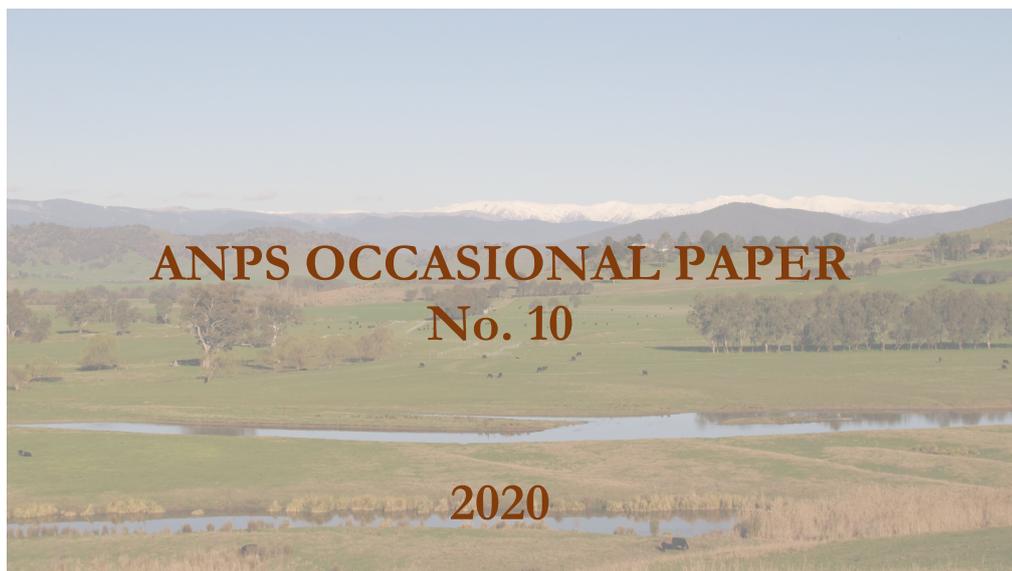


Landscape ontologies and placenames



LANDSCAPE ONTOLOGIES AND PLACENAMING

Jan Tent

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View of the Snowy Mountains from Towong Hill Station, Victoria
(Photo: J. Tent)

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1 INTRODUCTION

‘For geographic entities, categories may in part reflect similarities and discontinuities in the landscape, but to some extent are projected onto the landscape by human cognition and language.’ (Mark & Turk, 2003b, p. 29)

Ontology is the study of concepts that relate to *being*, of the basic categories of being and their relations. In other words, it investigates what entities exist, or may be said to exist, and how these may be grouped, related within a hierarchy, and subdivided according to similarities or differences. It is a ‘formal way of representing knowledge in which concepts are described both by their meaning and their relationship to each other’ (Bard & Rhee, 2004). To put it in another way, it attempts to answer one of the fundamental questions: ‘Into what categories, if any, can we sort existing things?’

Many concepts and phenomena—time, the earth’s geologic history, the seasons, language varieties (social and regional), the electromagnetic spectrum, oceans and seas (see Figure 1), and landscapes—can be conceived of as continua. One prime example is the division of earth’s geological history into the geologic time scale (GTS). Its primary defined divisions of time being **eons**—in sequence the Hadean, the Archean, the Proterozoic and the Phanerozoic—the first three of which can be referred to collectively as the Precambrian **supereon**. Eons are then divided into eras, which are in turn divided into periods, epochs and ages—each of which have their own subdivisions. In order to talk about any facet of the earth’s history (or indeed any other continuous phenomenon) in any comprehensible way, we need to subdivide them into manageable and meaningful segments. Thus the GTS should be seen as a continuous series or whole, no part of which is noticeably different from its adjacent parts, although the ends or extremes of it are very different from each other. The divisions are thus quite arbitrary. The endeavour to study nature and divide it into digestible chunks dates back to at least Aristotle, and is ongoing. John Searle’s book *The Construction of Social Reality* (1995), is a seminal contribution to this field.

Many of the problems linguists try to solve about language structure are essentially ontological in nature—classifying words into categories (parts of speech), parsing sentences, grouping words into different sense relations, classifying speech sounds according to place and manner of articulation, etc.

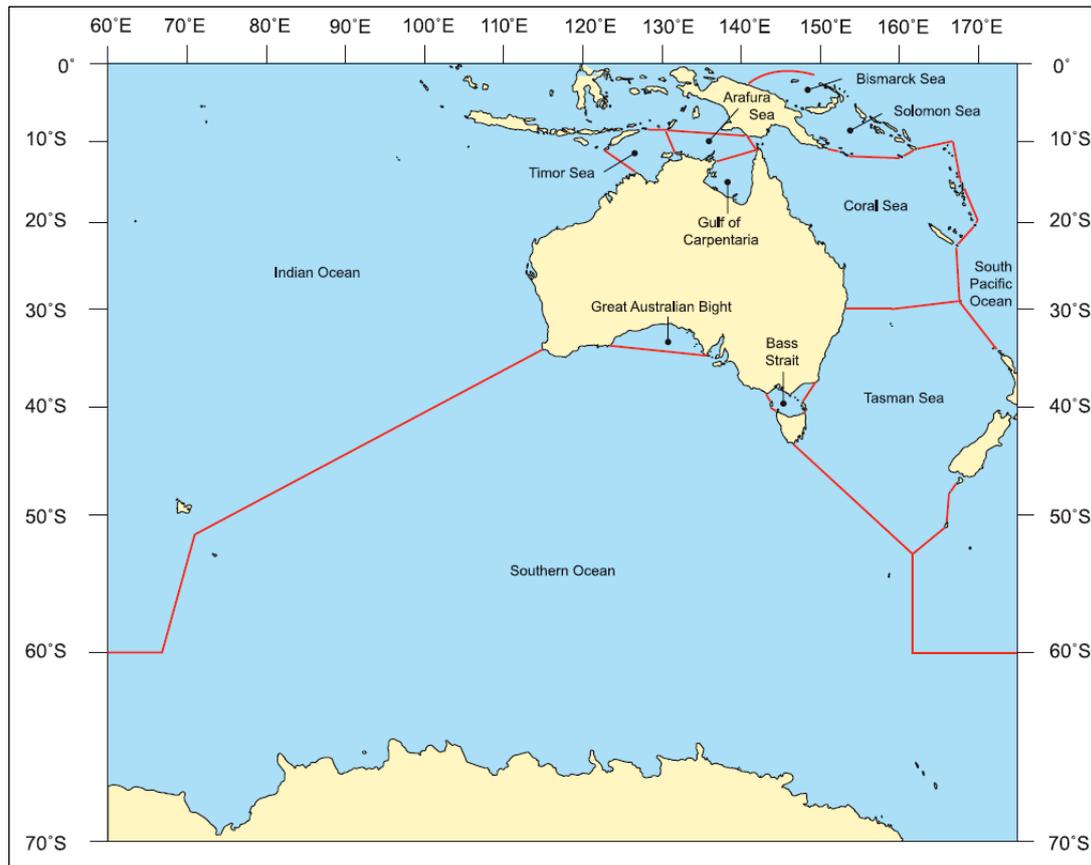
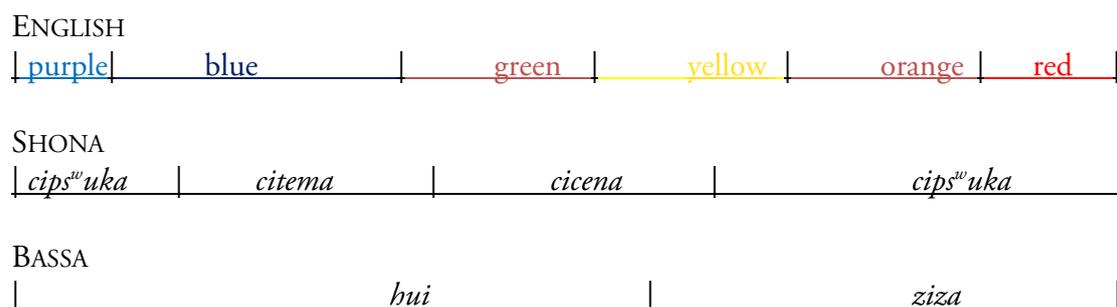


