

# *Semantic and syntactic functions of reduplication in Niuean*

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An analysis of the semantic and syntactic roles of reduplication in Niuean is presented here. As only a few detailed descriptions of reduplication for Polynesian languages exist, especially from a semantic and syntactic perspective, the present study relies on Niuean data alone. The main categories established are those of semantic and syntactic triggers with intermediate stages. Notions of frequency, repetition and plurality serve as main descriptors. Verb–argument agreement is the main syntactic function. Noun plurals account for only a small class. The study also addresses questions of productivity and what the possible lexical selection criteria for reduplication could be. Finally the difficulties of establishing the base of a reduplication—be it synchronic or diachronic—are exemplified. A brief conclusion notes the need for further analysis if detailed descriptions are to be linked to derivational rules.

## 1 Introduction<sup>1</sup>

In general, linguistics in-depth descriptions of the phenomenon of reduplication have mainly focused on phonological/morphological levels (Marantz 1982, McCarthy and Prince 1995) and the same is true for Polynesian languages where reduplication is well attested (see Meyerhoff & Reynolds 1996 for Maori). Equally, the very substantial grammar of Samoan (Mosel & Hovdhaugen 1992) treats reduplication under ‘morphology’, noting in passing what the syntactic/semantic functions are. In contrast, Elbert and Pukui’s (1979) *Hawaiian Grammar* gives over a chapter to the ‘meaning of reduplications’ separate from the phonological/morphological treatment. In this work, I will attempt to give priority to the question of what syntactic/semantic environments trigger reduplication—for Niuean. Of course, there is an important interface between syntactic/semantic environments and the phonology/morphology of items potentially undergoing reduplication, in that the latter will

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<sup>1</sup> It is indeed both an honour and a pleasure to contribute to Byron Bender’s Focusschrift, especially as I had the good fortune to publish the new Niuean dictionary under his general editorship of the PALI Language Texts. Byron has not only encouraged me in my work, but has done so countless times to many others, and together with his own work has contributed to Oceanic linguistics like no one before him. *Fakaau lahi!*

resist or aid in the formation of reduplicated forms in varying degrees, but here we will restrict the discussion to environments that actually have triggered processes of reduplication. Still, within this inquiry there is the problem of being able to ascertain if a reduplication process has actually been involved, especially if the base form is not extant but is transparent in related derivational forms. In such cases phonological/morphological criteria may play a role.

Previous studies of Niuean have noted the importance of reduplication but have not analysed the phenomenon in depth. McEwen (1970:xi) lists the functions as “to form a plural, to convey the repetition of an action, to lessen the force, or in some other way to modify the basic meaning of the word”. Seiter (1980:62) notes that “many other intransitive verbs have plurals formed by reduplicating the first syllable of their singular form” and “a few transitive verbs in Niuean obligatorily agree in number with their direct object. For some, the plural is formed by reduplicating the first syllable of their singular form”. Massam and Roberge (1997) remark on the possibility that number agreement is not really a kind of grammatical agreement but rather an aspectual type.

## 2 A syntactic/semantic trigger for generating reduplicated forms in Niuean

The notion of ‘trigger’ as used here and elsewhere in this paper refers to syntactic and/or semantic determinants (see Bybee 1985, ch. 2, who talks of “semantic determinants of inflectional expressions”; and Lieber 1992:179, who uses the word “trigger” in an example where an application of one rule ‘triggers’ the application of another). I do not want to claim here that ‘meaning’ determines ‘form’, but merely point out what the possible relationships are with regard to reduplication in Niuean. The proposed processes are based on the premise that all phonological and morphophonemic conditions for reduplication have been met. In line with many other Oceanic languages, I will use the label ‘REdup’ as shorthand for reduplication of the first mora of the base, and ‘reDUP’ for reduplication of the last two morae. The label DUP, for full reduplication, can be considered an instance of reDUP where the base consists of only two morae (Rehg, pers. comm.).

$$(1) \quad ( \text{---} ) \text{ LEXICAL ROOT } [x,y] ( \text{---} ) \rightarrow ( \text{---} ) \left\{ \begin{array}{l} \text{reDUP} \\ \text{REdup} \end{array} \right\} [x,y] ( \text{---} )$$

where (---) = optional affixation/derivation  
 [x,y] = syntactic/semantic categories  
 → = diachronic/synchronic derivation

A typical example is provided in (2), where both full and partial reduplication (REdup and reDUP are exclusive of each other) occur.<sup>2</sup>

- (2) *aku*, v.t. to dig up, to scoop ... [PPN \*aku ‘scrape out with hands’]  
*aaku*, REdup, v.t. to scoop up once ...  
*akuaku*, DUP, v.t. to dig, scoop repeatedly ...

