

3 *Reduplicated colour terms in Oceanic languages*

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1 Reduplication in Austronesian languages

The Austronesian (An) language family constitutes one of the great laboratories for the study of reduplicative processes in natural languages. It is a rare An language indeed which does not make use of reduplication in some form as a grammatical device, and the sheer range of formal patterns and functions is dazzling on a family-wide scale. Nouns, verbs, adjectives, adverbs, numerals – even pronouns, question words, prepositions, classifiers and demonstratives – can be reduplicated in many ways for a great variety of purposes.¹

But productive reduplication is only a part of the full array of reduplicative phenomena in Austronesian. Dempwolff (1934–38) reconstructed a substantial number of reduplicated monosyllables – disyllabic bases, generally of the form CVCCVC, in which the two syllables are identical. Except for onomatopes (**tuk* ‘sound of a knock’, **tuktuk* ‘knock, pound, beat’) these reduplications were already lexicalised in PAN, since **butbut* ‘pluck, pull out’, **gemgem* ‘make a fist’ and many other disyllables lack a monosyllabic base.

Although reflexes of reduplicated monosyllables are found throughout the An language family, it is rare for reduplicated disyllables to become lexicalised. To form some idea of how surprising such a development is, it is necessary to appreciate the overwhelmingly disyllabic character of lexical bases in An languages. Chrétien (1965) showed that some 2,051 of the 2,216 lexical bases reconstructed by Dempwolff (1938), or over 92%, are disyllabic. Subsequent changes in the shapes of some reconstructions have transformed a few disyllables to trisyllables, but such cases are rare in relation to the total number of reconstructed bases. Moreover, far more reconstructed vocabulary is available now than was accessible to Dempwolff, and the pattern of dominant disyllabism (at around 90%) has been confirmed repeatedly. Given this prevailing pattern, any force which operated to produce lexicalised disyllables (hence quadrisyllabic words) would have been in opposition to well-established canonical tendencies.

¹ I am indebted to Ken Rehg for critical comments which led to improvements in an earlier version of this paper. The remaining faults are mine alone.

1.1 Basic colour terms

In their classic study of cross-linguistic regularities in the lexical encoding of colour categories Berlin and Kay (1969:5ff.) propose a number of constraints on types of morphemes that can properly be regarded as *basic colour* terms. They exclude from this category:

- (1) terms which are not monolexemic (bluish, lemon-coloured);
- (2) terms with a signification included in that of some other colour lexeme (crimson, scarlet, both types of the basic term 'red');
- (3) terms which are restricted to a narrow class of objects ('blond', or, in the Austronesian case, 'grey, of hair'), and
- (4) terms which are not psychologically salient.

In addition, they note a set of ancillary criteria that they find useful for distinguishing basic from non-basic colour terms:

- (5) doubtful terms do not have the same distributional potential as basic terms (reddish, whitish, greenish, but not *aquaish, *chartreus(e)ish, etc.);
- (6) 'colour' terms that are also the name of an object characteristically having that colour are suspect' (gold, silver, ash) – this qualification should be used in conjunction with the primary constraints (1)–(4);
- (7) "recent foreign loan words may be suspect", and
- (8) "in cases where lexemic status is difficult to assess...morphological complexity is given some weight as a secondary criterion. The English term *blue-green* might be eliminated by this criterion".

These guidelines will be of some use in examining the colour terminology of languages belonging to the Oceanic (Oc) subgroup of Austronesian. However, one area in which they clearly break down is with regard to the criterion of morphological complexity (evidently including both (1) and (8) above).²

In many Oc languages, representing a wide geographical and genetic range, colour terms are normally offered in reduplicated form. This is true of the semantic equivalents submitted for lexicostatistical test-lists, of such longer survey vocabularies as those of Tryon (1976) and Tryon and Hackman (1983), and of many dictionaries. Simplex and reduplicated colour terms often appear as separate dictionary entries, where they are commonly cross-referenced and labelled as semantic equivalents. Occasionally, however, it is stated that the simplex form is less favoured than its reduplicated counterpart, as where Pukui and Elbert (1971) give Hawaiian /'ele'ele/ 'black, dark; the black colour of Hawaiian eyes', but /'ele/ 'black (less used than 'ele'ele)'. In other cases a basic colour term is morphologically derived from a

² A superficial consideration of the data presented in this paper might also give the impression that the evolution of colour terms in some Oceanic languages contradicts the general directionality claimed by Berlin and Kay in the progressive elaboration of colour nomenclatures: (1) black : white, (2) black : white : red, (3a) black : white : red : green/grue, (3b) black : white : red : yellow, (4) black : white : red : green : yellow, (5) black : white : red : green : yellow : blue, (6) black : white : red green : yellow : blue : brown, (7) black : white : red : green : yellow : blue : brown : purple : pink : orange : grey. This may in fact turn out to be the case when fuller information is available, but no serious claim about counterevidence to the Berlin-Kay thesis can be based on the material presented here, as many of the languages from which data is cited are too poorly described to inspire confidence that full colour terminologies have been collected.

non-colour nominal, as with Manam /dara/ 'blood', /daradara/ 'red' (sg.), /dadara/ 'red' (pl.), Kiribati /ro/ 'obscurity, darkness, gloom', /roroo/ 'black', or Kosraean /fasr/ 'coral lime, limestone', /fasrfasr/ 'white'.

That these reduplicated forms are in fact basic colour terms is supported by at least the following observations:

- (1) in cases such as those just cited the corresponding simplex base is a natural substance or condition, not a colour term (Manam, Kosraean), or is an apparently homonymous colour term which is less favoured in natural speech (Hawaiian);
- (2) in some other cases a reduplicated colour term lacks any candidate for a simplex base, as with Manam /botiboti/ 'blue' (no ***boti*), Motu /kakakaka/ 'red' (no ***kaka*), /laboralabora/ 'yellow' (no ***labora*), Kosraean /sroalsroal/ 'black' (no ***sroal*), or Fijian /dromodromoal/ 'yellow, dirty in colour' (no ***dromo*);
- (3) where the semantically unmarked form of a basic colour term is reduplicated causative affixation is added to the reduplicated base rather than the simple base, as in Kosraean /fasrfasr-i/ 'to whiten, bleach' (with causativising transitive suffix; compare /fasr-i/ 'to stuff or coat with lime') or Hawaiian /ho'o-'ele'ele/ (not ***ho'o-'ele*) 'to blacken'.

In effect, what we encounter in this data is a typological contradiction: the morphologically marked forms appear to be semantically unmarked, while the morphologically unmarked forms are at best semantic equivalents, and at worst disfavoured alternatives of their reduplicated counterparts. Moreover, in a number of cases reduplicated colour terms lack a simplex base, and hence must be considered lexical entries, or lexicalised reduplications. Even where a reduplicated colour term derives from a simplex base, as a noun which indexes some natural substance (lime for 'white', blood for 'red', turmeric for 'yellow'), it is often unclear whether the derivation is productive, or even morphologically transparent (e.g. is Ponapean /toantoal/ 'black' constructed from the English loanword /toal/ 'coal'? This appears initially plausible, but the Woleaian cognate /chochoal(o)/ suggests that the resemblance between /toal/ and /toantoal/ is fortuitous). Figure 1 sets out the types of relationships between semantic marking (SM), morphological marking (MM) and morphological productivity (MP) which will be encountered in the data surveyed in §2:

Stage	SM	MM	MP
(1)	+	+	+
(2)	-	+	+
(3)	-	+	-

Figure 1: Stages in the morphological evolution of colour terminology in Oceanic languages

Considerations of general linguistic typology and of comparative evidence within the An family suggest that Stage (1) is the 'natural' or optimal condition: reduplication is a productive process (+ MP) which imparts an identifiable and often predictable semantic increment (+ SM) to the unduplicated base. In this stage a reduplicated colour term is 'semantically marked' – that is, it carries some overlay of meaning, as intensity or attenuation, which is superimposed on the meaning of the base. This can be illustrated from the data survey in §2 by Motu /kuro/ 'white', but /kurokuro/ 'whiter than kuro',

/kurokakuroka/ ‘very white, dazzling’, or Kiribati /mea/ ‘reddish-yellow colour’, /meamea/ ‘very red’.

In Stage (2) reduplicated forms have become ‘bleached’ of their overlaid meaning, but continue to be relatable to a simplex base. At this point reduplication with colour terms is semantically unmarked, since it no longer has a function (except, perhaps, to derive colour terms from non-colour nominal bases). The result is large-scale homonymy between simplex and reduplicated bases, as in Hawaiian /’ele’ele/ ‘black’, /’ele/ ‘black’ (less used than the preceding), /ke’oke’o/ ‘white, clear’, /ke’o/ ‘white, clear’, and many similar examples.

In Stage (3) the reduplicated term is retained but the simplex base is either lost or its relationship to its reduplicated counterpart is obscured by semantic change. Under these circumstances reduplication becomes lexicalised.

