THE RELATIONSHIP BETWEEN REDUPLICATION
AND SOME OTHER GRAMMATICAL MEANS IN KHMER[*]

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Reduplicative words in Khmer, which account for
a sizable portion of the vocabulary, are by no means
of a uniform type. They may differ in the specific
manner of their formation, in certain structural
peculiarities, in their aspectual function, in their
grammatical rôle, and in other respects as well.
This variability notwithstanding, reduplicatives
have one feature in common, namely the general
manner of their formation by reduplication of a
formal unit. It is this circumstance that permits
us to speak of reduplicatives as a single structural
category.

Provisionally, the primary or conditionally
primary form from which a reduplicative is derived
may be termed the *reduplicand* (R) while the form
added to it may be termed the *reduplicator* (r).
Further, the reduplicated portions of R and r may
be known as the *stable base* (S) while their variable
portions may be known as the *divergent base* (D).
The symbol D_R stands for the divergent base of the
reduplicand, D_r the divergent base of the redupli-
cator. Now, if we assume that reduplication is
always accomplished by repetition of S and creation
of D_R and D_r, all instances of reduplication in
Khmer acquire a common basis.

In this light we may distinguish *complete*
uplicatives from *partial* reduplicatives. With
plete reduplicatives D is zero. With partial
uplicatives D_R is never zero, though D_r may be
o. In partial reduplicatives, moreover, R and r
not coincide formally inasmuch as reduplication
per is complicated by one or more additional
rations. These latter constitute divergence,
. some transformation of the primary or condition-
y primary form. Such divergent reduplication
uld evidently be taken as the more comprehensive
inition of the specific operations involved in
formation of reduplicatives, because it embraces
cases of reduplication. In a sense, complete
uplicatives may be regarded as specific instances
this more general transformation.

If transformations from S and D are compared
h such common transformations as composition and
ixation, the essential differences between them
ome easily apparent. Composition and affixation
effected by adding certain morphemes or mor-
eme-combinations to other morphemes or morpheme-
binations. The difference between composition
affixation consists of the nature of the morphe-
material employed; in composition we are con-
ned with root morphemes, in affixation with
essory morphemes. What is more, composition and
ixation can both be characterized as linear mor-
emic transformation; and since morphemes occupy
same structural level, both types of transforma-
n may be defined as monolevel. In the overall
eme of reduplication, however, reduplication of
le morphemes (S = morpheme) is only one among a
ber of types of reduplication of units which do

not correspond to morphemes (S < morpheme, S > mor-
pheme). Such units occupy more than one structural
level and may consist of phonemes, combinations of
phonemes (either coinciding or not coinciding with
the syllable), morphemes, combinations of morphemes,
and combinations of morphemes with nonmorphemes.
Hence, divergent reduplicative transformations
(*i.e.* partial reduplicatives) cannot be characterize
as monolevel--despite the fact that, like compositic
and affixation, they are generally used as a means c
word-building and form-building and may consequently
be considered as primarily morphological. Contrary
to the case of strictly morphemic transformations,
therefore, we shall treat divergent reduplicative
transformations as multilevel.[1]

    When it comes to identifying multilevel diver-
gent reduplicatives, two main questions arise.
First of all, we must deal with the question of the
framework within which such transformations operate.
Secondly, we cannot avoid the question of their
relationship to monolevel linear morphemic transfor-
mations, *i.e.* composition and affixation. In this
paper we shall confine ourselves to examining (a)
reduplication and phonetic variation, (b) reduplica-
tion and affixation, (c) reduplication and composi-
tion, and (d) reduplication and so-called attendant
words.

Reduplication and Phonetic Variation
    By "phonetic variation" we refer to the forma-
tion of words by alteration of certain phonetic
components of a given word against the background of
common components which carry the semantic load.
Vocabulary formed by phonetic variation is typically
divisible into sets of related words. Thus,

kŋɒ: 'upright, erect'; kŋɒk 'bent arch-
wise'; kŋən-kŋɒŋ 'crooked bent'; kŋec 'short
and crooked (of a person's neck)'; kŋət 'crooked
(of a person's nose)'; kŋok 'hooked'; kŋoŋ 'bent
ringwise'; kŋol 'doubled up'; kŋoh 'too short';
kŋuə 'nasalized (owing to deformation of the
naso-pharynx)'; kŋiəŋ 'leaning to one side';
kŋaeŋ 'crooked (of a person's arm)'; kŋaok
'peacock (bird with a fanlike tail)'.

As can be seen from these examples, the recur-
t element kŋ- carries the notion of 'curvature'
le the varying elements--whose formation is not
erned by specific rules of sound alternation--
vides the phonetic integument of each particular
d, which belongs to one or another semantic set.

It should be clear from the foregoing that
netic variation is a process analogous to redupli-
ion insofar as it is carried out on the basis of
identical units, namely S and D. In our examples
recurrent kŋ- is S while the varying elements
D_1, D_2, D_3, and D_n.

On the other hand, phonetic variation differs
m reduplication in four respects. In the first
ce, rather than yielding units consisting of R
r, phonetic variation gives rise to new, inde-
dent words. In the second place, whereas there
generally two D's in reduplicatives, the number
D's manifested in phonetic variation is unlimited;
this respect we are concerned not so much with
uplication as with repetition. In the third place,
phonetic variation S and D always occupy the same
uctural level[2] rather than being on different
els. In the fourth and last place, phonetic
iation always serves the purpose of word-building.

We have already seen that divergent reduplica-
tive transformation as a whole is to be considered
multilevel, inasmuch as S and D in such transforma-
tion may be manifested by units on different levels.
Conversely, the structural material used in phonetic
variation bears out the assumption that specific
instances of this type of transformation are mono-
level: S and D are always represented by units below
the morphemic level. Sometimes the level in ques-
tion is "psycho-associative"; at other times it may
be merely submorphemic.