<sup>2</sup> All data from Sperlich (1997 and fieldnotes, n.d.). Abbreviations used herein include: n. – noun, PPN – Proto Polynesian, Prf. – prefix, Suf. – suffix, v.i. – verb intransitive, v.t. – verb transitive.

With verbs that imply movement performing some action, the progression from REdup (or reDUP) to DUP often mirrors 'once' to 'repeatedly', while the unreduplicated base form is nonspecific. In other cases, however, no such semantic functions can be established, as in (3), where *aagi* and *agiagi* are synonyms.

- (3) *agi*, v.i. 1. to blow (of wind) ... 2. to wander, to be a vagabond ...  
     n. nonplaying member of a cricket team ...  
     [PPN \*agi 'blow (of wind, breeze)'; \*agi 'unencumbered, unhampered']  
*aagi*, REdup, v.i. to blow gently (of wind) ...  
*agiagi*, DUP, v.i. to blow gently (of wind) ...

### 3 Synchronic reduplication processes

If we make it a strict requirement that any reduplicated form **must** be derived from root forms that occur unreduplicated on the surface, then we can exemplify the following permutations.<sup>3</sup>

#### 3.1 Semantically (and syntactically) conditioned

- (4) *apo*, v.i. to beg ...  
*apoapo*, DUP, v.i., FREQUENTIVE, to keep begging ...
- (5) *tagina*, v.i. to be dazed ...  
*taginagina*, reDUP, v.i., INTENSIVE, to be really dazed ...  
 \*gina, \*ginagina
- (6) *aafu*, v.i. to be sultry, to be hot ... [PPN \*qafu 'to be hot and humid']  
*afuafu*, (?)DUP, 1. v.i. to be hot ... SEMANTIC FIELD RESTRICTION  
 2. v.t. to dampen ... SEMANTIC CHANGE / ?SYNTACTIC CATEGORY  
 CHANGE [PPN \*afu-afu 'drizzle, light rain' (*uha*, n. rain ... PPN \*quha 'rain')]  
 \*afu
- (7) *ano*, n. a trace of something ... [PPN \*ano 'desolate']  
*anoano*, DUP, n. trace of twilight .... SEMANTIC RESTRICTION
- (8) *atu*, collective particle, row, array, group ... [PPN \*qatu 'line, row']  
*fakaatu* (*faka-atu*), v.t. to put in a row ...  
*fakaatuatu*, Prf., (?)DUP/reDUP, v.t., FREQUENTIVE, to put in many rows ...  
 (?)SYNTACTIC CATEGORY CHANGE  
 \*atuatu
- (9) *ana*, n. cave, den ... [PPN \*qana 'cave']  
*taanaana* (*ta-ana-ana*), Prf., DUP, v.i. to be hollow, bare, open ... SEMANTIC  
 CHANGE / SYNTACTIC CATEGORY CHANGE  
 \*anaana, \*taana

<sup>3</sup> The syntactic/semantic functions are given in capitals; starred items outside the square brackets indicate that the word does not occur in this form, even though it could be expected to occur; starred items inside the square brackets refer to protoforms.

The semantic triggers FREQUENTIVE and INTENSIVE are common to reduplication in many Polynesian languages (see Krupa 1982). However, the instances of SEMANTIC RESTRICTION/CHANGE are interesting because the semantic field of the base is thereby narrowed down to a more specific meaning or the semantic field is selectively extended in some way. These processes can be called extensions of the lexicon itself—as a further strategy to overcome the limited morpheme base due to the small phonemic inventory (see Krupa 1982, ch. 3). Of interest here are also the cases where a semantic change is accompanied by a syntactic category change. The latter seems to occur mainly when the base word is a category other than a verb. (The occurrence of a valency change, as in (8), may only be termed an internal category change if it is any change at all.)

Semantically conditioned reduplication as 'lexical extension' would have few formal rules, just as innovation in the base lexicon is not generally rule driven.