Although the lexicalisation of reduplicated colour terms is perhaps the most striking feature of this developmental sequence (since it is furthest removed from the ‘natural’ pole), our fundamental concern is less with lexicalisation than with whether reduplicated colour terms are semantically unmarked (‘black’, as opposed to ‘very black’, ‘blackish’, etc.). Reduplication is a form of affixation, and as such it should add an extra layer of information to the semantics of the stem, or trigger a change of word class. If affixation adds no additional meaning it is natural to assume that a semantic overlay has been bleached from the longer form, perhaps as a result of more frequent use over time in comparison with the simplex base. For convenience we will refer to reduplicated colour terms which carry no special semantic mark as ‘semantically unmarked reduplications’, or ‘SU reduplications’. Given their almost certain origin in productive reduplication processes, we would expect such forms to show a range of lexicalisation, since the semantic unmarking of morphologically complex words would most likely follow a drift-like course. In such a historical process of semantic bleaching and gradual dissociation between simplex bases and their reduplicated counterparts some languages would be affected while others would not, and within affected languages reduplicative derivations might still apply to some words, but be essentially fossilised in others.

So far we have spoken of reduplication as a monolithic process, but in fact there are many possible reduplicative patterns, and these can be used contrastively for different morphological purposes. Ross (1998) has shown convincingly that POc adjectival bases were reduplicated to mark plurality. As will be seen, there is some evidence that the reduplication pattern reflected in the singular forms of basic colour terms was foot reduplication, while that for plural inflection was syllable reduplication.³

Finally, we need to examine the morphology of the colour vocabulary in relation to the larger corpus of adjectivals. In some of the languages of south-east New Guinea reduplicated colour terms merge into a larger pattern of reduplicated adjectivals which are given as labels of semantically unmarked categories (‘big’, ‘small’, ‘hot’, ‘cold’, etc.). This paper is concerned, then, with answering the following questions:

³ The central contribution of Ross (1998) is a typology of adjectival classes in Oceanic languages which uses morphosyntactic criteria to distinguish six types of modifiers (adjective, derived adjective, adjectival noun, derived adjectival noun, adjectival verb and stative verb) and seven types of predicate lexemes (adjective, derived adjective, stative verb, adjectival noun, derived adjectival noun, adjectival verb and stative verb). He suggests that “at least some POc colour modifiers were derived adjectival nouns, themselves derived from nouns”. These issues go beyond the concerns of the present paper, and for simplicity I will use the cover term ‘adjectivals’ for any adjective-like words which may occur in a reduplicated form that appears to be semantically unmarked.

- (1) why morphologically marked (reduplicated) colour terms in Oc languages are so often semantically unmarked – that is, given as the equivalent of simple colour categories rather than of categories which carry some extra semantic mark;
- (2) to what extent reduplicated colour terms are lexicalised;
- (3) what were the pattern and function of reduplication which gave rise to the observed SU reduplications;
- (4) whether colour terms really differ from other adjectivals in exhibiting a high degree of semantic unmarking in reduplicated forms; and
- (5) why SU reduplicated colour terms are widespread in Oc languages, weakly attested in South Halmahera–West New Guinea (SHWNG) and Central Malayo-Polynesian (CMP) languages, and almost completely absent from Western Malayo-Polynesian (WMP) or Formosan languages.⁴

2 A survey of colour terminology in Oceanic languages

Proto Malayo-Polynesian (PMP) had at least the following colour terms: **ma-qitem* 'black', **ma-putiq* 'white', **ma-iRaq* 'red', **ma-qetaq* 'green', and **ma-kunij* 'yellow'. Of these only the first three are free from non-colour associations (cf. **ma-qetaq* 'raw, unripe', **kunij* 'turmeric'). In Proto Oceanic (POc) the corresponding terms were: **ma-qetom*, **ma-putiq*, **ma-eRaq*, **karawa* 'blue/green', and **ano* 'yellow.' In their use as basic colour terms none of these bases were reduplicated, although – as will be seen – reduplication undoubtedly played a part in creating morphological derivatives.

This section provides data for colour terms in 24 Oc languages. An effort was made to include all colour terms, whether reduplicated or not, as well as non-colour terms which are related to colour terms by a process of reduplication. In this way it can be seen that morphological processes which were once active in the language, or which continue to be active in other semantic domains or even with other colour terms, have begun to fossilise in particular colour words, or in the colour terminology as a whole.

1. YAPESE. Yapese is spoken in western Micronesia. Material was drawn from Jensen (1977), a dictionary containing somewhat over 4,500 entries.

Nine colour terms are reported for Yapese, as follows:

- (1) /*rungduq*/ 'the colour black; mud; dark colour';
- (2) /*weach*/ 'lime; the colour white', /*weachweach*/ 'the colour white';

⁴ The few known cases are: (1) Popalia (WMP; Tukangbesi Archipelago, south-east Sulawesi) /*kakanda*/ 'green', with possible CV- reduplication, but supported by no other colour term, (2) Selaru (CMP; Tanimbar Archipelago), with /*metmet*/ 'black', /*bokbok*/ 'white', and /*mémér*/ 'red', (3) Elat (CMP; Banda islands) /*metemeten*/ 'black', /*noinoitingo*/ 'white', /*moromoro*/ 'red', /*kairanranoko*/ 'green', but /*kuniliko*/ 'yellow', (4) Bonfia (CMP; eastern Seram), /*meta-meta-n*/ 'black', /*kala-kalat*/ 'red', /*biri-biri*/ 'green' (but /*buti*/ 'white', /*fisi inet*/ 'yellow', (5) Tanimbar-Kei (CMP; south-east of Seram), with apparent CV- reduplication in the colour terms /*ngangiar*/ 'white', /*babul*/ 'red', /*tatom*/ 'yellow', /*babir*/ 'green', and /*ngamétan*/ 'black' (which may have been reshaped due to close association with /*ngangiar*/ 'white'), (6) Sekar (CMP; Bomberai peninsula, Irian Jaya) /*kudkuda*/ 'black', /*iris*/ 'white', /*matmatak*/ 'green', but /*kasumba*/ 'red', and /*kuning*/ 'yellow' (the latter from Malay) and (7) Buli (SHWNG; southern Halmahera), with /*go-go*/ 'black', /*bu-bulang*/ 'white', /*ka-kalā*/ 'red', /*bisbis*/ 'green' and /*banban*/ 'yellow'.

- (3) /roow/, /roowroow/ 'the colour red';
- (4) /qeeryäq/ 'the colour dark red';
- (5) /giriin/ 'the colour green';
- (6) /yarraq/ 'the colour blue, blue-green, purple, violet';
- (7) /maegchoel/ 'the colour yellow';
- (8) /buut/ 'dirt, soil, earth', /but'buut/ 'the colour brown';
- (9) /qawaat/ 'ashes', /qawatwaat/ 'the colour grey'.

Only four of these (white, red, brown, grey) are reduplicated, and in general reduplication appears to be rare in the semantically unmarked forms of other adjectivals.

2. KAIRIRU. Kairiru is spoken on Kairiru island and the adjacent north coast of New Guinea, some 100km. west of the mouth of the Sepik river. The material is drawn from Wivell (1981), a provisional dictionary with just under 2,000 entries.

Six colour terms are reported in Kairiru:

- (1) /jirjir/ 'black; dirty; old' (no obvious simplex base, but possibly related to /jir/ 'mangrove swamp');
- (2) /kiet/ 'black paint', /kietkiet/ 'black', /qurqur/ 'black' (no simplex base);
- (3) /punpun/ 'white' (no obvious simplex base, but possibly related to /pun/ 'pigeon');
- (4) /mer/ 'red paint', /meramer/ 'red';
- (5) /yang/ 'European skin; people with white or yellow skin in general; yellow paint', /yangyang/ 'yellow';
- (6) /karep/ 'grass type; blue paint; blue/green';

The forms /kietkiet/, /punpun/ and /meramer/ are all said to be post-contact innovations, but the basis for this statement is unclear.

3. MANAM. Manam is spoken on Manam and Boesa islands, off the north coast of New Guinea, just east of the mouth of the Ramu river. Data are drawn from the substantial grammar by Lichtenberk (1983), and from the earlier vocabulary by Böhm (1975).