Figure 1

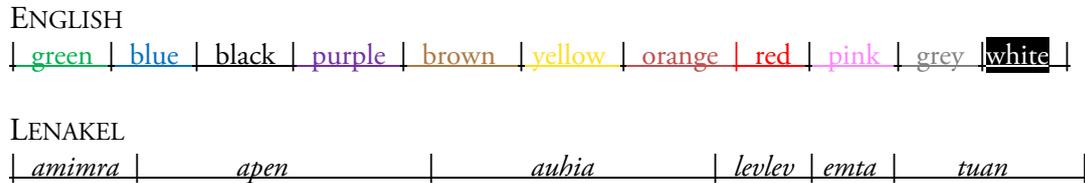
Australia's ocean and sea boundaries.

(Source: Ocean and sea limits are published in the International Hydrographic Organization (IHO) publication S- 23 'Limits of Oceans and Seas')¹

The process of delineating boundaries is often arbitrary and depends on the partitioning criteria used or the particular agency or culture of those doing the partitioning. For example, different cultures segment the colour spectrum in a variety of ways (see diagrams below). This does not mean the people of these cultures have more or less well developed acuity of colour perception; it just means they linguistically divide up the colour spectrum differently (see McNeill, 1972; Kernell, 2016). Many of the colour terms of English do not have equivalents in other languages, and vice versa. For instance, compare how English linguistically divides the colour spectrum of the rainbow with how Shona (Zimbabwe) and Bassa (Liberia) divide the spectrum (Crowley, 1990):



English has an 11-term base colour system, whereas Lenakel (Vanuatu) has a six term system. We can make a partial comparison of the systems of English and Lenakel if we look at the two systems represented in a diagram:



Cultures also divide up kinship relationship continua differently. Compare the following three languages:

Table 1
 Kinship terms across three languages
 (Source: Crowley, 1990)

'Meaning'	Kinship term		
	English	Lenakel (Vanuatu)	Njamal (Pilbara language)
'male parent'	<i>father</i>	<i>remok</i>	
'male parent's male sibling'			<i>mama</i>
'female parent's female sibling's husband'	<i>uncle</i>	<i>merak</i>	
'female parent's male sibling'			<i>karna</i>
'male parent's female sibling's husband'			

Another graphic example of segmenting a continuum is that of the meteorological view of the seasons by Aboriginal and Torres Strait Islander people. There is great diversity among different groups and locations, where the annual division of the seasons is dependent on local events or resources. These divisions produce a much more intricate and subtle overview of the continent's climate than the four-season European climate description of 'summer', 'autumn', 'winter' and 'spring'. Table 2 compares the European seasonal view to those of the Miriwoong (Kununurra region, WA), Nyoongar (South-west WA), and D'harawal (Sydney basin) peoples.

Table 2

A comparison of some Australian Indigenous seasons with the Western four season calendar

(Source: Indigenous Weather Knowledge <http://www.bom.gov.au/iwk/culture.shtml>)

European terms		Indigenous Australian seasons		
Month	Season	Miriwoong calendar	Nyoongar calendar	D'harawal calendar
Dec	Summer	<i>Nyinggiyi-mageny</i> (wet weather time)	<i>Birak</i> (dry and hot)	<i>Parra'dowee</i> (warm and wet)
Jan			<i>Bunuru</i> (hottest)	<i>Burran</i> (hot and dry)
Feb				
Mar	Autumn	<i>Warnka-mageny</i> (cold weather time)	<i>Bjeran</i> (cool begins)	<i>Marra'i'gang</i> (wet becoming cooler)
Apr			<i>Makuru</i> (coldest, wettest)	<i>Burrugin</i> (cold, short days)
May				
Jun	Winter	<i>Warnka-mageny</i> (cold weather time)	<i>Djilba</i> (wet days and cool nights)	<i>Wiritjiribin</i> (cold and windy)
Jul			<i>Ngoonungi</i> (cool, getting warmer)	<i>Parra'dowee</i> (warm and wet)
Aug				
Sep	Spring	<i>Barn denyirriny</i> (hot weather time)	<i>Kambarang</i> (long dry periods)	
Oct				
Nov				

The distinction between the notions of 'language' and 'dialect' is also an arbitrary one. Across a geographical area there is often a spread of language varieties (i.e. regional dialects) in which contiguous varieties differ only slightly and are thus largely mutually intelligible. However, differences in pronunciation, vocabulary and grammar gradually accumulate as the language varieties become more widely separated, ultimately resulting in their becoming no longer mutually intelligible. This situation is known as a 'dialect continuum'. In the former Yugoslavia, varieties of Serbo-Croatian were spoken. When the country dissolved into the five distinct political entities Serbia, Croatia, Montenegro, Bosnia and Herzegovina, the variants of Serbo-Croatian were declared discrete national languages, which the nations identify themselves under. Intriguingly, the linguistic differences between these dialects-cum-languages are less than the differences between the major regional varieties of English. In such cases, the delineation of dialects into languages is less about mutual intelligibility and more about the politics of national identity. A popular adage among sociolinguists is 'A language is a dialect with an army and navy'.²

The earth's landscape is naturally also a continuum. Carving it up into different landforms will not only result in different landform terms, or geographic feature terms (GFTs), but will also determine which geographic features are identified and get named. As will be seen below, carving up the landscape is culturally and linguistically determined.

My intention in this brief *Occasional Paper* is not to propose a new or alternative ontology for landscape forms; rather it is to highlight the fact that many landscape

ontologies exist and that their culturally and linguistically determined categories have an impact on placenaming. Mark and Turk (2003b, p. 28) emphasise that an understanding of different culture-based ontologies is important to designers of geographic information systems (GIS), as well as compilers of geographic databases and spatial data infrastructures.

