The Colonisation of Colour: Berlin and Kay's colour categories in Pacific languages

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Abstract

Berlin and Kay propose that there are basic colour terms in any language. These terms split the range of all colours into categories, such as reds, greens, and blues. Different languages may have different categories that split the range of colours in different ways. A meeting of cultures can lead to changes in how a language categorises colour. Across the Pacific, today, we see educational material that purports to teach colour in the indigenous languages, but they tend to categorise colour into the Western European categories, using loan words or repurposed words to describe colour categories that did not exist in that language prior to colonisation. While languages always evolve, indigenous communities' adoption of the Western European basic colour categories can lead to misunderstandings when considering historic writings, historic artworks, or traditional artistic practice. This paper is to raise awareness of that issue so that we can understand that today's understanding of colour is not necessarily that of previous generations.

Keywords

colour, language, colonisation, Pacific

Introduction

In 1969, Berlin and Kay investigated the evolution of basic colour terms in language. [2] They were working on the underlying hypothesis that every language has basic colour terms, those that are irreducible to other colour terms. A basic colour terms describes a category of colours. For example, in English, blue is a basic colour term that encapsulates other colour terms such as cerulean, navy, ultramarine, and azure. Berlin and Kay's 1969 conclusion was that all languages have between 2 and 11 basic colour categories and that basic colour terms get introduced into a language in a well-defined sequence. For example, a language with just two colour categories has words that correspond to light and dark, or warm and cool colours. A language that has three colours always introduces a word for red. The fourth colour to be introduced will be either green or yellow.

Berlin and Kay's work was immediately challenged, on both anthropological and linguistic grounds. [7] To respond to these challenges, and to develop the theory further, Berlin and Kay set up the World Color Survey in the late 1970s, with the support of new collaborators. [12] That has let to a plethora of research in the ways in which languages develop colour terms. The consensus is that the majority of the world's languages do appear to conform to a particular sequence of the introduction of new colour categories.

The introduction of colour categories follows the pattern shown in Figure 1. A language at Stage I has two categories for dark/cold and light/warm colours, with Stage II then splitting off the reds into a colour category of their own. The evidence is then that there are several paths to get through to Stage V, which is where a language has six colour categories that correspond to the English black, white, red, yellow, green and blue. Beyond those six colours, languages then introduce extra colour categories, which are almost always some combination of brown, grey, orange, purple, and pink, though with considerable variation in the order in which those colours become embedded in the language. [11] In English, for example, the last two basic colour categories to be added to the language were pink in the 15th century (named after the dianthus flower commonly called 'pink') and orange in the 16th century (named after the fruit). English, and most other Western European languages, have eleven basic colour categories: black, white, red, yellow, green, blue, brown, grey, orange, purple, and pink. There is some evidence that some languages have twelve basic colour categories, with Russian, for example, splitting the English category blue into light blue, *goluboy*, and dark blue, *siniy*. [13] No language has been shown to have more than twelve basic colour categories.

Berlin and Kay's method for elucidating basic colour categories is to first talk with monolingual speakers to determine the basic colour terms that exist in the language, then to ask specific questions about the colours using carefully calibrated colour chips (Figure 2(left)). For example, one set of questions is to ask speakers to identify all colours that they would unequivocally put into a particular basic colour category. In English, this leads to the chart in Figure 2(right). Note the wide range of colours that might be considered green or blue by an English speaker, but also note the regions of ambiguity (shown in white) where it is not clear into which category a colour should fall.

While most languages fit well into Berlin and Kay's model, Berlin and Kay's theory remains contentious. In particular, there is concern that it prioritises a Western European view of colour, with English's eleven categories of colour somehow being seen as a gold standard. The most challenging critique

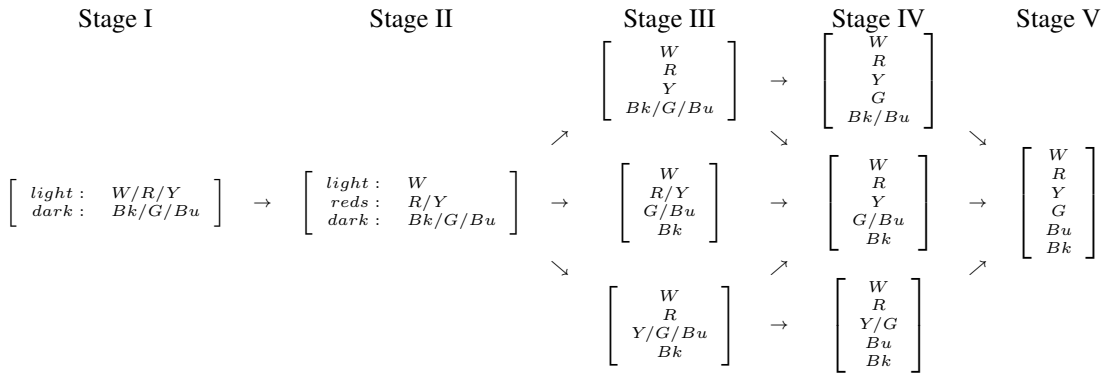

Figure 1: The first five stages of Berlin and Kay's revised scheme for the introduction of colour categories into a language from two category languages to six category languages. W=white, Bk=black, R=red, Y=yellow, G=green, Bu=blue.