Nine colour terms are known, as follows:

- (1) /ziŋ/ 'black ashes', /ziŋziŋ/ 'black' (Böhm gives /jim/ 'rain, cloud; black, dark, deep (sea)', /jimjim/ 'black');
- (2) /wawa/ 'discoloured (light-coloured) patch of skin', /wawawa/ 'white';
- (3) /dara/ 'blood', /daradara/ (sg.), /dadara/ (pl.) 'red';
- (4) /'arai/ 'kind of ginger', /'arairai/ (sg.), /'a'arai/ (pl.) 'green (the colour of 'arai leaves)';
- (5) /aŋota/ 'kind of ginger (yellow paint produced from its root)', /aŋotaŋota/ 'yellow' (Böhm gives /angoango/ 'yellow');
- (6) /botiboti/ 'blue' (no simplex base, but Lichtenberk (1983:611) speculates on a possible connection with /laŋo buti/ 'March fly', despite the problematic discrepancy in vocalism);
- (7) /'ate'a/ 'ground', /'ate'ate'a/ 'brown';
- (8) /malapa/ 'partly smoked copra', /malapalapa/ 'light brown, light green';
- (9) /ta'e/ 'excrement', /ta'eta'e/ "jokingly offered by an informant when asked to identify a shade of brown" (nonce-form?).

Lichtenberk (1983:135) notes that "Manam adjectives are commonly formed by reduplication of, often verbal, sources". With specific reference to colour terms he elaborates further (pp.610-611): "Colour terms are derived by reduplication from nominal sources that refer to objects in nature, the general meaning of colour terms being 'X-like', where X is the source...The first five colour terms: i.e. /wawa-wa/ 'white', /ziŋ-ziŋ/ 'black', /dara-dara/, /da-dara/ 'red', /'arai-rai/, /'a-'arai/ 'green', and /aŋota-ŋota/ 'yellow', are the basic colour terms of Manam (in the sense of Berlin and Kay 1969). These are the ones commonly used, and they are usually thought of first by informants when asked about colour terms".

4. GAPAPAIWA. Gapapaiwa is spoken in Milne Bay, near the tail of New Guinea. The material used here, a windfall while I was conducting fieldwork in the Admiralty islands during the first half of 1975, was collected on a modified Swadesh 200-word list.

Only three colour terms were recorded for Gapapaiwa, but all are reduplicated:

- (1) /dhumadhuma-na/ 'black';
- (2) /poipoi-na/ 'white';
- (3) /yebayebari-na/ 'red'.

Many adjectivals in Gapapaiwa appear to be reduplicated in their semantically unmarked forms, including /muyamuya-na/ 'hot', /nubhanubha-na/ 'cold', /kanakana/ 'dry', /dhoadhoha/ 'dirty', /nenanena-na/ 'thin (materials)', /tupatupa-na/ 'thick', /bwibwi-na/ 'good', /rabharabha/ 'far'. However, an even larger number were given in unreduplicated form. To make matters more complex, many nouns and a few verbs were also given in reduplicated form, such as /kamokamo-/ 'belly', /katekate-/ 'liver', /mothamotha/ 'earthworm', /rugurugu/ 'leaf', /ramram-/ 'root', /gonugonu-/ 'sand', /tupitupi-/ 'ashes', /kanikani/ 'eat', /gibugibu-i/ 'cook', /yabayaba-i/ 'dig', or /rovorovo/ 'to fly'.

5. SUAUI. Suau is spoken around the south-easternmost tail of New Guinea. Material is drawn from Cooper (1975).

Five colour terms were recorded for Suau, as follows:

- (1) /dubaduba/ 'black';
- (2) /posiposi/ 'white';
- (3) /buyabuya/ 'red';
- (4) /yogeyoge/ 'yellow';
- (5) /'ala'alawa/ 'green'.

A number of non-colour adjectivals exhibit a similar reduplication pattern: /la'ila'i/ 'big', /ku'uku'u/ 'short', /lohaloha/ 'long', /yaloyal/ 'thin (objects)', /potopoto/ 'thick', /tabataba/ 'wide', /beabea/ 'old (people)', /halihaliu/ 'new', /lolo/ 'good', /hanahanau/ 'near', /lohaloha/ 'far'. The colour terms of Suau thus form only part of a larger pattern of unmarked adjectivals with reduplicated stems.

6. MAGORI. Magori is a moribund language spoken on the south coast of Papua just west of Amazon Bay (Dutton 1976). The data used here were recorded in a modified Swadesh 200-word list completed for me by Tom Dutton in the early 1980s.

Four colour terms appear on this list, as follows:

- (1) /dubaduba/ 'black';
- (2) /goagoa/ 'white';

- (3) /morimori/ 'red';
- (4) /gobugobura/ 'yellow'.

No term for 'green' could be supplied. Some other adjectivals on this list were also given in reduplicated form, as /vodavoda/ 'hot', /memea/ 'cold (of weather)', /vuravura/ 'dry', /obo'obo/ 'short', /baibai/ 'long', and /geragerama/ 'bad, evil'. However, many other adjectivals were given in non-reduplicated form, such as /nuda/ 'wet', /duvabu/ 'heavy', /miti/ 'small', /vere/ 'big', /kerere/ 'sick', /baeau/ 'old (of people)', /gadara/ 'new', /ragi/ 'good', /avanui/ 'correct, true', /tebina/ 'near', and /anadaevara/ 'far'. What is striking about the Magori colour terms, then, is their consistent use of reduplication. It is not known whether simplex bases exist for any of these forms.

7. MOTU. Motu is spoken around the south-eastern end of the Gulf of Papua, in the vicinity of Port Moresby. The material is drawn from Lister-Turner and Clark (1930), a dictionary of roughly 7,000 entries.

Nine colour terms were identified in Motu. All of these occur reduplicated, but four have a semantically related simplex base, while five do not:

- (1) /korema/ 'any dark colour, brown, black; beche-de-mer', /koremakorema/ 'black';
- (2) /kuro/ 'white', /kurokakuroka/ 'very white, dazzling', /kurokuro/ 'whiter than /kuro/';
- (3) /kakakaka/ 'red' (no simplex base);
- (4) /gadokagadoka/ 'light green, as young leaves; also blue' (no simplex base);
- (5) /laboralabora/ 'yellow' (no simplex base);
- (6) /duba/ 'grey colour; dark grey cloud', /dubaduba/ 'very dark colour (colour of Erema natives); very dark cloud';
- (7) /vaiurivaiuri/ 'blue' (introduced; no simplex base);
- (8) /mage/ 'ripe, of fruits; ripe bananas', /magemage/ 'deep orange';
- (9) /uriuri/ 'brown, colour of Motuan's skin' (no simplex base).

Finally, /buruka/ 'grey (of hair)' – the only non-reduplicated term with colour reference in Motu – apparently is not a colour term, since it is not freely applicable to a range of substances.

By contrast, adjectivals in general appear to be reduplicated only in active derivation or inflection:

- (1) /bada/ 'large, great', /ba-bada/ 'large, great (pl.)', /badabada/ 'largest, greatest';
- (2) /maitu/ 'small', /maitumaitu/ 'fine, of string, finely woven, of mat';
- (3) /maragi/ 'small', /maragimaragi/ 'very small';
- (4) /maimu/ 'small, of thread, string, etc.', /maimumaimu/ 'very small, wasted by sickness';
- (5) /misika/ 'small', /misikamisika/ 'very tiny';
- (6) /matama/ 'beginning', /matamata/ 'new, fresh' (apparently reduced by haplology from *matamamatama);
- (7) /guna/ 'first', /gunaguna/ 'first of all (in time)', /guna-na/ 'the former one, the old one'.

8. MUSSAU. Mussau is spoken in the Saint Matthias Archipelago, north-west of New Ireland. The material was collected while conducting fieldwork in Manus during the first half of 1975 (Blust 1984).

Five colour terms were recorded for Mussau, as follows:

- (1) /beroberoŋ-ana/ 'black';
- (2) /bo/ 'night', /boboŋi-ena/ 'black';
- (3) /usouso-ana/ 'white';
- (4) /rae/ 'blood', /raerae-ana/ 'red';
- (5) /talakia/, /talaki-ena/ 'yellow'.

Of these only the terms for 'black', 'white', and 'red' are reduplicated. It is unknown whether simplex bases for /beroberoŋ-ana/ and /usouso-ana/ are found in the language. A number of other adjectivals were also offered in reduplicated form, as /kulukuluta-na/ 'dirty', /tumtumŋa-na/ 'dull, blunt', /aanasa/ 'hot', /guluguluena/ 'straight', /riuriue-na/ 'thin (of animates)', and /kalakalaŋi-na/ 'near', but the majority were given as unreduplicated bases.

9. TANGA. Tanga is spoken on the island group of the same name off the east coast of south-central New Ireland. Material is drawn from Bell (1977), a small dictionary with about 1,400 entries.

Five colour terms were found in Tanga, as follows:

- (1) /meketket/, /mikitkit/ 'black' (no simplex base);
- (2) /murmur/ 'white' (no simplex base);
- (3) /bulam/, /bulbulam/ 'pink, red; used to describe the skin colour of Polynesians and also of the ethnographer, who is a bronzed Australian of European origin';
- (4) /mukerau/, ('more often in reduplicative form /mukmukerau/') 'green';
- (5) /pil/ 'lightning', /pilpil/ 'yellow (as in gold, copper, brass)'.

