
opening/eye eastwind
South (Storch, p.c.)

(36) Dinka *long rut*
 (Nil.) side rainy.season
 North (Nebel 1954)

(37) *long mei*
 side dryness
 South (Nebel 1954)

2.5. Environment specific features and landmarks

A further strategy of innovating terms for cardinal directions is the reference to environment-specific features and landmarks. Environment-specific features are topographic characteristics such as the levelling (ascending or descending) of an area, the runoff of rivers, or the ecological quality of an area. In Ngumba, a Bantu language spoken in DR Congo, the denotation for EAST, *jihé*, is the same as that for 'forest' (Skolaster 1910, cit. in Brauner 1998:29). As landmarks we define salient geographical features like specific rivers, villages, and mountains. In many languages it is furthermore difficult to distinguish between the general terms for 'mountain', 'river', etc. and the denotations for specific mountains and rivers. The Kalenjin term *mösob* 'higher land', e.g., which is also the denotation for EAST (Rottland p.c.) can be traced back to *masaba*, an alternative name for Mount Elgon in Kenya. It denotes in particular the highest peak of that mountain. For these reasons the two categories are dealt with as a single type of conceptional source in this paper.³

It is important that the environment specific features do not only relate to directions, but that they have a wide range of other connotations. In agreement with the topography of their mountains which range from North to South, the Tugen, e.g., relate SOUTH, *katogon*, with altitude, dignity, rain, coolness, masculinity and fertility. NORTH, *kaboren*, they relate with lowness, ignobility, dryness, heat, femininity and infertility (Behrend 1987:15).

(38) Belanda Bor *kùr fíŋ*
 (Nil.) place lower
 North (Storch, p.c.)

(39) *kùr máâl*
 place higher
 South (Storch, p.c.)

(40) Turkana *kujù*
 (Nil.) above, (up)stream
 North (Barrett 1988)

(41) *kwap*
 (down)stream
 South (Barrett 1988)

Among the languages investigated we found only one, Bianjida (spoken in North Western Tanzania) where the name of a neighbouring ethnic group is used to denote a cardinal direction. The term for SOUTH *sukumeera* refers to the Bantu group Sukuma and the one referring to the NORTH *taqameera* refers to the Takama, a subgroup of the Nyamwezi (cf. Gordon 2005). The denotations for SOUTH and NORTH are lexicalized, and their etymology reflects in no way the present settlement pattern in the area. (Batibo, p.c., Aug. 2006). Today, the Sukuma live North of the Bianjida and the Takamera South of them (Mietzner & Rous 2006: 8). The discrepancy between etymology and current meaning of the direction terms indicate that these terms were lexicalized before the groups under consideration moved to their current areas.

- (47) Bianjida *sukum-eera*
 (Nil.) Sukuma-ABS
 South (all from Rottland p.c.)
- (48) *taqam-eera*
 Takama-ABS
 North

Unfortunately the etymologies of the terms for EAST and WEST which are built according to the same pattern cannot be determined with certainty. *giyw-eera* might refer to the Gwe.

- (49) *giyw-eera*
 ? – ABS
 East
- (50) *bial-eera*
 ? – ABS
 West

2.7. History related features

A particularly valuable result of our investigation is the discovery of cardinal direction in Maasai which are nomenclaturally related to the history of the speakers. It is again not mentioned by Brown (1983) and Heine (1997). It cannot be denied, however, that Maasai is not the only African language where such conceptual source is found. Brauner (1998:27) discusses it by with regard to Shona.

The Maasai, who for a long time expanded from North to South, name the SOUTH 'fight, war' *o'meroi*. This in memory of the fact that their migration was accompanied by steady fights against the autochthonous population, the *e1-meg* 'the outsiders'. The term *kōpekob* (ex. 39) NORTH denotes the Maasais' place of origin, namely the land that was left behind during the migration (Merker 1910: 207).

- (51) Maasai *o'meroi*
 (Nil.) fight, war
 South (Merker 1910:207)

- (52) *kō-p-e-kob*
 (Nil.) PRFX-?-FEM-land
 North (Merker 1910:207)

3. Conclusions

We have demonstrated that there is a great variety of designation systems for cardinal directions in both Nilotic and Ubangian languages. The importance of EAST and WEST over NORTH and SOUTH as postulated by Brown (1983) and Heine (1997) are confirmed. The same is true with the relation of EAST and the sun, and that of NORTH and SOUTH to annual winds. In particular with regard to the sun it could be shown that, in contrast to the statements by Brown and Heine, bodyparts play a considerable role in the creation of directions terms. Most frequently bodyparts are ascribed to the sun. 'Face' and 'eye' are always related to EAST, while 'foot' and 'buttocks' are neutral to orientation. In order to create direction terms bodyparts can, more striking, also be ascribed to the firmament and to the earth. Winds play a role not only in the interlacustrine area, but also further North, in the Bahr el Ghazal. In Dinka and Shilluk winds an seasons constitute the conceptual source of the terms for NORTH and SOUTH. Reference to neighbours, i.e. the use of ethnic names as the basis of direction terms is an infrequent pattern in Africa. It was found only in one of the languages investigated.