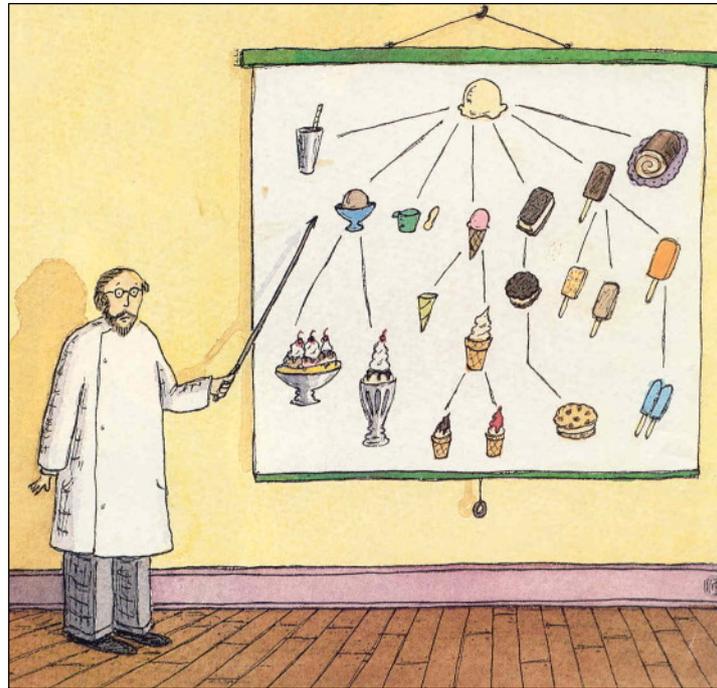


Figure 2

Even ice-creams have an ontology

(Source: emiliosanfilippo.it <www.emiliosanfilippo.it/?pageid=1172>)

2 LANDSCAPE ONTOLOGIES

One particular branch of toponymy, namely, the classification of toponyms, also engages in ontology. But unlike '[t]he existence of individual objects [which] is a brute fact in the cases of organisms, fruits, or tools, [...] geographic entities such as mountains do not quite exist as objects to the same degree' (Smith & Mark, 2003). Geographic features are parts of the Earth's surface which are delimited from neighbouring parts in a variety of ways, many of which are dependent upon the conceptual and linguistic systems of the delimiters. Hence, landscape ontologies will vary from one culture and concomitant language to another (Burenhult & Levinson, 2008). Over the last 20 years, GIS researchers have dedicated much more attention to the ontology of the geospatial domain than ever before (see for example: Smith & Mark, 1999; Winter, 2001; Smith & Mark, 2001; Bonyhady & Griffiths, 2002; Smith & Mark, 2003; Mark & Turk, 2003a, 2003b; Burenhult, 2008; Burenhult & Levinson, 2008; Lepezyk, Lortie & Anderson, 2008; Levinson, 2008; Senft, 2008).

There are a number of distinct aspects to the issue of the ontology of landscape and the bestowal of toponyms. Firstly, the unsegmented landscape continuum needs to be partitioned, which involves the delineation of the boundaries between the agreed upon partitions. Questions such as: ‘Where does a valley end and a hill or mountain begin?’ Related to this is the question of how to define a geographic feature. When is an orographic feature in the landscape a HILL and when is it a MOUNTAIN? Do GFTs such as INLET, COVE, BAY, BIGHT, and GULF form a system of contrastive terms, or a set that draws on shared rules of formation, or a set whose structure is unified by an underlying set of semantic parameters?

The definitions for geographic features as used by the Permanent Committee on Place Names (PCPN—formerly the Committee for Geographic Names Australia, or CGNA) as per *The Glossary of Generic Terms* (CGNA, 1996) shows that features are defined quite arbitrarily and according to different criteria. Indeed, the definitions in *The Glossary of Generic Terms* are derived from 14 diverse sources; no explanation is offered as to the rationale for choosing one source over another to define a feature. Moreover, it is curious that the relief features HILL and MOUNTAIN obtain their definitions from two distinct reference sources. Similarly, the marine features BAY and GULF are defined according to one source whilst COVE and BIGHT from other ones, whereas INLET lacks a defining source. The *Glossary* offers the following definitions for HILL and MOUNTAIN:

HILL: A small portion of the earth’s surface elevated above its surroundings. In general, an eminence is not considered a MOUNTAIN unless its elevation, from foot to SUMMIT, is well over 300m., but the distinction is arbitrary. [Source: Moore, W.G. 1986. *The Penguin Dictionary of Geography*. London: Penguin Book]

MOUNTAIN: A natural elevation of the earth’s surface rising more or less abruptly from the surrounding level, and attaining an altitude which, relative to adjacent elevations, is impressive or notable. In general the elevation of a MOUNTAIN is more than 300m. from foot to summit, but this distinction is arbitrary. [Source: Stamp, L.D. 1966. *A Glossary of Geographical Terms*. Second Edition. New York: John Wiley & Sons]

The 300 metre (approx. 1000 feet) upper limit of a HILL is quite a common one throughout the world. It was formerly the limit in the UK, but is now 610 meters (2,000 feet) (Whittow, 1984, p. 352; Nuttall & Nuttall, 2008; Wilson, 2001, p. 89). The ANPS (Blair & Tent, 2015) also uses the 300 metre mark as the general cut-off point between HILLS and MOUNTAINS:

hill A conspicuous natural elevation of the earth’s surface, rising to a peak less than 300m above its surrounding terrain.

mountain A natural elevation of the earth’s surface rising more or less abruptly at least 300m from the surrounding level.

One further defining feature for HILLS is that they seem to be universally considered to be less tall and steep than MOUNTAINS.

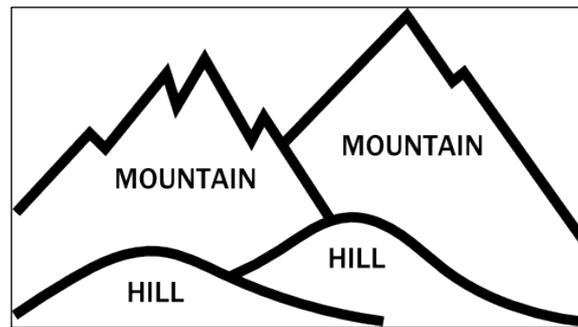


Figure 3

(Source: <https://www.quora.com/What-is-difference-between-hills-and-mountains>)

The Glossary of Generic Terms (CGNA, 1996) provided the following definitions for INLET, COVE, BAY, BIGHT and GULF:

INLET: COVE (b). A small indentation in the COAST or into the SHORE of a LAKE, usually tapering towards its head. See also COVE. [No reference]

COVE: A sheltered recess in a COAST; a small BAY, a CREEK or INLET where boats may shelter. [Source: Stamp, L.D. 1966. *A Glossary of Geographical Terms*. Second Edition. New York: John Wiley & Sons]

BAY: (a) An open, curving indentation made by the SEA or a LAKE into a COASTLINE. [Source: International Hydrographic Organization (1970). *Hydrographic Dictionary*. Third Edition. Monaco]
 (b) A body of water partly surrounded by land generally smaller than a GULF and larger than a COVE.

BIGHT: An indentation in the sea coast similar to a BAY, but either larger or with a greater curvature. [Source: Moore, W.G (1986). *The Penguin Dictionary of Geography*. London: Penguin Book]

GULF Part of the SEA, extending into the land; usually larger than a BAY. [Source: International Hydrographic Organization (1970). *Hydrographic Dictionary*. Third Edition. Monaco]

The ANPS (Blair & Tent 2015) definitions are:

inlet A narrow stretch of water reaching inland from a sea.

cove An indentation made by the sea in the coastline, smaller than a bay, but with sufficient curvature to provide shelter.

bay A well-marked indentation made by the sea into a coastline, larger than a cove, whose penetration is in such proportion to the width of its mouth as to partly surround its waters, and which thus constitutes more than a mere curvature of the coast.

gulf An area of sea partly enclosed by land, taking the form of a long narrow stretch of water larger than a loop.

bight A crescent-shaped indentation in the coastline, of large extent and not more than a 90 degree sector of a circle.