A few other adjectivals which appear to be semantically unmarked also appear in reduplicated form, as with /tun/ 'purchase with a view to cooking', /tuntun/ 'warm (weather)', /tungtung/ 'short (in height)', and /soksok/ 'painful' (possibly connected with /sok/ 'to blaze up'). In some cases reduplication clearly is an active morphological process which contributes a sense of intensity to an adjective, as with /pong/ 'short in length', /pongpong/ 'very short in length', or /sak/ 'bad', /saksak/ 'of poor quality, of no account.'

10. VITU. Vitu is spoken in the French islands, off the north coast of New Britain. The material cited here appears on a modified Swadesh 200-word list which was completed for me courtesy of Malcolm Ross in the early 1980s.

Vitu has six known colour terms, as follows:

- (1) /galol/ 'black';
- (2) /kavukavu-a/ 'white';
- (3) /baritunutunu-a/ 'red';
- (4) /ngerengereg-a/ 'red';
- (5) /kobokobo-a/ 'green';
- (6) /gangogango-a/ 'yellow'.

Several other adjectivals also appear reduplicated, as with /molumolua/ 'dirty', and /puripuri-a/, but the great majority of all adjectivals (16 of 24) are unreduplicated bases.

11. MALEU. Maleu is spoken around the western tip of New Britain. The material cited here was recorded on a variant of the Swadesh 200-word list in the early 1980s courtesy of Raymond L. Johnston.

The five most basic colour terms appear on the Maleu list with two semantically undistinguished terms for 'white', as follows:

- (1) /korkorŋe/ 'black';
- (2) /sesenge/ 'white';
- (3) /borboria/ 'white';
- (4) /kilkiluange/ 'red';
- (5) /bilbiliange/ 'green';
- (6) /ngongonge/ 'yellow'.

A few other adjectivals on this list appear to be reduplicated, as /karkar/ 'sick, painful', /mamae/ 'shy, ashamed', and /ounouna/ 'correct, true', but the great majority (16 of 24) are not. As with Magori, then, the striking thing about Maleu is that all colour terms were given in reduplicated form. It is unknown whether simplex bases exist for any of these terms.

12. NEHAN. Nehan (Nissan) is spoken in the islands of the same name, between New Ireland and Buka. It is represented here by a lexicostatistical list made available to me courtesy of Matthew Spriggs in the early 1980s.

Five colour terms are recorded, as follows:

- (1) /kurkurum/ 'black';
- (2) /gawgawil/ 'white';
- (3) /kubkubar/ 'red';
- (4) /bukbukir/ 'green';
- (5) /yawyawel/ 'yellow'.

A few other adjectivals also show CVC- or CV-reduplication, as /welwelsuk/ 'warm (weather)', /papadak/ 'dry', /kit/, /kikitilik/ 'small', /hehelen/ 'narrow', and perhaps /momoh/ 'sick, painful'. However, most recorded adjectivals (17 of 28) are unreduplicated. These observations are in general agreement with the short vocabulary included in Todd (1978).

13. MONO-ALU. Mono-Alu is spoken in the Shortland Islands, off the southern tip of Bougainville in the Solomons chain. Material is drawn from the 324-item list in Tryon and Hackman (1983).

Six colour terms are given for Mono-Alu, as follows:

- (1) /sivisivi/ 'black';
- (2) /'ana'ana'a/ 'white';
- (3) /masimasini/ 'red';
- (4) /malamalae/ 'green';
- (5) /bulubulū/ 'blue' (evidently a loan from English, with added reduplication);
- (6) /temotemoli/ 'yellow'.

A few other adjectivals are also given in reduplicated form, as /moamoa/ 'cold (of weather)', /regerege/ 'dry', /perapera/ 'thin (of objects)', and /vatuvatu/ 'thick (of objects)', but the great majority of adjectivals in the Tryon and Hackman list, including at least 32 other items, are not reduplicated. Again, what is striking about the colour terminology of this language is the

consistent use of reduplication with what are presumably the semantically unmarked values (those offered as basic colour terms).

14. TINPUTZ. Tinputz is spoken in north-eastern Bougainville, near the western end of the Solomons chain. Material is taken from a modified Swadesh 200-word list supplied by Matthew Spriggs in the early 1980s.

Six colour terms are available for Tinputz, as follows (notes are from Spriggs):

- (1) /por/ 'black' (Blackwood 1935:418) gives /bubuits/;
- (2) /kakavo/ 'white';
- (3) /vurvuir/ 'red' (Blackwood gives /wuruir/);
- (4) /pepere/ 'green';
- (5) /totomoen/ 'yellow';
- (6) /kakatsire/ 'yellow'.

If we include the Blackwood term /bubuits/ it appears that every colour term in Tinputz with the possible exception of /vurvuir/ is formed by CV-reduplication. Apart from /tsutsune/ 'small', /kakaot/ 'short', /babanao/ 'wide' and /ririkin/ 'near', all other adjectivals on the Swadesh list (19 items) appear in non-reduplicated form.

15. TO'AMBAITA. To'ambaita is spoken in northern Malaita, in the south-east Solomon islands. The material is drawn from a modified 200-word Swadesh list supplied courtesy of Frank Lichtenberk in the early 1980s.

Five colour terms are given for To'ambaita, as follows:

- (1) /mboombora'a/ 'black';
- (2) /kwaakwao'a/ 'white';
- (3) /meemena'a/ 'red';
- (4) /marakwa/ 'green';
- (5) /kookoa'a/ 'yellow'.

Phonological patterning suggests that *-/a/* is an attributive suffix, and that /marakwa/ began as something other than an abstract colour term. Four of the five colour terms recorded for To'ambaita are formed by partial reduplication in which the vowel of the reduplicant is automatically lengthened. A similar pattern of reduplication is seen in a few non-colour adjectivals, as /'aa'ako/ 'warm (weather)', /raaraje'a/ 'dry', /kuukuru/ 'short', /gaangaro'a/ 'thin (materials)', and /reeremba'a/ 'wide', but the great majority of adjectivals (18 items) appear in non-reduplicated form.

16. MOTA. Mota is spoken in the Banks islands, at the north-eastern extremity of the Vanuatu chain. Material was drawn from the classic dictionary of Codrington (1896), which contains over 7,000 entries.

Ten colour terms are given for Mota, as follows:

- (1) /siliga/ 'dark, black';
- (2) /wowoga/ 'white, whitish' (no simplex base);
- (3) /aqaga/ 'white';
- (4) /mea/ 'red earth, used as pigment; a red pig', /memea/ 'red', /meamea/ 'kind of red fish';
- (5) /soroga/ 'red, colour of *pes nai* when ripe', /sorsoroga/ 'dark red';

- (6) /ango/ 'turmeric; yellow', /angoango/ 'yellow';
- (7) /pepe/ 'a yellow butterfly; a fish, *Chaetodon*', /pepega/ 'yellow; name of a cocoa-nut as its husk gets yellow';
- (8) /gesagesaga/ 'bright blue or bright green' (no simplex base);
- (9) /turturuaga/ 'blue or green', /turturuga/, /tuturuaga/ 'blue or green, if clear and bright, with regard to brightness rather than colour';
- (10) /teretere/ 'grey' (no simplex base).

The Mota material in Tryon (1976) differs from this in several respects, as follows:

- (1) /silsiliya/ 'black';
- (3) /akwpwaya/ 'white';
- (9) /turuturuya/ 'green'.

Apart from /mwataketake/ 'light (weight)' /mamarir/ 'cold', /kokota/ 'narrow', /matoltol/ 'thick', /maniβniβ/ 'thin', and possibly /ninin/ 'smooth', no other adjective in the Tryon list appears in reduplicated form.

17. KIRIBATI. Kiribati (Gilbertese) is spoken in Kiribati (the former Gilbert Islands), south-eastern Micronesia. The material is drawn from Sabatier (1971), a dictionary with somewhat over 10,000 entries, but with additional information on phonology supplied by Sheldon P. Harrison (pers. comm.).

The colour terms of Kiribati include:

- (1) /ro/ 'obscurity, darkness, gloom', /roroo/ (written /roro/ in Sabatier) 'black, dark colour', /taka-roro/ 'very black, altogether black', /wanganoro/ 'blackish';
- (2) /mai/ 'pale, greyish, whitish', /mainaina/ 'white' (morphological relationship between base and derivative unclear), /ka-mainaina/ 'to whiten, put a white mark on a tree or on reserved land';
- (3) /ura/ 'red colour of tainted fruit', /uraura/ 'red, redness, vermilion', /ka-uraura/ 'to redden, paint or dye red';
- (4) /mea/ 'reddish yellow colour, rust, grey', /meamea/ 'very red, reddest', /ka-meamea/ 'to make red, to dye, red';
- (5) /maawaawa/ 'green/blue', /ka-maawaawa/ 'to paint or colour with green or blue'.