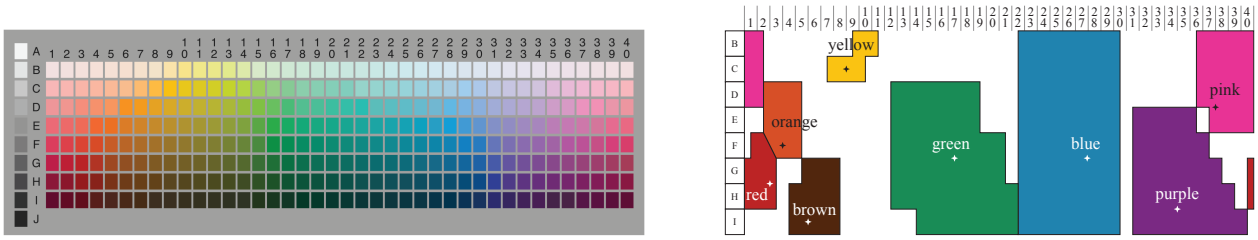

Figure 2: Left: The colour chips used in experiments to determine colour names. Actual colour chips are precise colour: this printed figure is an approximation. The colour section wraps around from left to right. [CC BY 4.0 from [18]] Right: Those colours that English speakers say that they would, under any conditions, call by the given colour name. The white areas represent colours that were not given an unequivocal basic colour name. [Redrawn from [5] based on data in [2]]

is the evidence that certain languages appear to have no concept of colour at all, instead referencing other visual properties. [20] That is, when asking monolingual speakers to categorise colours, the concept of 'colour' itself may not necessarily exist in a language and therefore the investigator is referring to a concept that is foreign to that culture.

Colour categories in historic Australian and Pacific languages

Haynie and Bowern studied the development of basic colour terms in the Pama-Gyungan language family, that covers approximately 90% of the Australian mainland. [8] They considered 189 Pama-Nyungan languages. The number of basic colour terms in these 189 languages ranged from two (e.g., Dharumbal, Ngadjuri) to nine (e.g., Mabuiag).

The present authors studied the evolution and development of basic colour terms in New Zealand Māori, drawing on Maori dictionaries published at different times, along with open-access comparative data from the Austronesian Comparative Dictionary and the Polynesian Lexicon Project Online. We show that the immediate ancestor language, Proto-Eastern Polynesian (PEP), had five basic colour categories in the 13th century and these same five categories pertained in Māori at the start of the 19th century, prior to any substantial contact with Western European languages. [4] It is of note that Māori altered its terminology for the colours in response to the settling of the islands of Aotearoa/New Zealand but did not expand its number of colour categories. Indeed, Proto-Oceanic, an ancestor of PEP spoken around 3000 years ago, also appears to have the same five colour categories. [3, 14] Given the lack of external stimulus to expand the colour categories before colonisation, we will work on the assumption that Polynesian languages had five colour terms (black, white, red, yellow, green) prior to significant contact with Western Europeans.

The impact of colonisation

The present authors have shown that the Māori language adopted loan words for English basic colour terms in the 19th century, to describe colour concepts for which the language had no existing words. [4] Table 1 shows the colour terms that existed prior to colonisation and the loan words that were adopted from English. The interesting case here is pink, for which there was no pre-existing word in Māori but for which they did not adopt a loan word, choosing instead to name the colour *māwhero* or *kuratea*, that is, 'white-red' or 'red-white', a recognition that pink is simply a pale shade of red.

The case of Māori immediately post-colonisation is similar to the case of Bulu (Bantu), where the colour system has expanded from three to six with lexical borrowings from French, the language of the colonists. [6]. Huisman also

English	white	black	red	green	yellow	blue	brown	grey	orange	purple	pink
Historic Māori	mā tea	pango mangu	whero kura	kākāriki mata	kōwhai pungapunga						
Loan words				kirīni		purū	parāone	kerei	ārani	pāpura	
Modern usage	mā	pango mangu	whero	kākāriki	kōwhai	kikorangi kahurangi	parāone parauri pākākā	kiwikiwi	karaka	poroporo waiporoporo tawa	māwhero

Table 1: The historic Māori colour words attested in the earliest dictionaries. [21, 17] There are attested historic words for only five English colours. We show the two most common words for each English colour. The loan words adopted for the colours are attested in later works. [19, 15] There is neither an historic nor a loan word for pink. In modern usage two colours (black, blue) have two equally-valid terms and two (brown, purple) have ongoing contention about the correct Māori term. [4]