### 3.2 Syntactically (and semantically) conditioned

Under this category, we expect much more rule-governed behaviour, at least as far as the syntactic trigger is concerned. The question of how lexical items are selected (and others not) remains largely unanswered. The essential processes are: (i) reduplicating verbs to show agreement with plural subjects or objects, (ii) reduplicating nouns to change singulars into plurals, and (iii) reduplicating verb stems to derive nouns. The latter two occur fairly rarely as alternatives to other common syntactic devices, such as the use of *tau* as a preposed indicator of plural nouns.

Example (10) illustrates the first process. The verb is intransitive, so the notion of 'subject' may be redundant (but see the transitive verb below). Note also that we can be confident that *takoto* is a verb stem (not derived from *ta-koto*) since the first syllable is reduplicated. (Derived stems are not subject to reduplication in Niuean.)

- (10) *takoto*, v.i. to lie down ... [PPN \**takoto* 'lie down']  
*Kua takoto a ia ke mohe.* 'He lay down to sleep.'  
*tatakoto*, REdup, v.i. to lie down ... SUBJECT PLURAL  
*Kua tatakoto a laua ke mohe.* 'They lay down to sleep.'

Example (11) shows the use of DUP and REdup simultaneously indicating syntactic change and semantic field restriction, perhaps best described as a portmanteau phenomenon.

- (11) *tali*, v.t. to meet, greet, welcome, wait for ... [PPN \**tali* 'wait']  
*talitali*, DUP, v.t. to expect ... SEMANTIC RESTRICTION  
*tatali*, REdup, v.t. to wait for ... SEMANTIC RESTRICTION / SUBJECT PLURAL  
*Kua tatali a lautolu ke taā e logo.* 'They waited for the bell to ring.'  
*fakatali*, v.t. to wait (to be made to wait), to expect ...  
*fakatalitali* (*faka-tali-tali*), Prf., DUP, v.t. to wait (to be made to wait), to expect ...  
 SUBJECT PLURAL  
*Kua fakatalitali a lautolu he matua ke hau he vao.* 'They waited for their father to return from the bush.'  
 \*fakatatali

- (12) *taaki*, v.t. to uproot, to pull out/up ... [PPN \**taqaki* 'pull up or out, hoist, extract']  
*Kua taaki e au e huli talo.* 'I pulled out a taro shoot.'  
*tataaki*, REDup, v.t. to uproot, to pull up/out ... OBJECT PLURAL  
*Kua tataaki e au e tau huli talo.* 'I pulled out the taro shoots.'  
 \**taakitaaki*

In (13), both SUBJECT PLURAL and OBJECT PLURAL (as well as other features) occur in the same derivational paradigm.

- (13) *maga*, v.i. to be forked, branched, parted (in two parts) ...  
 n. 1. fork (in tree) ... 2. part, division, piece ...  
 [PPN \**maga* 'branch, fork; branching, forked']  
*magamaga*, DUP, v.i. 1. to mature ... 2. to broaden ... 3. to be unfinished ...  
 n. 1. fork (of tree) ... 2. crotch ...  
*mamaga*, REDup, v.i. to gradually divide ...  
*fakamaga*, v.t. 1. to open one's mouth ...  
 2. to make a fork (for hooking down fruit) ...  
*fakamagamaga*, v.t. to open one's mouth ... SUBJECT PLURAL  
*fakamamaga*, v.t. 1. to spread out, to open up or out ... 2. to gape ...  
*magai (maga-i)*, Suf., v.t. to place between, to interpose ...  
*magamagai (maga-maga-i)*, DUP, Suf., v.t. to place between, to interpose ...  
 OBJECT PLURAL  
*Kua magamagai e ia e tau koloa tui haana he tau matahio.* 'He placed his clothes between the louvre windows.'

The next example involves a category change from verb to noun, as well as a semantic change.

- (14) *ako*, v.i. to learn ... [PPN \**ako* 'learn, teach']  
*akoako*, DUP, v.i. to learn steadily ...  
 n. pastor ...

The next couple of examples demonstrate the (quite rare) occurrence of syntactic change (number) within nouns.