Although all of these correspond to simple bases, the reduplicated form is given as the basic colour term in elicitation, and only the reduplicated base is used in causatives. Since the one available dictionary lacks a reverse index it is likely that some terms have been omitted from the discussion.

18. KOSRAEAN. Kosraean (Kusaian) is spoken on the island of Kosrae in the eastern Carolines of Micronesia. The material is drawn from Lee (1976), a dictionary with about 7,000 entries.

Kosraean has eight colour terms, as follows:

- (1) /sroalsroal/ 'black', /sroalsroal-i/ 'blacken, dye or paint black' (no simplex base);
- (2) /fasr/ 'coral lime, limestone', /fasr-i/ 'stuff or paint with *fasr*', /fasrfasr/ 'white', /fasrfasr-i/ 'whiten, bleach';
- (3) /srah/ 'blood', /sruhsrah/ 'red'; /sruhsrah fohkfohk/ 'brown' ('dirty red'), /sruhsrah nwacsnwacs/ 'pink; orange colour' ('clean red');

- (4) /folfol/ 'blue, indigo, dark blue', /folfol-i/ 'make blue', /folfol sra/ 'green, greenish' (no simplex base);
- (5) /rangrang/ 'yellow', /rangrang-i/ 'make or dye yellow' (no simplex base).

19. **PONAPEAN.** Ponapean is spoken in the eastern Caroline Islands of Micronesia. Material is drawn from Rehg and Sohl (1979), a dictionary of over 7,500 entries.

Ponapean has the following colour terms:

- (1) /toantoal/ 'black' (no simplex base, despite the similarity of the English loanword /toahl/ 'coal');
- (2) /pweht/ 'lime, made from coral', /pwetepwet/ 'white; grey hair';
- (3) /nta/ 'blood', /weitahta/ 'red' (rightward reduplication);
- (4) /pohndipw/ 'green' ('colour of grass');
- (5) /oahng/ 'turmeric', /oangoahng/ 'yellow';
- (6) /pohn pwel/ 'brown' ('colour of earth');
- (7) /pehs/ 'ashes', /pehsehs/ 'grey, greyish; dust-covered';
- (8) /mpwul/ 'flame', /mpwulapwul/ 'pink';
- (9) /pohn ntahn mwell/ 'purple'.

A number of other adjectivals are also reduplicated in Ponapean, as /karakar/ 'hot', /wisekesek/ 'wet', /toutou/ 'heavy', /mwotomwot/ 'short', and /reirei/ 'long'. According to Rehg (pers.comm.) these are residues of a once-active process of derivational reduplication which is no longer functional in the language (by contrast, inflectional reduplication for durative aspect is fully productive).

20. **WOLEAIAN.** Woleaian is spoken in the central Caroline islands of Micronesia. The material is drawn from Sohn and Tawerilmang (1976), a dictionary of somewhat over 7,000 entries.

Nine colour terms are given for Woleaian, as follows:

- (1) /chochoal(o)/, /shoal(o)/ 'dark, black';
- (2) /rosh(o)/ 'night, darkness; dark, black, obscure';
- (3) /besh(e)/ 'lime; white, snow white', /bbesh/ 'white', /beshebesh(e) 'white';
- (4) /rowaas(i)/ 'red';
- (5) /rowarow(a)/ 'red, pink, pinkish';
- (6) /maiur(iu)/ 'fresh, green, alive', /maiuriur(iu)/ 'very green, fresh';
- (7) /gaaraweraw(a)/ 'green, blue';
- (8) /rang(a)/ 'turmeric', /rangerang/ 'yellow, yellowish';
- (9) /yang/ 'ginger', /yangoyang/ 'yellow, yellowish, of ginger colour'.

A few of these words appear to be derived by a productive process of reduplication, while others do not. A number of other adjectivals are also reduplicated in semantically neutral or unmarked forms, as /gigigii(i)/ 'small, little', /metagiteg(i)/ 'painful, sick', or /maaw(a)/, /maamaaw(a)/ 'strong, powerful'.

21. **FIJIAN.** Fijian is spoken in the Fiji archipelago. Material is drawn from Capell (1968), a dictionary with about 6,000 entries.

All Fijian colour terms are reduplicated, but generally appear to be derived from simplex nouns:

- (1) /loa/ 'soot, used as black paint for the face', /loaloa/ 'black; black cloud, sudden storm; kind of beche-de-mer';
- (2) /vula/ 'white, in compounds; a partial albino', /vulavula/ 'white, in compounds';
- (3) /damu/ 'red, brown, dun; two varieties of red fish', /damudamu/ 'red colour';
- (4) /karakarawa/ 'a blue-green fish', /karakarawa/ 'blue/green' (no simplex base);
- (5) /dromodromoa/ 'yellow, dirty in colour' (no simplex base).

Fijian colour terms are embedded in a vast matrix of reduplicated bases, both nominal and adjectival:

/wasa/, /wasawasa/ 'sea'	/kalokalo/ 'star or planet'
/kabu/ 'fog, mist, haze'	/kabukabua/ 'misty, foggy'
/kuru/, /kurukuru/ 'thunder'	/liva/, /livaliva/ 'lightning'
/katakata/ 'hot'	/batabata/ 'cold'
/sua/ 'to wet'	/suasua/ 'wet, damp, humidity'

Their reduplicated form thus does not immediately stand out as a distinguishing mark.

22. TONGAN. Tongan is spoken in western Polynesia. The material is drawn from Churchward (1959), a dictionary with nearly 18,000 entries.

Ten colour terms are reported in Tongan:

- (1) /'uli/ 'dirty, black', /'uli'uli/ 'black', /faka-'uli'uli/ 'blacken';
- (2) /hinehina/ 'white' (surely related to /hinā/ 'grey or white, of the hair', /hinehina/ 'of the hair, going grey, grey in patches', despite the discrepancy in vowel length), /faka-hina/, /faka-hinehina/ 'make white, whiten');
- (3) /kula/ 'to blush', /kulokula/ 'red', /faka-kula/, /faka-kulokula/ 'make red, redden';
- (4) /lanu mata/ 'green' (lit. 'colour of unripe fruit');
- (5) /lanu moana/ ('colour of deep sea'), /lanu pulu/ (from English), /lanu langi/ ('colour of sky') 'blue';
- (6) /enga/ 'turmeric', /engeenga/ 'yellow';
- (7) /efu/ 'dust', /efuefu/ 'ashes', /lanu efuefu/ 'grey' ('ash colour');
- (8) /lavilavi/ 'grey or greyish' (no simplex base);
- (9) /panefu/, /panefunefu/ 'greyish brown';
- (10) /mea/ 'light red or light brown, reddish, brownish: esp. in names of plants, fish, etc.', /mēmea/ 'light brown'.

A few other Tongan adjectivals given as semantically unmarked forms are also reduplicated, such as /nounou/ 'short', and perhaps /lelei/ 'good', but this is not at all common.

23. SAMOAN. Samoan is spoken in western Polynesia. The material is drawn from Milner (1966), a dictionary with somewhat over 9,000 entries.

Eight colour terms are reported in Samoan. Most of these occur reduplicated:

- (1) /uliuli/ 'black; dark (of skin, hair, etc.); be tanned, bronzed by the sun', /fa'a-uliuli/ 'black cloud', /fa'a-uli/, /fā'-uli/ 'black clouds' (Milner gives a hypothetical base (uli), which apparently never occurs alone);
- (2) /pa'e/ 'to bleach', /pa'epa'e/ 'pale, light-coloured; white', /fa'a-pa'epa'e/ 'to whitewash (with lime);

- (3) /sina/ 'be white; white (grey) hairs', /sinā/ '(of head hair, etc.) be grey or white', /sinasina/ 'be white', /fa'a-sinasina/ 'make white, whiten';
- (4) /tetea/ 'albino; fair, as the colour of hair';
- (5) /'ula/ 'be deep red, crimson; red feathers used as decoration for fine mats', /'ula'ula/ 'be red, crimson';
- (6) -/mea/ "this base seems to occur mainly in compound words after names of plants, fish, etc., when it denotes a brown or red variety", /memea/ 'be yellowish-brown (with age)';
- (7) /'efu/ 'grey';
- (8) /'ena/ 'light brown, fair', /'ena'ena/ 'brown';
- (9) /pīniki/ 'pink';
- (10) /violē/ 'violet'.

24. HAWAIIAN. Hawaiian is spoken in the Hawaiian island chain. The material is drawn from Pukui and Elbert (1971), a dictionary with over 14,500 entries.