Figure 4

Some coastal indentations in South Australia, with their generic feature elements

Since we are dealing with a continuum of orographic and coastal indentation forms in these two examples, it is impossible to come to a precise consensus on defining them, unless arbitrary parameters are agreed upon by the various defining authorities—the 300m upper limit on HILLS being an example. An analogous set of circumstances can be seen with general dictionary definitions of words. Varying dictionaries will often provide diverse definitions and senses for a particular word.

As mentioned above, like all phenomena that form continua, an ontology of landscape is not universal, but is inherently culturally and linguistically bound. This is explicitly illustrated in a 2008 special issue of *Language Sciences*, edited by Niclas Burenhult, which contains ten articles focussing on the landscape ontologies in a diverse range of languages:

1. N. Burenhult & S.C. Levinson, 'Language and landscape: a cross-linguistic perspective.'
2. P. Brown, 'Up, down, and across the land: landscape terms, place names, and spatial language in Tzeltal.'
3. N. Burenhult, 'Streams of words: Hydrological lexicon in Jahai.'
4. G.H. Cablitz, 'When 'what' is 'where': A linguistic analysis of landscape terms, place names and body part terms in Marquesan (Oceanic, French Polynesia).'
5. N.J. Enfield, 'Linguistic categories and their utilities: The case of Lao landscape terms.'
6. S.C. Levinson, 'Landscape, seascape and the ontology of places on Rossel Island, Papua New Guinea.'
7. L. O'Connor & P.C. Kroefges, 'The land remembers: landscape terms and place names in Lowland Chontal of Oaxaca, Mexico.'
8. C. O'Meara & J. Bohnemeyer, 'Complex landscape terms in Seri.'
9. G. Senft, 'Landscape terms and place names in the Trobriand Islands – the Kaile'una subset.'
10. T. Widlok, 'Landscape unbounded: space, place, and orientation in ≠Akhoe Hai//om and beyond.'

I refer to two of these articles by way of illustration.

Levinson (2008, p. 262) explains that the speakers of Yéli Dnye (a language isolate of Rossel Island, PNG) do not have a single term for RIVER. They distinguish between three stretches of a major watercourse: the fresh water segment, called *mbwaa* (the habitat of eels and fresh water fish); the salty tidal segment, called *pye* (which is usually navigable and where crocodiles are found); and the water course of mixed salty/fresh water, called *kpé* that flows through the lagoon (usually deep water with big fish and sharks). Levinson notes that the three segments:

[...] seem to be distinguished not so much by perceptual criteria (the *kpé* is only visible in heavy rains, [...]), but by human affordance and activity (distinct types of fishing, or transport). [However], these three segments can be united by a single proper name (e.g. *Pene mbwaa*, *Pene pye*, *Pene kpé*), making the point crystal clear that neither the whole three segments nor the parts correspond to our notion of a river.'

In a diagram (reproduced below in Figure 5), Levinson further shows how the speakers of Yéli Dnye and Kilivila (Trobriand Islands), from two distinct regions, but with similar coastal water ecologies, designate specific zones within these areas (diagram B being based on Senft, 2008).

Senft (2008) reports that the Trobriand Islanders' coastal water terms are associated with perceptual features like depth, colours, and other observable qualities. They also have a separate ontology of soil types, as well as vegetation and garden ontologies. All these reflect the conceptual importance of these domains for the islanders who are not only skilled seafarers and excellent navigators, but also first and foremost gardeners.

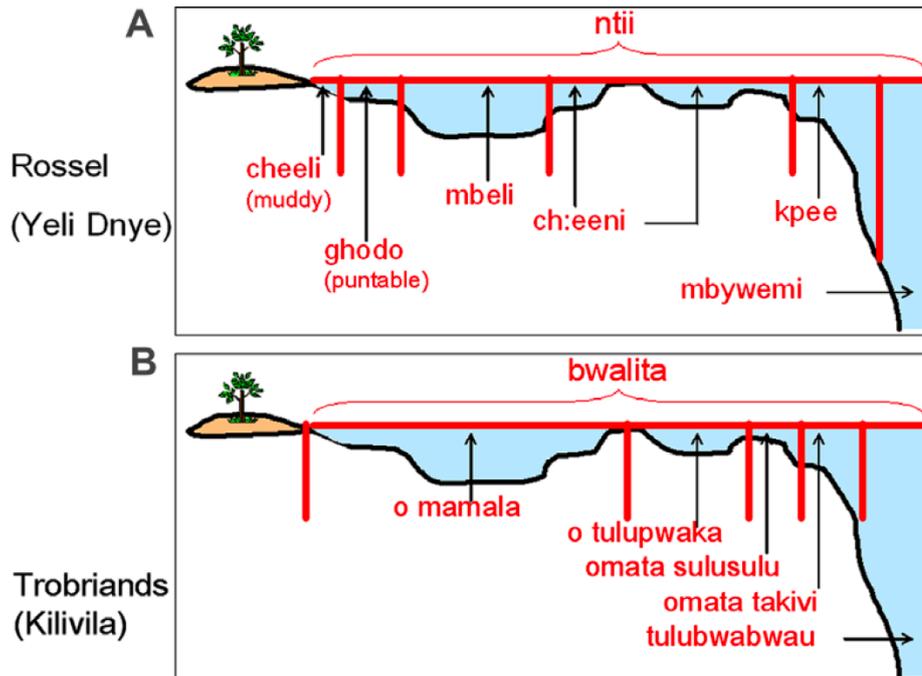


Figure 5

Cross-section of lagoon, showing terms for distinct kinds of water area in two societies with similar maritime ecologies.

(Source: Levinson, 2008, p. 264, Fig. 6.)

The significance of landscape ontologies on the naming of geographic features should be self-evident. By way of illustration, Levinson (2008, p. 277, Figures 12 & 13) provides a concrete example, showing a 3km stretch of the Rossel Island coastline revealing the correspondence between identified reef and coastal water features and their concomitant proper names. His figures are reproduced as Figures 6 & 7.

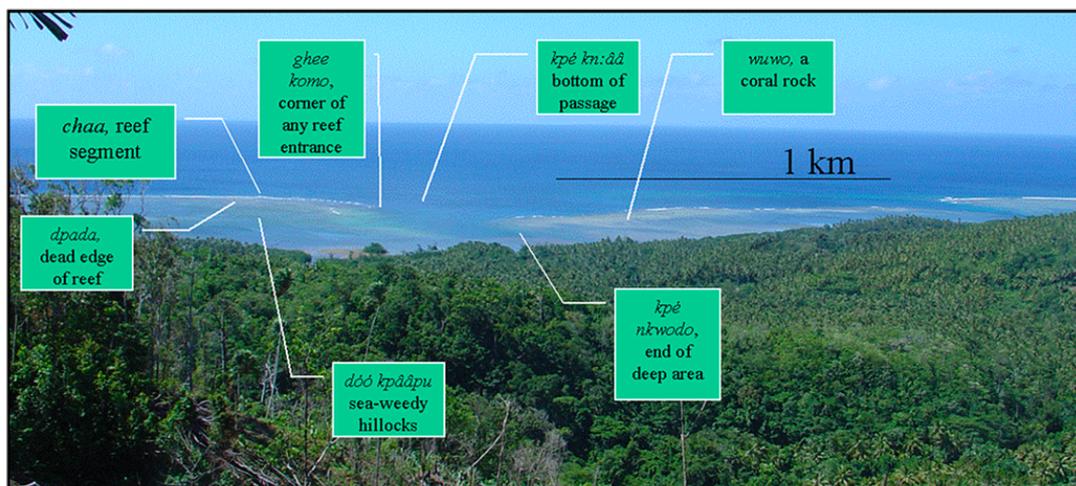


Figure 6

Feature terms (common nouns) denoting major reef features

(Source: Levinson, 2008, p. 277, Figure 12)