- (15) *tepu*, n. lump, knot, wart, knob, clitoris ...  
*teputepu*, DUP, n. lumps, knots, warts, knobs ... PLURAL
- (16) *alo*, n. (local noun), under, inside (of a surface) ... [PPN \**qalo* 'belly, bowels']  
*aloalo*, DUP, n. (local noun), under, inside (of surfaces) ... PLURAL

There are a few interesting cases where verbs have plural suppletives. If either of the verb forms is reduplicated (or has any other morphology), it is still by definition either singular or plural; for example:

- (17) *kata*, v.i. to laugh ... subject singular, plural suppletive is *feki*: ...  
*katakata*, DUP, v.i. to be happy, to smile ... SUBJECT SINGULAR

Krupa (1982) notes that partial reduplication in Polynesian languages is generally indicative of verb–nominal argument agreement demonstrated here. In Niuean, there is certainly a trend in that direction, but not exclusively in that direction. Seiter's (1980) possible implications that subject plural triggers only intransitive verbs is not supported by

my data. That object plural triggers only transitive verbs is clear by definition. Massam and Roberge (1997) argue that the number agreement is not really 'grammatical agreement' but rather aspectual, relating to iteration and distributivity. If one agrees with the notion that the 'aspectual' function of reduplication in Niuean is the primary one, it does seem possible to define the number agreement as one that is actually triggered by the reduplicated verb logically requiring a plural nominal argument, rather than positing the relationship the other way round.

#### 4 Missing links: diachronic/synchronic considerations

Several fundamental questions need to be raised before the description of reduplication in Niuean can be completed. Further research is needed where these lack adequate answers.

- (i) Q: Since reduplication is not fully productive for all lexical roots (or stems), which roots are subject to reduplication and why?
- (ii) Q: Why do some roots undergo the full reduplication process (DUP and reDUP/REdup) and not others, and which roots are subject to REdup and which to reDUP?
- (iii) Q: Why do some reduplication processes only appear in derived forms?
- (iv) Q: Given that in the whole chain of theoretically possible reduplication processes (including within other derivation processes) many are not realised in practice (or have been lost, including the root form), how are we to deal with such synchronic forms (do we admit recourse to diachronic considerations)?

These questions are addressed, though not necessarily resolved, in the following discussion.

- (18) *ahu*<sup>1</sup>, n. smoke ... NO REDUPLICATED FORMS  
*ahu*<sup>2</sup>, n. gall-bladder ... NO REDUPLICATED FORMS  
*ahu*<sup>3</sup>, v.t. to bale, to fetch ...  
*ahuahu*, DUP, v.t. to bale gently ...  
*ahu*<sup>4</sup>, v.t. to slay ... NO REDUPLICATED FORMS

Based on my knowledge of the Niue dictionary corpus I can say that it is predominantly verbs that have reduplicated forms. (But why not all verbs, or at least those which can be subject to 'FREQUENTIVE' and 'intensive' extensions such as *ahu*<sup>4</sup>?) Those from other categories, such as nouns, can be considered special cases. As for verbs, it would require a detailed analysis of the corpus to determine (if possible) exactly which types of verbs have reduplicated forms (and further to ask which of those have which types of reduplicated forms). It appears to me, for example, that verb homonyms will generally differ in their range of reduplicated forms, presumably so as to aid disambiguation.

<sup>4</sup> While the set of examples in (18) is meant to demonstrate the seemingly random nature as to which items get reduplicated, *ahu*<sup>4</sup> is perhaps not a prime example inasmuch as the meaning content may disallow a 'frequentive and intensive' extension, even though a subject or object plural trigger is conceivable. A better example, randomly chosen from the dictionary, would be *huni* v.t. to apply oil, which has no reduplicated forms; if speakers want to express a frequentive and/or intensive meaning extension in this case, they would have to use lexical means, e.g. (lit.) 'he applies oil (as in a massage) every day and very vigorously too'.

- (19) *hele*<sup>1</sup> v.t. to snare ... *fakahелеhele* v.t. to love someone dearly ... \**hehele*,  
 \**helehele*  
*hele*<sup>2</sup> v.t. to cut ... *hehele* v.t. to cut ... *helehele* v.t. to cut into pieces ...  
 \**fakahелеhele*

Such disambiguation may also override phonological rules whereby reduplicated forms of homonyms yield different vowel lengths, as in *gu*<sup>1</sup> v.i. to moan ... *gūgū* v.i. to mumble ... vs *gu*<sup>2</sup> v.i. to respond ... *gugū* v.i. to respond (subject plural).

Of more immediate descriptive importance, however, are those cases where there is no attested unreduplicated form, even though its shape is evident in another reduplicated and/or further derived form, as in (20). There is no attested Niuean word \**moko* meaning 'cold', although there are four homonyms of *moko*, none in any way related to 'cold'. However, we can reasonably establish that in the derived form *mokomia* the root is attested. Hence, it is correct to describe *mokomoko* as DUP (i.e. **not** derived from *momoko*, which is at least historically a REDup). PPN \**moko* confirms such an analysis (in our dictionary work we use Proto Polynesian as 'confirming' evidence, never as 'deciding' evidence).