Twelve colour terms are reported in Hawaiian. Some of these occur reduplicated; others occur simple, but with reduplicated forms that have non-colour referents:

- (1) /'ele/ 'black' (less used than the following), /'ele'ele/ 'black, /hō-'ele'ele/ 'to blacken, darken';
- (2) /ke'o/ 'white, clear', /ho'o-ke'o/ 'to whiten, bleach', /ke'oke'o/ 'white, clear';
- (3) /kea/ 'white, clear; fair-complexioned person, often favourites at court; shiny; white mother-of-pearl shell; breast milk', /keakea/ 'semen'; /keakea/, /kekea/, /po'o kea/ 'grey-haired person';
- (4) /'ula/ 'red, scarlet; brown, as skin of Hawaiians; blood; agate', /hō-'ula/ 'to redden, make red', /'ula'ula/ 'bay, as a horse; various red snappers; variety of taro with red or purple petioles; Kentucky cardinal; blood; red tapa';
- (5) /'ōma'o/ 'green, as plants; a greenish tapa', /'ōma'o'oma'o/ 'an emerald', /ho'o-'ōma'o'oma'o/ 'to make green, paint green';
- (6) /hina/ 'grey- or white-haired; grey', /hinahina/ 'the silversword; grey, greyish';
- (7) /uli/ 'any dark colour, including the deep blue of the sea, the ordinary green of vegetation, and the dark of black clouds', /ho'o-uli/ 'to darken, make blue, green, etc.', /uliuli/ 'any dark colour', /ho'ouliuli/ 'to darken';
- (8) /mea/ 'reddish-brown, as water with red earth in it; yellowish-white, of feathers' (no reduplication);
- (9) /mele/ 'yellow', /melemele/ 'yellow', /ho'o-melemele/ 'yellow';
- (10) /'olena/ 'turmeric', /'olenalena/ 'yellow; dye made of 'olena plant';
- (11) /'akala/ 'pink; two endemic raspberries, and the thimbleberry from south-eastern Asia', /'akalakala/ 'pink; pinkish (rare)';
- (12) /'ōhelo/ 'a small native shrub *Vaccinium reticulatum*, in the cranberry family', /'ōhelohele/ 'pink, rosy, of the colour of 'ōhelo berries', /ho-'ōhelohele/ 'to colour pink';
- (13) /hā-'ula/ 'reddish', /hā-'ula'ula/ 'reddish, pink';
- (14) /poni/ 'purple; any purple-like colour; a variety of taro, used as medicine'.

3 Analysis

Although it includes data on only slightly over 5% of all Oc languages and is necessarily somewhat selective, the preceding survey gives a representative picture of the extent to which reduplication is found in the basic colour terms of Oc languages. By using it as a preliminary data base we can begin to address the questions which were raised at the end of §1.

3.1 What was the pattern and function of reduplication which gave rise to SU reduplications in Oc languages?

Without attempting to be more specific we can say that at least three general patterns of reduplication are observable on the surface in the basic, or SU colour terms of Oc languages: 1. full reduplication, 2. rightward reduplication, and 3. leftward reduplication

Table 1: Patterns of SU reduplication in Oceanic colour terms

Yapese	1. full (white, red, brown) 2. rightward (grey)
Kairiru	1. full (black, white, red, yellow)
Manam	1. full (black, red, blue, yellow, brown) 2. rightward (white?, green, light brown/light green)
Gapapaiwa	1. full (black, white, red)
Suau	1. full (black, white, red, yellow) 2. leftward (green)
Magori	1. full (black, white, red) 2. leftward (yellow)
Motu	1. full (black, red, green, yellow, grey, blue, orange, brown)
Mussau	1. full (black, white, red, yellow)
Tanga	1. rightward (black) 2. full? (white, yellow) 3. leftward (pink/red, green)
Vitu	1. full (white, red, green, yellow) 2. rightward (red)
Maleu	1. leftward (black, white(x2), red, green, yellow)
Nehan	1. leftward (black, white, red, green, yellow)
Mono-Alu	1. full (black, white, blue) 2. leftward (red, green, yellow)
Tinputz	1. leftward (black, white, red(?), green, yellow(x2))
To'ambaita	1. leftward (black, white, red, yellow)
Mota	1. leftward (white, red(x2), blue/green (x2)) 2. full (yellow, grey)
Gilbertese	1. full (black, red(x2)) 2. rightward (white?)

Kosraean	1. full (black, white, red, blue/green, yellow)
Ponapean	1. full (black, white, yellow, grey(?), pink) 2. rightward (red)
Woleaian	1. leftward (black?) 2. full (white, red/pink, yellow(x2)) 3. rightward (green, blue/green)
Fijian	1. full (black, white, red) 2. leftward (blue/green, yellow)
Tongan	1. full (black, white, red, yellow, grey(x2)) 2. rightward (greyish-brown) 3. leftward (light brown)
Samoaan	1. full (black, white(x2), red, brown) 2. leftward (brown/red)
Hawaiian	1. full (black, white, red, green, yellow, grey, dark colour) 2. rightward (yellow, pink(x2))

The above patterns show an asymmetrical distribution. In all languages, except a more-or-less continuous band running from New Ireland and New Britain through the Banks islands of northern Vanuatu, what appears superficially to be full reduplication is the dominant pattern, affecting the greatest number of individual terms. Moreover, lateral (leftward or rightward) reduplication can be seen as a variant of this pattern which is predictable from canonical shape.

General theoretical considerations, however, may require us to abandon the view that a pattern of CVCV-CVCV copying is 'full' reduplication. The most widely accepted view in current phonological theory holds that the domain of reduplicative processes is prosodically defined, and for this reason the apparent pattern of full reduplication in the above examples can be seen to be an artefact of more general processes which operate on the trochaic foot. Since most An languages have penultimate stress the prosodic domain for reduplication in trisyllabic (or trimoraic) bases would exclude prepenultimate syllables, thereby producing a pattern of 'rightward' copying, as in Yapese /qawatwaat/ 'grey', Manam /'arairai/ 'green', /aŋotaŋota/ 'yellow', /malapalapa/ 'light brown/light green', or Ponapean /weitahta/ 'red'. In the apt terminology of Spaelti (1997), these prosodically complementary patterns are alloduples of the same dupleme, accentually determined variants of the same basic instruction to copy a trochaic foot. Leftward reduplication as in Suau /'ala'alawa/ 'green', or Magori /gobugobura/ 'yellow' may imply a pattern of word-initial stress which similarly circumscribes the domain of copying, but no relevant information is available on the stress pattern of these languages. Likewise, an apparently universal constraint against words of four consecutive identical syllables blocks the complete reduplication of Manam /wawa/ 'discoloured (light-coloured) patch of skin', producing the trisyllabic /wawawa/ 'white', which may show either a lateral pattern, or a reduction by haplology of a fully copied base.⁵

⁵ Spaelti (1997:38) attributes the claim for such a universal constraint to Yip (1993). In rare cases it is violated, as with Motu /kakakaka/ 'red; any bright colour'.

Tentatively, then, we can conclude that the SU reduplications of Oc colour terms derive from an earlier productive pattern of foot reduplication. Ross (1998) has shown that reduplication must be attributed to POc as a marker of plurality in adjectives or other adjective-like words, and notes in passing (1998:105) that ‘where the root is CVCV in form, reduplication for intensity is a doubling of the whole root, whereas reduplication for the plural is a doubling of only one of the two syllables’. We will return shortly to the matter of reduplication as a marker of intensity. For now it is sufficient to remark that a contrast between the singular form of SU colour terms which use foot reduplication, and the plural of colour terms, which uses CV- (syllable) reduplication can be reconstructed for POc. The singular:plural pattern in these forms is especially striking, since – counterintuitively – the marking for plural involves a more restricted copy of the base than the marking for singular, as with Manam /dara-dara/ (sg.) but /da-dara/ (pl.) ‘red’, /’arai-rai/ (sg.) but /’a-’arai/ (pl.) ‘green’ (Lichtenberk 1983:610), or Samoan /pa’e-pa’e/ ‘pale, light-coloured’ (sg.), but /pa-pa’e/ ‘pale, light-coloured (pl.)’. A similar pattern is also seen with other adjectives or adjective-like words in some languages, as with Fijian /leka-leka/ (sg.) : /le-leka/ (pl.) ‘short’ (cf. the more ‘natural’ correlation of semantic and morphological relationships in /levu/ (sg.) but /le-levu/ (pl.) ‘large’; Schütz 1985:229).

Given its distribution over at least two primary branches of Oceanic, it appears likely that CV- reduplication marked the plural of POc adjectives, while foot reduplication had other functions. What function can most reasonably be attributed to foot reduplication in adjectival bases? Ross (1998:99ff.) suggests that reduplication marked intensity in a morphosyntactically defined subset of POc adjectivals (called ‘the small class’) which included only a handful of meanings such as ‘big’, ‘small’, ‘long’, ‘short’, ‘good’, ‘bad’, ‘new’ and ‘old’. This claim certainly appears reasonable, but the evidence for a correlation between reduplication and intensity in Oc languages is quite fragmentary, involving only a few known languages (Marshallese, ’Ala’ala, Tigak, Hoava, Longgu), and in some cases only one or two forms. Moreover, there is additional evidence that reduplication – and more particularly foot reduplication – signalled intensity not just in Ross’s ‘small class’ of adjectivals, but also in POc colour terms.