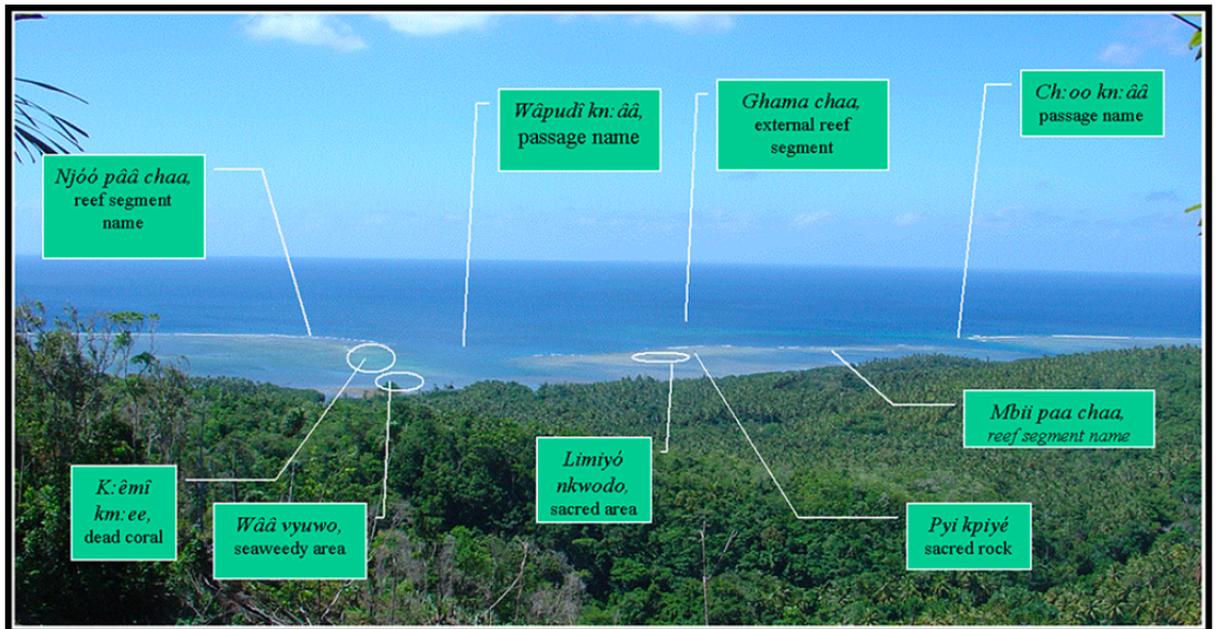


Figure 7

Proper names denoting some major reef features on the same stretch of coast

(Source: Levinson, 2008, p. 277, Figure 13)

Within the Australian context, Mark & Turk (2003b) found fundamental differences between GFTs in Yindjibarndi (an Indigenous language of the Pilbara) and those used by Geoscience Australia. They declare these differences support ‘the notion that people from different places and cultures may use different categories for geographic features.’ (p. 28). Tables 3 and 4 illustrate their point. Mark & Turk (p. 39) further point out that no Yindjibarndi term is exactly equivalent to one single term in English. For instance:

Yindjibarndi terms divide up subdomains of geographic reality quite differently than do English terms. For example, permanent and temporary water features that otherwise are similar are considered to be different kinds of features in Yindjibarndi; English, in contrast, treats permanence of water bodies and water courses as only an attribute or property, and expresses it through adjectives such as ‘temporary’, ‘seasonal’, ‘intermittent’, or ‘ephemeral’.

Table 3
Comparison of water terms and categories
(Source: Mark & Turk, 2003b, p. 36, Figure 1)

Geoscience category	Language	Terms
LAKE	English:	lake, tarn, loch, lough
	Yindjibarndi:	(some <i>yinda</i> are large enough to be considered to be lakes in English)
SOAK	English:	native well, soak, soakage
	Yindjibarndi:	<i>yurrama</i>
SPRG	English:	spring, pool spring, hot springs, mineral spring
	Yindjibarndi:	<i>jinbi</i> (permanent spring)
STRM	English:	stream, brook, watercourse, anabranch, backwash, backwater, run, creek, river, gully, rivulet, beck, backwater, burn
	Yindjibarndi:	<i>wundu</i> (riverbed), <i>yijirdi</i> (small stream of water), <i>garga</i> (gully)
WRFL	English:	waterfall, cascade, cataract, falls, rapids
	Yindjibarndi:	(no Yindjibarndi term for waterfall, however <i>yijirdi</i> is used for a small running stream of water over rocks)
WTRH	English:	waterhole, lagoon, hole, pool, washpool, billabong, oxbow
	Yindjibarndi:	<i>yinda</i>

Table 4
Comparison of terms for orographic features
(Source: Mark & Turk, 2003b, p. 38, Figure 2)

Geoscience category	Language	Terms
HILL	English:	hill, knoll, knob, mesa, sugarloaf, lookout, butte, hillock, kopje
	Yindjibarndi:	<i>marnda</i> , <i>bargu</i> , <i>burbaa</i>
MT	English:	mountain, peak
	Yindjibarndi:	<i>marnda</i>
PEAK	English:	mountain peak, summit, point (inland), rock, column, butte
	Yindjibarndi:	<i>marnda</i> , <i>gankala</i>
RDGE	English:	ridge, saddle, spur
	Yindjibarndi:	<i>marnda</i>
RNGE	English:	range, mountain range, hills, mountains, rock, boulder, pinnacle, crag,
	Yindjibarndi:	needle, pillar <i>marnda</i>
ROCK	English:	rock formation, tor, rocks (on land), rocks (offshore)
	Yindjibarndi:	<i>marnda</i>
(other)	English:	pile, mound
	Yindjibarndi:	<i>bantha</i>

Notice also how Yindjibarndi basically has one term for orographic features, *marnda*, whereas Geoscience Australia, and by implication English, recognises many more. Unlike Levinson (2008) however, Mark & Turk do not investigate how the Yindjibarndi ontology influences or correlates with place-naming; they note this still needs to be done.

Hercus (2009, p. 273) makes a very salient point which helps to explain the disconnect between Australian Indigenous ways of viewing landscape (i.e. country) and the European *Weltanschauung*:

Area names are a prominent feature of Aboriginal landscape terminology in at least some parts of Australia. [...] In the north-east of South Australia and adjacent regions these area names are important in that they transcend 'tribal' divisions. They show that Aboriginal people, though they feel they 'belong' to a particular tract of country traditionally, do not view the whole landscape as compartmentalised. A particular tract is viewed as part of a larger landscape both from the point of view of natural features as well as from the point of view of mythology.

We need not look any further, however, than our own language, English, to see that different international English-speaking regions use diverse terms to designate particular geographic features. Table 5 illustrates this by itemising some examples where Geoscience Australia and the U.S. Geological Survey classify geographic features under different feature classes, or else define them in different ways. For instance, Geoscience Australia's feature classes are more particularised than those of the U.S. Geological Survey—the AU classification distinguishing between HILLS, MOUNTAINS, (MTs) and PEAKS, whereas the US schema classifies them all under SUMMITs (SUMs).