- (20) *momoko*, v.i. to be cold ... [PPN \**moko* 'cold']  
*mokomoko*, DUP, v.i. to be cool ...  
*mokomia* (*moko-mia*), Suf., v.i. to be affected by cold ...

There are quite a large number of cases where the unreduplicated root form is no longer attested, starting out as it were with the REDup/reDUP form, but where one could argue, on the surface of it, for a phonological (synchronic) explanation. In (21), for example, \**afe* is not attested in any derivation. Given the many examples like (21), as well as the 'supporting' evidence from Proto Polynesian, I suggest that a similar analysis holds here, namely that *aafe* is a historical REDup of \**afe*.

- (21) *aafe*, v.i. to turn, to branch off ... [PPN \**afe* 'deviate, turn aside']  
*afeafe*, DUP, v.i. to branch off repeatedly ...  
*aafeaga* (*aafe-aga*), n. turning point ...

A similar case is illustrated in (22), where we have no root attested in either a derivation or a Proto Polynesian form, although we can be confident that both words are derived via reduplication from a historical base \**aki*.

- (22) *aaki*, v.t. to take out ...  
*akiaki*, (?)DUP, v.t. to take out ... OBJECT PLURAL

In examples where there is no evidence of first mora reduplication, as in (23), we must be cautious about jumping to conclusions. In this case, we have no grounds to claim that the word is derived from a base \**ale*. The protoform suggests that what 'looks' like a reduplication may indeed be a historical root form. Hence we can say that any forms that 'look' reduplicated cannot be said to be so unless there is evidence in the form of an existing unreduplicated form (either free or bounded), plus confirming evidence from Proto Polynesian.

- (23) *aleale*, Qualifier, transparent ... v.i. to be thin ...  
 [PPN \**aleale* 'thin, weak with hunger; hollow or concave']  
*fakaaleale*, Qualifier, thinly ...

With regard to Proto Polynesian forms, which we found very helpful to work with in our dictionary, I can nevertheless demonstrate 'degrees' of usefulness. (In other words, what is



more confounding, the Niuean or the Proto Polynesian data?). The root *aga* in (24) occurs in many more derivations of a fairly diverse semantic nature, so it might have been tempting to include the word *agaaga*, n. spirit, soul ... as a reduplication under *aga*. Yet Proto Polynesian saves us from this course—PPN \*qagaqaga ‘soul, spirit’ points to *agaaga* as a headword of its own.

- (24) *aga*, n. habit, way of acting, behaviour, custom, tradition ...  
 [PPN \*aga ‘habit, custom, way of acting’]  
*fakaagaaga*, Prf., DUP, v.t. to preen oneself ...  
*agaagai*, DUP, Suf., v.t. to surround ...

Native speaker intuition goes against Proto Polynesian in cases (25) and (26), where it is strongly believed that *afiafi* ‘evening’ is derived via reduplication from *afi* ‘fire’ (in the sense that the evening sunset looks like ‘fire’ on the horizon).

- (25) *afi*, n. fire ... [PPN \*afi ‘fire’]  
 (26) *afiafi*, n. evening ... [PPN \*afiafi ‘evening’]

## 5 Conclusion

The semantic and syntactic roles and functions that reduplications have in Niuean—or as I prefer to phrase it, the semantic and syntactic environments that trigger reduplication in Niuean—are broadly similar to the roles and functions generally ascribed to Polynesian languages, namely that of marking ‘FREQUENTIVES’ and ‘plurality’. In detail, however, there is little to which one can compare this present analysis (with the possible exception of Hawaiian), so it remains to be seen whether the other Polynesian languages have a similarly complex array of semantic and syntactic triggers. It is perhaps not surprising that there is a continuum between semantics and syntax, as some reduplications respond to both levels of representation at the same time. Equally unsurprising, perhaps, is that at the syntactic level alone it is mainly a matter of verb–argument agreement, given that at the semantic level alone it is only verbs that respond. Beyond these generalisations the data described yield no rules that allow even for semiproductive derivations. The verbs (and some nouns) that undergo reduplication processes cannot be predicted, nor can the range of reduplication within further derivations. A large-scale corpus analysis would perhaps provide some answers.

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