To obtain a fuller perspective on the correlation between full reduplication and intensity in Oc adjectivals we must step outside Oceanic and consider the functions of reduplication in other An languages. Here reduplication in adjectivals, including colour terms, commonly has one of two morphological functions: (1) intensive (‘really X’), or (2) attenuative (‘X-ish’):⁶

(1) Intensive

Thao (central Taiwan; Blust n.d.)

/ma-puzi/ ‘white’	/ma-puzi-puzi/ ‘very white’
/ma-qulha/ ‘red’	/ma-qulha-qulha/ ‘very red’
/ma-ra’in/ ‘big’	/ma-ra’i-ra’in/ ‘very big’

⁶ CV- reduplication as a marker of plurality in adjectivals may also have a pre-POc pedigree, since a very similar pattern is found in some non-Oceanic languages, as with Tagalog /malilit/ ‘small (sg.)’, /maliliit/ ‘small (pl.)’, or /maásim/ ‘sour (sg.)’, /maaásim/ ‘sour (pl.)’ (Ramos 1981:35), or Timugon Murut /malumpus/ ‘sad (sg.)’, /malulumpus/ ‘sad (pl.)’ (Prentice 1971:122).

Pangasinan (northern Philippines; Benton 1971:117ff.)

/andekét/ 'black',	/andek-déket/ 'blacker'	/andekét-dekét/ 'very black'
/amputí/ 'beautiful'	/amput-púti/ more beautiful'	/amputí-putí/ 'very beautiful'

Iban (southwest Borneo; Asmah 1981:82ff.)

/manah/ 'beautiful'	/manah-manah/ 'very beautiful'
/básay/ 'big'	/básay-básay/ 'very big'

Acehnese (northern Sumatra; Durie 1985:41)

"With stative verbs and operators whose semantics allow of various degrees, reduplication has the effect of emphasising a greater degree – greater than one might think" (/ka-tuha-tuha/ 'really old')

Karo Batak (northern Sumatra; Woollams 1996:98)

"Reduplicated adjectives occurring as manner adjuncts...are generally accompanied by overtones of intensity" (/mbages-mbages/ 'really deep', /pedas-pedas/ 'really quickly')

Lampung (southern Sumatra; Walker 1976:27)

"Complete reduplication of an adjective denotes intensification of the root meaning" (/balakbalak/ 'very large', /jaohjaoh/ 'very far')

Chamorro (western Micronesia; Topping 1975:183)

One type of reduplication in Chamorro "is used to intensify the quality of something; it can therefore be called *Intensifier Reduplication*. The rule for forming the intensifier reduplication is to repeat the final CV of the stem" (/dánkolo/ 'big', /dankololo/ 'very big', /bunita/ 'pretty', /bunitata/ 'very pretty', etc.).

(2) Attenuative

Thao (central Taiwan; Blust n.d.)

/shi-puzi-puzi-n/ 'whitish, somewhat white'

Rukai (south-central Taiwan; Li 1973:268)

/ma-Daw/ 'big'	/ma-Da-Daw/ 'rather big',
/mu-aDiñay/ 'delicious'	/mu-aDi-aDiñay/ 'rather delicious' ⁷

Tagalog (central Luzon; Schachter and Otnes 1972:345)

/mahiya [?] / 'ashamed',	/imahiya [?] hiya [?] / 'be a bit ashamed'
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Malay/Bahasa Indonesia

/biru/ 'blue'	/ke-biru-biru-an/ 'bluish'
/mérah/ 'red'	/ke-mérah-mérah-an/ 'reddish'

⁷ Li calls this 'Intensifying derivation', but the glosses of his examples suggest contrarily that the semantic overlay is one of attenuation.

Karo Batak (northern Sumatra; Woollams 1996:95)

/megara/ 'red',

/megara-megara/ 'reddish'

/mbiring/ 'black'

/mbiring-mibiring/ 'blackish'

Palauan (western Micronesia; Josephs 1975:231ff.)

/beot/ 'easy, cheap'

/bebeot/ 'fairly easy, fairly cheap'

/dekimes/ 'wet'

/dedekimes/ 'kind of wet'

/mesulaul/ 'sleepy'

/mesesulaul/ 'kind of sleepy'

While this enlargement of the scope of comparison provides additional evidence that foot reduplication probably functioned as a morphological device to mark intensity in PMP adjectives, it also sheds light on why the correlation is so fragmentary in Oc languages (and perhaps in CMP and SHWNG languages as well). This leads to our second question.

3.2 Why are reduplicated colour terms in Oc languages so often semantically unmarked?

Bloomfield (1933:425ff.) developed an elementary typology of semantic changes which has often been cited in the subsequent literature. One of his types, labelled 'hyperbole', involves a change 'from stronger to weaker meaning', as in pre-French **ex-tonāre* 'to strike with thunder' > French *étonner* 'to astonish'. The motivation behind such changes appears reasonably clear: speakers of all languages strive for ways to make their speech more vivid, more convincing, more rhetorically powerful. In making a point older speakers of American English may be satisfied to state that there are 'lots' of examples, while younger speakers insist there are 'tons'. The frequent, generally temporary preference for more powerful substitutes for 'good' or 'bad' are well-known in many languages. But all such attempts to create the ultimate attention-capturing form of an expression are doomed to failure, since overuse inevitably leads to neutralisation between semantically marked and unmarked forms. A person, an experience, an event can only be 'fabulous', 'fantastic', or 'terrific' so many times before these words become, for all practical purposes, equivalent to 'good'.

As shown previously, there is some reason to believe that the reduplication of a trochaic foot signalled intensity in PMP adjectivals, hence a semantic contrast between:

Simplex	Reduplicated
'X'	'really X'

In the Oc branch of An, overuse of intensive reduplication in neutral contexts led to semantic bleaching so that 'really X' approached nearer and nearer to the neutral (semantically unmarked) meaning 'X'. For this reason the correlation between foot reduplication and intensity is attested only in fragmentary form in Oc languages. Alternatively, if it is assumed that foot reduplication signalled attenuative, a similar loss of semantic marking could have occurred through a somewhat different mechanism. Semantic categories rarely are exemplified by prototypical members, and this is perhaps truer of colour terms than of most adjectivals. The real world is a continuum, and the exigencies of practical use often require that a category be applied to referential tokens which are not its optimal representatives. Few substances in nature are 'red' as the colour of blood, but many are

'reddish', and the overuse of such attenuative or approximative forms would in time lead them to become semantically unmarked.

What apparently happened to the originally intensive forms of Oc colour terms is essentially a process of semantic bleaching: the reduplicated terms have usurped the semantic values of the simplex terms. The same type of process can be observed in other domains of language. It is well-known that pronouns which carry a special mark of politeness through countless reiteration become deferentially neutral (e.g. English 'you' for the second person singular). In short, expressions which begin as highly marked for purposes of semantic salience in time become jejune, and a new cycle of innovation begins.

3.3 To what extent are reduplicated colour terms lexicalised in Oc languages?

This varies from language to language and form to form, but there are a number of very clear cases, as seen in Table 2:

Table 2: Examples of lexicalisation in reduplicated colour terms

Language	Simplex base	Reduplicated form
Kairiru	(none)	<i>qurqur</i> 'black'
	(none)	<i>punpun</i> 'white'
Manam	(none)	<i>botiboti</i> 'blue'
Motu	(none)	<i>kakakaka</i> 'red'
	(none)	<i>gadokagadoka</i> 'green/blue'
	(none)	<i>laboralabora</i> 'yellow'
	(none)	<i>vaiurivaiuri</i> 'blue'
	(none)	<i>uriuri</i> 'brown'
Tanga	(none)	<i>meketket</i> 'black'
	(none)	<i>murmur</i> 'white'
Mota	(none)	<i>wowoga</i> 'white'
	(none)	<i>gesagesaga</i> 'green/blue'
	(none)	<i>teretere</i> 'grey'
Kosraean	(none)	<i>sroalsroal</i> 'black'
	(none)	<i>folfol</i> 'green/blue'
	(none)	<i>rangrang</i> 'yellow'
Ponapean	(none) ⁸	<i>toantoal</i> 'black'
Fijian	(none)	<i>dromodromoa</i> 'yellow'
Tongan	(none)	<i>lavilavi</i> 'grey'

⁸ Ken Rehg (pers. comm.) notes that Ponapean /toahl/ 'coal' may be a back-formation from /toantoal/ 'black' rather than an idiosyncratically altered form of the English original.

These examples do not exhaust the possibilities in the data at hand, since for a number of the languages dictionary resources are not available, and it is unknown whether a reduplicated colour term – although offered as a semantically unmarked form – is a lexical entry or a product of morphological derivation.