Table 5

Selection of some feature class categories & associated geographic feature terms in AU and US³

US		AU	
FEATURE CLASS	Geographic feature terms included	FEATURE CLASS	Geographic feature terms included
CAPE	lea, neck, peninsula, point	CAPE	cape
		PT	point, bill, head / headland, ness, spit
		PEN	peninsula
		PROM	promontory, prong
POPL	city, settlement, town, village	POPL	hamlet, settlement, town, township, village
		CITY	city
		SUB.	suburb
CIVIL	borough, county, incorporated place, municipio, parish, town, township	CNTY	county
		PRSH	parish
SUM	ahu, berg, bald, butte, cerro, colina, cone, cumbre, dome, head, hill, horn, knob, knoll, mauna, mesa, mesita, mound, mount, mountain, peak, puu, rock, sugarloaf, table, volcano	HILL	hill, hillock, knob, knoll, kopje, lookout, mesa, sugarloaf
		MT	mountain
		PEAK	mountain peak, peak, summit
PILR	chimney, monument, pinnacle, pohaku, rock tower	ROCK	needle, pillar, pinnacle, rock, tor

3 PLACENAMING

One obvious and significant factor influencing the labelling of a geographical feature with a feature term is its topography. Ultimately, topography is also governed by ontologies. And like many other phenomena in this world, landscape features do not come, for the most part, pre-segmented by nature. The concept is discussed in quite some detail by Levinson (2008) and by Burenhult & Levinson (2008). They examine the conceptualising of landscape in terms of the linguistic expressions that describe them and how these may relate to its segmentation and the naming of these segments. They argue that from a geographical viewpoint the landscape is a continuous surface with deformations that we attempt to segment into discrete categories. Once geographical features have been identified and agreed upon, delineated and defined, they can be designated with toponyms. After this, these features can be assigned coordinates (latitude and longitude) and elevation values. We have seen a concrete example of this above with toponyms being assigned to identified reef and coastal features on Rossel Island.

The significance of the interrelationships between landscape ontologies and toponyms is cogently expressed by Kostanski & Clark (2009, p. 189) relative to Australian Indigenous ontologies and interconnected toponyms and those of the European occupiers of the land. I cite them in full:

George Seddon (1997:15) theorised that the words of the landscape carry ‘cultural baggage’ that may ‘imply values and endorse power relations’. This notion of power relations being borne out through placenames is nowhere more evident than in Australia. Since the time of early European exploration of Australia the landscape has been mapped from a colonial cartographic perspective. European explorers, surveyors and settlers brought with them to Australia a colonial understanding of land tenure, and with this the existing Indigenous understandings of the landscape were overwritten. The landscape was almost a palimpsest (the place where a text has been overwritten or erased to make way for another text), constantly being overwritten to suit the needs of the colonial government. In the act of mapping Australia the colonists began to take control of the landscape, and one of the most important and powerful ways they did this was to name places in the landscape. Sometimes names were taken from those of the colonial officials, or borrowed from places ‘back home’. In other instances where the landscape was deemed ‘too foreign’, Indigenous languages and their vocabularies were used to create new colonial places from the landscape of space (Carter 1987). This use of Indigenous names by the colonial powers transformed the names from being exclusively Indigenous in origin, to becoming *Anglo-Indigenous* in nature (Kostanski 2005). The term ‘Anglo-Indigenous’ is used because the names were used for colonial cartographic purposes, and were symbols of colonial places. Thus, in essence the names which had been used to describe Indigenous landscapes were now used for the colonial landscape and their meanings had been altered permanently.

I shall note some examples below of how landscape ontologies shape placenaming practices in a sample assortment of speech communities.

Firstly, Hunn (1996, p. 18), commenting on placenames in Sahaptin (a language of the Columbia River region in Washington, Oregon, and Idaho), observes that mountains do not get named, but places where people fished or camped, where roots and berries were gathered, where people hunted, or where spirits were encountered, are named instead. Rivers are also not named, but villages, campsites, and fishing places along rivers

are. The Sahaptin-speaking peoples tend to name places not according to geophysical appearances, but by plants and animals that are characteristic of the area, and places of specific human activity.

Widlok (2008), in describing landscape ontology and placenames of ≠Akhoe Hai//om (a Khoisan language spoken by ‘Bushmen’ in Namibia),⁴ shows that distinctions made within GFTs do not relate to landform or habitat types in any systematic way. A citation from Widlok will illustrate the point:

When I collected lists of place names asking informants to describe their route from our ordinary place of residence (and the place of speaking) to a distant place in the //Goaib, which required several days of walking, every person came up with a slightly different list. The lists reflected the places at which each group had stopped and rested or stayed overnight. The lists were not only individual selections of a larger ‘complete’ list of places but some places en route became places by the act of resting there. When stopping mid-way on a journey asking informants for the name of the place, they would ‘stretch’ the name of the settlement or site that we were approaching or had left, typically a place with a water source. I did not investigate systematically how far the names of places or sites could be stretched in that way. It seemed that it was always assumed that all ‘places’ had a name, very much like beads on a string, either because they were contained in a named landscape (so that this name could be used as a last resort) but also because a place became a place as soon as one stopped and rested.

Cablitz (2008) looks at the relationship between GFTs and placenames in the Marquesas Islands (French Polynesia), and shows the two domains are semantically associated—GFTs occurring in placenames and placenames referring to the same geographical entities as the generic elements of placenames. In short, placenames are generally derived from descriptive landscape labels whose etymology is semantically transparent, just as they are in English. However, as Table 6 shows, Marquesan has GFTs not recognised in English. Therefore, these geographic features will generally have coupled toponyms. Another difference with English GFTs is that a number of Marquesan ones are polysemous, (as in the examples *aoma’ama*, *ava*, *pāpa*, *tuaivi* and *ka’avai* in Table 6), a phenomenon which is generally not found in English.

Table 6

Some Marquesan GFTs

(Source: Cablitz, 2008, pp. 206-207, Table; p. 209, Table 2; p. 210, Table 3)

Marquesan GFT	English gloss	Derived toponyms supplied by Cablitz
<i>maoana</i>	'far out at sea'	
<i>aū</i>	'sea current'	
<i>toka</i>	'fish bank'	
<i>take</i>	'sea-bottom'	
<i>aoma'ama</i>	'sea-surface; world'	
<i>ava</i>	'sea/reef passage; mountain passage'	<i>Teava'i'i</i> 'The Strong Current Reef Passage'
<i>koūtu / 'oūtu</i>	'rocky coastline'	
<i>pāpa</i>	'rocky coast; lava stone formations'	<i>Tepāpa</i> 'The Lava Rock'
<i>ōne</i>	'sand; (sandy) beach'	
<i>tahuna</i>	'gravel, gravel beach'	
<i>ōpata</i>	'cliff (by the sea)'	
<i>pīna'i</i>	'cliff (inland area)'	
<i>tuaivi</i>	'mountain; mountain at the side of a valley'	
<i>mouka / mouna</i>	'inland mountain'	
<i>uta</i>	'inland area; ashore'	
<i>vao</i>	'deep inland area'	
<i>ho'oho'o</i>	'assemblage of stones'	
<i>pu'u'u</i>	'large pointed stone'	
<i>puna</i>	'fresh water source'	<i>Tepuna</i> 'The Fresh Water Source'
<i>ka'avai</i>	'river; valley; village'	

Finally, an excellent example of Australian Indigenous culture-bound ontology is provided by Stuart Duncan (former Secretary, Northern Territory Place Names Committee), who explained to me in an email (17/2/2019):

Part of my job in the NT was to check nomenclature on new map sheets being produced by Defence/ARMY. As some of the new 1:50,000 sheets of Groote Eylandt had few placenames, I visited Groote Eylandt and met with the traditional owners and decided which names to use on a particular map. When it got down to the naming of a beach or bay/cove there was much discussion as the beach/bay as a whole had no name, but there were names for different sections of the beach, and the surrounding area (and in some cases the various rocks on the beach).