English	white	black	red	green	yellow	blue	brown	grey	orange	purple	pink
Māori	mā	pango	whero	kākāriki	kōwhai	kahurangi	**parāone**	kiwikiwi	karaka	poroporo	māwhero
Tongan	hinehina	‘uli‘uli	kulokula	mata	engeenga	**pulū**	melomelo	hina	moli	**vāleti**	**pingikī**
Samoan	pa’epa’e	uliuli	mūmū	meamata	samasama	moana	’ena’ena	’efu’efu	moli	**violē**	**pinike**
Cook Islands	teatea	kerekere	muramura	matie	rengarenga	auīka	**paraoni**	re’ure’u	mākara	**vare’au**	tārona
Fijian	vulavula	loaloa	damudamu	drokadroka	dromodromo	karakarawa	kuvui	dravu	seni	lokaloka	**piki**
Kiribati	mainaina	roroo	uraura	**kiriin**	baabobo	**buruu**	**buraun**		**aoranti**	beboo	**bingke**
Hawaiian	ke‘oke‘o	‘ele‘ele	‘ula‘ula	‘ōma‘oma‘o	melemele	**polū**	māku‘e	‘āhinahina	**‘alani**	poni	‘ākala
Tahitian	'uo'uo	'ere'ere	'ute'ute	matie	re'are'a	nīnamu	rava	rehu	**'ānani**	**vare'au**	tārona

Table 2: Colour words in modern Pacific languages, taken from recent education resources for use in primary schools. Loan words are shown in **bold**. In some cases, there are two or three possible words in the various sources that we checked. We have selected those that make the point about loan words. Note that all languages have at least one loan in the educational resources. The loan for purple may be from the English ‘violet’.

reports similar categorial expansion in colour lexicon under socio-cultural pressure in the Japonic family. [10]

Casting our net wider across the Pacific, we can clearly see the effect of colonisation on colour terminology. Table 2 shows the modern words for colour in various of these languages, all taken from modern educational resources for use in primary schools. We see that, even though we are now a couple of centuries past that first contact, all of the languages still show the influence of the colonisers’ language on how the indigenous language talks about colour.

Māori offers an instructive case of how a people can reclaim this corner of their language. Mid-20th century Māori used loans for those colours for which there were no historically-attested words (Table 1). Today, almost all of these loans have been replaced by repurposed indigenous words (Table 2): *kahurangi* (blue, literally the cloak of the sky god), *kiwikiwi* (a grey bird), *karaka* (an orange berry), *poroporo* (a purple flower). Two colours have compounds: *māwhero* (‘white red’) for pink and *parauri* (‘yellow dark’) for brown, though there is still contention as to whether *parauri* (compound), *parāone* (loan) or *pākākā* (a historically attested word for reddish-brown) should be used for brown.

The colonisation of colour categories

The indigenous languages have clearly adopted words for English colour categories. But, more than this, the indigenous cultures have adopted the English colour categories themselves. Colour categories are a cultural construct: speakers of a language need to agree on what the words mean in order to be able to communicate effectively. [1] As cultural constructs, the colour categories are taught to children as part of their early education. An adult points at objects and tells the child what colour it is. Indeed, colour is one of the earliest abstract concepts that a child understands (that is, the child has to elucidate what is it that, for example, a green bird, a green lizard, a green leaf, and a green fruit all have in common in order to understand what is meant by the concept ‘green’). The educational materials used to teach colour in the Pacific today, by and large, use the Western European colour categories, so those are the categories that modern children are learning.

Language always develops. It is unsurprising that the Pacific languages have adopted words to allow the indigenous speakers to communicate concepts that have been brought in by the colonisers. Colonisation-induced language contact, with its clash of cultures, has been reported to impact the use of colour terms and colour understanding within a language. [9, 16, 6] Indeed, in the case of two Bantu languages (Mabi and Bulu), Grimm reports ‘It seems that two color systems are coexisting in speakers [of these languages]: a local and a colonial color system. At the same time, the colonial color system appears to greatly interfere with the local color systems. Speakers often gave answers such as, “I know that color, but we don’t have a name for it in our language. In French, it would be *violet*.” ’ [6] It is likely that indigenous speakers in the Pacific used two colour systems simultaneously in the early days of colonisation, one for speaking within their language community and one for speaking with the coloniser community.

However, the modern education tools that we have seen almost all use the eleven Western European colour categories. This means that we are teaching our children colour names in

their own language that are firmly attached to the Western European colour categories. For example, consider the Māori word *whero*. In the early 19th century, this word would have encompassed those colours that an English speaker would call red, brown, orange, some pinks and some purples. Today, children are taught that '*whero* is red' making a direct link from the Māori word to the English colour category.

Is this a problem? From one perspective, no: language always evolves. For example, before the 16th century, English had no category for the colour orange. If someone wished to refer to it, they called it 'yellow-red' (Old English *geoluréod*), and the colour itself would have fit in either the yellow or red colour category depending on the shade. The development of a new colour category was instigated by the introduction of the imported Mediterranian fruit.

In another sense, however, it does matter. It is important to understand how previous generations may have thought and, in the case of colour, how they grouped colours into categories. For example, in Māori art, a certain reddish-brown is very common. To European eyes, this colour would be seen as brown, in the same colour category as wood and clay. To Māori eyes, this colour would have been seen as *whero*, in the same category as blood and fire, as well as wood and clay. That difference in perspective may alter how we understand the artist's intention.

In the final analysis, we cannot stop language development, but understanding where the language has come from can help us to understand historic writings, historic artworks, and traditional creative practice.

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