3.4 Are colour terms really different from other adjectivals?

As noted already, SU reduplication appears to be particularly salient in colour terms, but also appears in other adjectival forms. To move this discussion beyond the realm of subjective impressions it is necessary to select a representative sample of adjectivals in a number of languages and calculate the percentage of SU reduplications in both colour terms and non-colour terms. A convenient way to begin this is through use of the comparative vocabularies in Tryon (1976) or Tryon and Hackman (1983), since these are readily accessible to observation and independent testing.

Tryon (1976) contains a vocabulary of 292 words for 179 languages and dialects of Vanuatu (the former Condominium of the New Hebrides). His list includes 33 adjective-like words listed in a solid block as items 154–186 (black, white, red, yellow, green, blind, deaf, big, small, good, bad, cooked, dead, dry, wet, lazy, heavy, light (weight), sick, cold, dirty, long, narrow, new, old, right (correct), rotten, sharp, short, smooth, straight, thick, thin). Tryon and Hackman (1983) contains a vocabulary of 324 words for 111 languages and dialects of the Solomon Islands. Their list includes 46 adjective-like words listed in a solid block as items 209–254 (black, blue, green, red, white, yellow, bad, good, big, small, cold, warm, dry, wet, blunt, sharp, empty, full, far, near, fast, slow, long, short, new, old (thing), old (person), strong, weak, thick, thin, hungry, thirsty, bald, dirty, heavy, lazy, alive, correct, rotten, sick, smooth, sore (adj.), straight, tired, wild).

We will assume that all lexical items which appear in these lists are SU categories. If then, for the sake of non-biased sampling, we choose languages 1, 11, 21, 31, 41, 51, 61, 71, 81, 91, 101, 111, 121, 131, 141, 151, 161 and 171 to represent the entire collection from Vanuatu, and languages 1, 11, 21, 31, 41, 51, 61, 71, 81, 91, 101 and 111 to represent the entire collection from the Solomons, the following results are obtained:⁹

⁹ Monosyllabic reduplications which appear to be inherited forms were not counted as reduplications, either for colour or for non-colour adjectivals. Stems which begin with the sequence /mama/- were also excluded, on the grounds that the first CV- sequence could reflect the PAn stative/ attributive prefix **ma-*. A further breakdown which might reveal even more significant differences between colour and non-colour adjectivals would be one which distinguishes full from partial reduplication. Impressionistically, it appears likely that colour terms would retain much higher percentage values than non-colour adjectivals if only full reduplications were counted.

Table 3

Percentage of colour versus non-colour adjectivals which occur as SU reduplications in 30 languages of Vanuatu (1–18) and the Solomon Islands (19–30)

	Language	Colour adjectives	Non-colour adjectives
1.	Hiw	1/5 = 20%	2/27 = 07%
2.	Bek	5/5 = 100%	1/8 = 13%
3.	Nevenevene	2/4 = 50%	6/27 = 22%
4.	Apma	3/5 = 60%	8/27 = 30%
5.	Kerepua	0/4 = 00%	2/14 = 14%
6.	Matae	0/5 = 00%	5/24 = 21%
7.	Butmas	0/4 = 00%	0/14 = 00%
8.	Aore	2/5 = 40%	4/22 = 18%
9.	Port Sandwich	4/5 = 80%	6/28 = 21%
10.	Katbol	3/5 = 60%	9/28 = 32%
11.	Atchin	3/5 = 60%	6/28 = 21%
12.	Vinmavis	2/5 = 40%	5/25 = 20%
13.	Fali	4/4 = 100%	6/24 = 25%
14.	Visina	1/4 = 25%	4/25 = 16%
15.	Yevali	3/5 = 60%	5/28 = 18%
16.	Sesake	1/5 = 20%	6/28 = 21%
17.	Sie	0/5 = 00%	0/28 = 00%
18.	Lonas	1/5 = 20%	3/28 = 11%
19.	Fauro	4/5 = 80%	10/40 = 25%
20.	Sengga	0/5 = 00%	4/40 = 10%
21.	Lokuru	0/6 = 00%	4/40 = 10%
22.	Savosavo	1/6 = 17%	8/40 = 20%
23.	Dhadhaje	1/6 = 17%	6/40 = 15%
24.	Koo	1/5 = 20%	3/26 = 12%
25.	Longgu	4/6 = 67%	11/39 = 28%
26.	Langalanga	2/6 = 33%	11/40 = 28%
27.	Arosi	5/6 = 83%	14/40 = 35%
28.	Tawaroga	4/6 = 67%	11/40 = 28%
29.	Tanimbili	0/4 = 00%	8/39 = 21%
30.	Anuta	1/6 = 17%	19/39 = 49%
	TOTALS	58/152 = 38%	187/866 = 22%

For any given language the number of colour terms is sufficiently small to compromise the statistical significance of percentage differences between colour and non-colour adjectivals. But for 30 languages selected to avoid sample bias this cannot be true, and we have little choice but to conclude that semantically unmarked colour terms have a significantly greater probability of being reduplicated in Oc languages than do adjectivals in general. The essential correctness of this conclusion is supported by random checks of Oc languages outside the Solomons and Vanuatu which are represented in my data base

primarily by modified forms of the Swadesh 200-item lexicostatistical test list. Choosing only terms that appear on the modified Swadesh list, the following five languages serve to illustrate:

- (1) MANAM: colour 5/5 = 100%, non-colour 10/23 = 43%
 - (2) GAPAPAIWA: colour 3/3 = 100%, non-colour 9/21 = 43%
 - (3) MUSSAU: colour 4/5 = 80%, non-colour 4/21 = 19%
 - (4) VITU: colour 5/6 = 83%, non-colour 3/18 = 17%
 - (5) FIJIAN: colour 5/5 = 100%, non-colour 9/23 = 39%
- TOTALS: colour 22/24 = 92%, non-colour 35/106 = 33%

In these five cases the percentages for SU reduplication in colour terms clearly are elevated through selection, since these languages are among those chosen as best illustrating the phenomenon. But this in itself does not explain the *difference* in reduplicative tendencies between semantically unmarked colour terms and other adjectivals.

Why were colour terms more prone to become lexically stranded reduplications than non-colour adjectivals? Perhaps colour terms encode an adjectival category which is inherently more vivid than most. As such they would have been more subject to morphology which served to mark intensive degrees, and to the inevitable historical cycles which bleach and replenish such marking.

3.5 Why are SU reduplications so much more common in Oc languages than in other An languages?

One of the great puzzles in historical linguistics is why changes which may be natural, and hence motivated by universal considerations, appear to be rampant in one subgroup or geographical area, but are scarcely apparent in another. The loss of final consonants is a case in point. The great majority of Oc languages have lost final consonants, but it is quite clear that this loss happened after the break-up of POc, and as the result of numerous independent changes. A comparable situation, different in detail, but broadly similar in general outline, is true of the WMP languages of Sulawesi (Sneddon 1993).

The material of Table 3 shows clearly that the rise of SU reduplication in the colour terminology of Oc languages was a drift-like development. A few languages still retain the hypothesised POc distinction between simplex basic colour terms and fully reduplicated intensive forms. Other languages have retained reduplication in one or more colour terms, and in some non-colour adjectivals, but these have become semantically bleached. In still other languages reduplication is not attested in any known colour term.¹⁰

The use of foot reduplication to mark intensity of adjectivals, including colour terms, appears to have been in use long before the formation of POc. For whatever reason, the overuse of intensive forms became much more common in Oc (and perhaps CMP and SHWNG) languages than in the WMP or Formosan languages. As a result, reduplicated forms in language after language were eventually drained of their non-basic semantic content. Why this tendency became manifest as a drift in one group of An languages but not another is as puzzling as the chequered history of final-consonant loss.

¹⁰ Savosavo is non-Austronesian. It has been included in Table 3 for comparative purposes, but cannot be usefully used as evidence for any statement about historical changes in the Oc languages.

DEDICATION

It is a pleasure for me to dedicate this paper to Tom Dutton. When I went to the ANU to join the Department of Linguistics at the Research School of Pacific Studies for a two-year postdoctoral research fellowship in 1974–76, still wet behind the ears with a PhD just in hand, Tom was one of the warmest, friendliest, most sincere people I encountered in my new environment. On my way back from fieldwork in Manus in May 1975, he and his wife Corrie put me up in Port Moresby, and although I was there barely 48 hours Tom went out of his way to arrange meetings for me with speakers of Takia, Wogeo and Manam, and to help me in other ways. I was carrying with me a beautiful large conch shell which friends in Manus had given me on my departure, and as a small token of my thanks for their hospitality I offered this to Tom and Corrie's son, Brett, then ten or eleven years old. In 1990 I learned that Brett had kept that shell for many years. It was a small thing for me, but apparently a big thing for him. The hospitality that Tom and Corrie offered me was a small thing for them, but a big thing for me. That triton shell is calling me back now to remember a kindness which – like all things Tom did – was given with no expectation of return.

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