In essence, we are all just trying to describe the same thing, but just happen to see things differently...

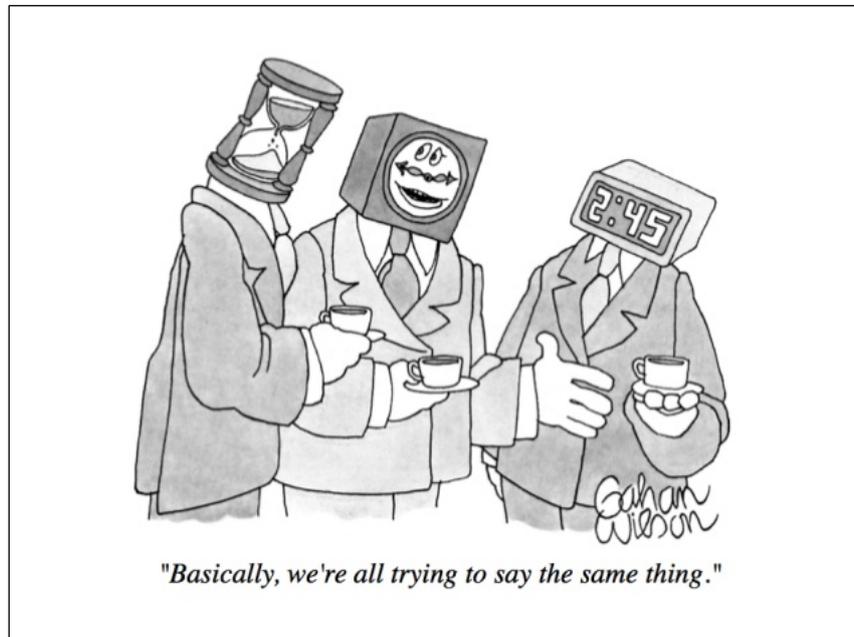


Figure 9

(Source: Gahan Wilson, *The New Yorker*, August 17, 1992)



Figure 10

David Vela's 'Picasso and Dali painting an egg'

(Source: <<https://dionisopunk.com/2017/03/12/pablo/picasso-y-dali-pintando-un-huevo-by-david-vela/>>)

4 CONCLUSION

As with all classification schemes, the categorisation of toponyms can be based on different criteria. One may classify toponyms according to their grammatical structures, or according to the intent of the namer (as the ANPS toponym typology does). And so it is with ontologies of landscapes, because they impact upon the identification of geographic features and their subsequent naming. The assumption that another culture will view the landscape in the same way you do can lead to a misunderstanding of placenames, their designations and meanings. This occurred in Australia with the British colonists and explorers, who often misunderstood local Indigenous toponyms and applied them to features to which they were not originally assigned.

There is often no direct correspondence between the geographic features named by Europeans and those named by Indigenous peoples. Within Indigenous systems whole geographic features like rivers, creeks, hills and mountains may not be given a single name. Instead, portions of rivers, etc., that are considered significant are endowed with names. An example can be found in the Kurna language (SA): *Nurlungga* 'Bend place' (on the Onkaparinga River) and *Ngangkiparingga* 'Woman river place' (also on the Onkaparinga River, and whence the river's name derives).⁵ Thus, the two systems have substantial differences in what counts as a significant feature deserving to be named.

A placename is a proper name attached to a geographic feature in order to distinguish it in some way from the space surrounding it, so it must be remembered that when we encounter a placename in or from a language not associated with a Western culture, that placename may not be labelling the feature we see or which we believe it identifies.

The Mark & Turk (2003b) study clearly shows that people from different places and linguistic backgrounds employ divergent conceptual categories for geographic features. Mapping and placenaming authorities need to take account of this if they are to be efficacious in their endeavours; and the study also has practical implications for native title land claims. Open and honest consultation between Indigenous clans and the various state and federal authorities needs to be conducted so that proper land management protocols can be established. This no doubt would involve the use of existing maps, which are based solely on Western ontological assumptions and feature codes as reflected in the *Glossary of Generic Terms* (CGNA, 1996) and its successors. Such an approach cannot reflect the various Indigenous landscape ontologies. A much more diversified and cross-cultural approach therefore needs to be implemented. In the words of Mark & Turk (2008, p. 42): '[t]o do otherwise would amount to ontological imperialism, and perhaps ontological assimilation.'

I shall conclude with the informed and enlightened words of Kostanski and Clark (2009, p. 191):

More than 150 years of colonial landscape domination and historical understandings of the landscape have meant that the official recording of the Victorian, and Australian, landscape is, and has been, represented from a colonial cartographic perspective. This perspective has negated Indigenous understandings of place for more than 150 years in Victoria, with the consequence that efforts now being made to reinstate Indigenous names are perceived by many as an attempt to instate a 'counter-landscape culture'.

Those who hold this opinion either lack the ability to view the world through someone else's eyes, or consciously refuse to do so.

References

- Bard, J.B.L., & Rhee, S.Y. (2004). Ontologies in biology: design, applications and future challenges. *Nature Reviews*, 5, 213-222.
- Blair, D., & Tent, J (2015). *Feature Terms for Australian Toponymy*. ANPS Technical Paper No. 3. South Turramurra: Placenames Australia.
- Bonyhady, T., & Griffiths, T. (2002). Landscape and language. In T. Bonyhady & T. Griffiths (Eds.). *Words for country* (pp. 1-13). Sydney: University of New South Wales Press.
- Bureau of Meteorology, Commonwealth of Australia. (2016). Indigenous weather knowledge—language, culture and environmental knowledge. Indigenous seasonal descriptions. Retrieved June 29, 2020, from <http://www.bom.gov.au/iwk/culture.shtml>
- Burenhult, N. (Ed.). (2008). Language and landscape: geographical ontology in cross-linguistic perspective. *Language Sciences*, 30(2-3), 135-382. Retrieved from <https://www.sciencedirect.com/journal/language-sciences/vol/30/issue/2>
- Burenhult, N. & S.C. Levinson (2008). 'Language and landscape: A cross-linguistic perspective'. *Language Sciences*, 30(2-3), 135-150. Retrieved from <https://www.sciencedirect.com/journal/language-sciences/vol/30/issue/2>
- Cablitz, G.H. (2008). When 'what' is 'where': A linguistic analysis of landscape terms, place names and body part terms in Marquesan (Oceanic, French Polynesia). *Language Sciences*, 30(2-3), 200-226. Retrieved from <https://www.sciencedirect.com/journal/language-sciences/vol/30/issue/2>
- Carter, P. (1987). *The road to Botany Bay*. London: Faber & Faber.
- Committee for Geographical Names in Australasia (CGNA). (1996). *Glossary of generic terms*. Version 1.0. Canberra: Commonwealth of Australia. Retrieved from https://www.icsm.gov.au/sites/default/files/2017-09/glossary_pnames.pdf
- Geoscience Australia. (2016). *Gazetteer of Australia*. Commonwealth of Australia. Retrieved from <https://placenames.fsdf.org.au/>
- Hercus, L., & Simpson, J. (2002). Indigenous placenames: an introduction. In L. Hercus, F. Hodges, & J. Simpson (Eds.), *The land is a map: placenames of Indigenous origin in Australia* (pp. 1-23). Canberra: Pandanus Books. Retrieved from <https://press.anu.edu.au/publications/land-map#pdf>
- Hercus, L. (2009). Some area names in the far north-east of South Australia. In H. Koch & L. Hercus (Eds.). *Aboriginal placenames: naming and re-naming the Australian landscape* (pp. 273-286). Aboriginal History Monograph 19. Canberra: ANU E Press & Aboriginal History Incorporated. Retrieved from <https://press.anu.edu.au/publications/series/aboriginal-history/aboriginal-placenames#pdf>
- Hunn, E. (1996). Columbia plateau Indian place names: what can they teach us? *Journal of Linguistic Anthropology*, 6(1), 3-26.
- International Hydrographic Organization (IHO). *S-23 Limits of Oceans and Seas*. Retrieved from