Deictic orientation has been proved to be fairly common in Africa. The BACK-FRONT axis, documented in Ngbandi, Bari and Dinka, has the either the sun or the earth as deictic centre. In LEFT-RIGHT orientation, widely used in the West Nilotic, but not in any Ubangian language, the body of reference is a river, the outflow of which is equated to the line of vision of a person. A third deictic axis, not mentioned by Brown and Heine, is ABOVE-UNDER. It is known only in Ngbandi where WEST is referred to as 'under the sun'.

It is not really astounding that there are no direction terms borrowed from Ubangian to Nilotic languages or vice versa given that their contact is not even 150 years old. It is rather striking that even within the two groups we do not find direction terms shared by larger subgroups either as inherited systems not as a result from borrowing. It is evident that single linguistic groups tend to develop their own systems of cardinal directions independent. The Western Nilotic languages are exceptional in that they all use LEFT-RIGHT deictic expressions which are based on the flowing directions of the Nile and its tributaries. But due to different flowing directions in the various settlement areas the specific direction systems terms differ.

The fact that linguistic groups tend to create their own distinct cardinal direction systems leads to the assumption that cardinal directions is hardly ever a topic of discussion among people of different linguistic origin. Direction terms like the one in Ngbandi (ex. 45) denoting WEST by reference to a relative small village make it conceivable that such terms are not part of a standardised orientation taxonomy, but rather spontaneous creations.

Even Christian missionaries who stayed with ethnic groups for many years and were well acquainted with the language give hardly any information on cardinal directions. This is a further indication that geography and travelling were not discussed by reference to cardinal directions. The necessity for exactly locating places by means of cardinal directions results from the foundation of nation states who for the control of their territories depend on

geometrically exact land surveying and cadastres. It is only with the introduction of schools and geography education the system of the four cardinal directions became widely known.

We are, however, reluctant to see Brown's claim confirmed that knowledge about cardinal directions are a fairly recent factor in many parts of the world. All we know is that the scientific cardinal directions are a recent introduction in most African countries.

Abbreviation list:

ABS	abstract-noun marker
AG	agent (nomen agentis marker)
CAR	Central African Republic
DR	Democratic Republic [of Congo]
HAB	habitual
NEG	negation marker
Nil	Nilotic
POSS	possessive marker
PRFX	prefix
REL	relative marker
SM	subject marker
Ub	Ubangian
W/N/S	West, North, South

Sources:

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¹ "Die Sonne markiert nicht nur den Tag als Zeiteinheit, sondern auch das Jahr als sichtbare Linie am Horizont. Vom festen Standpunkt aus beobachten Tugen-Astronomen die aufeinander folgenden Sonnenaufgänge am Horizont im Osten. Wie auf dem Zifferblatt einer Uhr legen sie am Horizont eine Art Visierlinie fest, in der sie die einwandernden Orte des Sonnenaufgangs mit besonders hervorragenden Punkten am Horizont verbinden. Einige dieser Punkte nennen sie 'die Häuser der Sonne'. Die Endpunkte der Linie im Süden nennen sie 'das obere Haus' und den entgegengesetzten Endpunkt im Norden 'das untere Haus der Sonne'. Manche Tugen-Astronomen halten in der Mitte der Linie noch einen weiteren Ort fest, den sie 'das mittlere Haus der Sonne' nennen." (Behrend 1987: 18f)

² With regard to this compound noun Canon & Gore 1931 give 'interior' as the equivalent of *bangiri*, which originally is the bodypart term for 'eye'.

³ Heine (1997:45), e.g. demonstrates the conceptual shift from landmark to spatial region on the basis of a scenario where the landmark 'sky' constitutes the source for 'top', which again is the source for 'on', 'above'. In our terminology, 'sky' is not categorized as a landmark but as an environmental feature or a celestial body, which lacks the particular location to serve as a landmark. The first is used with respect to geographical characteristics as 'uphill', 'downhill', 'mountainous', 'lowland' and the second with respect to particular places, e.g. 'Mount Elgon', the one river nearby, e.g., 'the Nile', certain towns or villages, salient objects (trees, rocks, fountains, calderas). We are, however, aware that the two categories are on the antipodal ends of a continuum and that there is an area of overlap.