- <https://www.iho.int/srv1/index.php?option=comcontent&view=article&id=446:s-23wg&catid=66:4s-23wg&Itemid=287&lang=en>
- Kernell, D. (2016). *Colours and colour vision: an introductory survey*. Cambridge: Cambridge University Press.
- Kostanski, L. (2005). Spurious etymologies: Toponymic books and town name identities of the Murray River. *Victorian Historical Journal*, 76, 211-224.
- Kostanski, L., & Clark, I.D. (2009). Reviving old Indigenous names for new purposes. In H. Koch & L. Hercus (Eds.). *Aboriginal placenames: naming and re-naming the Australian landscape* (pp. 189-206). Aboriginal History Monograph 19. Canberra: ANU E Press & Aboriginal History Incorporated. Retrieved from <https://press.anu.edu.au/publications/series/aboriginal-history/aboriginal-placenames#pdf>
- Lepczyk, C.A., Lortie, C.J., & Anderson, L.J. (2008). An ontology for landscapes. *Ecological Complexity*, 5(3), 272-279.
- Levinson, S.C. (2008). Landscape, seascape and the ontology of places on Rossel Island, Papua New Guinea. *Language Sciences*, 30(2-3), 256–290. Retrieved from <https://www.sciencedirect.com/journal/language-sciences/vol/30/issue/2>
- Malinowski, B. (1922). *Argonauts of the Western Pacific: an account of native enterprise and adventure in the archipelagoes of Melanesian New Guinea*. London: Routledge.
- Mark, D.M., & Turk, A.G. (2003a). Ethnophysiography. Paper presented at the Workshop on Spatial and Geographic Ontologies. 23rd September, 2003 (prior to COSIT03). Retrieved from <https://www.researchgate.net/publication/237776460>
- Mark, D.M., & Turk, A.G. (2003b). Landscape categories in Yindjibarndi: ontology, environment, and language. In W. Kuhn, M. Worboys, & S. Timpf (Eds.), *Spatial information theory: foundations of geographic information science* (pp. 28-45). (Lecture Notes in Computer Science 2825). Proceedings of the International Conference, COSIT 2003, Kartause Ittingen, Switzerland, September 24-28, 2003. Berlin: Springer-Verlag.
- McNeill, N.B. (1972). Colour and colour terminology. *Journal of Linguistics*, 8(1), 21-33.
- Nuttall, J., & Nuttall, A. (2008). *The mountains of England & Wales - Volume 2: England*. (3rd Ed.). Milnthorpe, Cumbria: Cicerone.
- Rose, D.B. (1996). *Nourishing terrains: Australian Aboriginal views of landscape and wilderness*. Canberra: Australian Heritage Commission. Retrieved from <https://webarchive.nla.gov.au/awa/20170226002424/https://www.environment.gov.au/system/files/resources/62db1069-b7ec-4d63-b9a9-991f4b931a60/files/nourishing-terrains.pdf>
- Searle, J. (1995). *The construction of social reality*. New York: Free Press.
- Seddon, G. (1997). Words and weeds: some notes on language and landscape. In G. Seddon (Ed.). *Landprints: reflections on place and landscape*. Melbourne: Cambridge University Press.
- Senft, G. (2008). Landscape terms and place names in the Trobriand Islands: the Kaile'una subset. *Language Sciences*, 30(2-3), 340-361. Retrieved from <https://www.sciencedirect.com/journal/language-sciences/vol/30/issue/2>
- Smith, B., & Mark, D.M. (1999). Ontology with human subjects testing: An empirical investigation of geographic categories. *American Journal of Economics and Sociology*, 58(2), 245-272.

- Smith, B., & Mark, D.M. (2001). Geographic categories: an ontological investigation. *International Journal of Geographic Information Science*, 15(7), 591-612.
- Smith, B., & Mark, D.M. (2003). Do mountains exist? Towards an ontology of landforms. *Environment and Planning B (Planning and Design)*, 30(3), 411-427.
- U.S. Geological Survey (USGS). *USA Geographic Names Information System*. U.S. Board on Geographic Names USGS. Retrieved from <https://geonames.usgs.gov/apex/f?p=138:1:0>
- Whittow, J. (1984). *Penguin dictionary of physical geography*. London: Penguin.
- Widlok, T. (2008). Landscape unbounded: space, place, and orientation in ≠Akhoe Hai//om and beyond. *Language Sciences*, 30(2-3), 362-380. Retrieved from <https://www.sciencedirect.com/journal/language-sciences/vol/30/issue/2>
- Wilkinson, M., Marika, R., & Williams, N.M. (2009). This place already has a name. In H. Koch & L. Hercus (Eds.). *Aboriginal placenames: naming and re-naming the Australian landscape* (pp. 403-462). Aboriginal History Monograph 19. Canberra: ANU E Press & Aboriginal History Incorporated.
- Wilson, P. (2001). Listing the Irish hills and mountains. *Irish Geography*, 34(1), 89-95.
- Winter, S. (2001). Ontology: buzzword or paradigm shift in GI science? *International Journal of Geographical Information Science*, 15(7), 587-590.

Endnotes

- ¹ S-23 is used as a technical reference document and has been determined solely for hydrographic purposes and is not to be interpreted as having any legal or political associations. The boundaries are arbitrary.
- ² Apparently the adage was popularised by sociolinguist Max Weinreich, who heard it from a member of the audience at one of his lectures.
- ³ CNTY (county), HBR (harbor) HMSD (homestead), IS (island), LOC (location/locale), MT (mountain), PEN (peninsula), PILR (pillar), POPL (populated place), PROM (promontory), PRSH (parish), PT (point), REGN (region), RSTA (railway station), SPRG (spring), SUB (suburb), SUM (summit), TRIG (trig station), URBN (urban).
- ⁴ // represents the lateral click, resembling the sound sometimes likened to the command given to make a horse move, and previously often written as *k* by speakers of non-Khoisan languages.
≠ represents the palatal click, resembling the sound of clapping.
- ⁵ 'How one Indigenous man found identity through the almost-lost Kaurua language.' <http://www.abc.net.au/news/2017-06-19/rediscovering-the-kaurna-language-and-identity/8625612>