It might seem that the base of a divergent redu-
plicative transformation would be morphemic only
when there exists a primary form, *i.e.* a self-con-
tained word from which the reduplicative is formed.
In this type of transformation, however, S and D do
not usually coincide with morphemes in Khmer--as
they do in complete reduplicatives, which however
are fairly rare. Cases in which r is formed from R
when the latter consists of more than one morpheme
show that Khmer completely disregards the morphemic
structure of R in the process of reduplication and
that S and D are not identified according to any
morphemic criteria. For instance, the form cɔmraən
'to develop' (< craən 'much, many' + infix -ɒm-)
yields the reduplicative cɔmroŋ-cɔmraən 'to develop
successfully'. Here r cannot be divided into mor-
phemes, and the link between r and R exists only on
the divergent reduplicative basis: S = cɔmr- while
-aən = D_R and -oŋ = D_r .

It can be seen from this that the structural
level of the base (primary form), while of no special
importance in the formation of reduplicatives, is at
least definite in the case of words formed by

netic variation, even though reduplication and
netic variation alike are manifestations of
ergent reduplicative transformations. By virtue
this latter circumstance it is common for both
cesses to co-occur in the sense that among words
onging to the same set some will be formed by
uplication, others by phonetic variation. For
tance:

pra:ɲ 'dense' :

$-a:ɲ = S_1; pr- = D_1$

ska:ɲ 'thick (of a person's hair)' :

$-a:ɲ = S_1; sk- = D_2;$ but also $s---ɲ = S_2;$
$-ka:- = D_3$

smo:ɲ 'thick and tangled (of wool, hair)' :

$s---ɲ = S_2; -mo:- = D_4;$ but also $sm- = S_3;$
$-o:ɲ = D_5$

smoy 'tousled, matted, tangled' :

$sm- = S_3; -oy = D_6;$ but also $sm- = D_7;$
$-oy = S_4$

soy-moy 'untidy and tousled (of a person's
beard)' :

$-oy = S_4; s- = D_8; m- = D_9$

soy-mɒ-moy 'very untidy, tousled' (reduplicative
of the second power) :[3]
$m- = S_1{}^2; -oy = D_1{}^2; -ɒ- = D_2{}^2$

It can thus be seen that phonetic variation may
ur either on the basis of S alone, as in our
lier examples of $S = kŋ-$, or with a consecutive
lacement of one S by another, as in the examples
t given. In both cases reduplicatives may crop
within a given set, as in our last two examples.
the same time, the models of reduplication and

of phonetic variation do not coincide completely.

Reduplication and Affixation

The question of the relationship between reduplication and affixation has a number of facets It may, for example, be examined with a view to isolating phenomena common to both processes. Or, it may be considered from the standpoint of the co-occurrence of affixes with certain reduplicative models. The school of Khmer studies founded by G. Maspero established a theory of two types of reduplication in Khmer. One of these is redupli- cation proper, by which, according to Maspero, compounds are created. The other is reduplicative derivation, which is interpreted as a kind of affixation.[4] The latter includes reduplication of the initial consonant of the base form, associated with expression of definite grammatical meaning-- *e.g.*, ka:y 'to scratch' : kɒka:y 'to scratch persis tently for a long time'. If by "affix" we understa a morpheme singled out as part of a word form and altering the meaning of that form, or as a grammat- ical morpheme which is part of a word, it must be conceded that such a definition is not inconsistent with such a point of view. Yet certain consider- ations make it preferable to treat all cases of reduplication as reduplicatives.

In point of structure, what has been termed reduplicative derivation does not differ radically from other kinds of reduplication. Specifically, it is carried out on the basis of S and D. Moreove it differs fundamentally from ordinary affixation: the latter is characterized by relative stability o the formal content of affixes, that formal content being independent of the formal content of the base

ts with which they operate. The dependence of the
ix on the base may have only morphological
ression; in other words, it is possible to have
ixes of common form independent of the form of the
e. It seems obvious that reduplicative affixation
roximates ordinary affixation primarily by virtue
the formal stability and grammatical function
r: R remains the bearer of lexical meaning while
ccomplishes a purely grammatical modification of
base. These similarities notwithstanding, we
fer to believe that the deciding factor in
ermining the meaning of any given grammatical
cess must be the base on which that process is
ried out. In the present case the base is clearly
ergent reduplicative, inasmuch as the problem is
of singling out S and D; it is not affixal, since
problem is not concerned with the addition of an
essory morpheme to a notional one.[5]

   Moreover, if initial-consonant reduplication as
eans of expressing grammatical function is taken
affixation, a certain amount of difficulty is
ated when it comes to defining the nature of
ilar phenomena. Thus in Khmer, side by side with
tial-consonant reduplication expressing the
quentative, we have many other uses of the same
el to form simple and, from the synchronic point
view at least, underived words such as tɔtuəl
receive', kɒkɒ: 'sediment, dregs', and the like.
ce there is obviously no affixation in these
es, once having accepted the above theory of
uplicative affixation we are obliged to assume
t the model in question is of a dual nature:
some cases it involves reduplication, in others
uplicative affixation. To make matters worse,

if all such formations are assumed to be of the same
nature, we cannot avoid accepting affixation as
occurring on a nonmorphological basis.

In certain Mon-Khmer languages genetically and
typologically close to Khmer as many as three models
of reduplication are used to express the same meaning.
One of these is the model corresponding to the
definition of reduplicative affixation, exemplified
by Bahnar drâng 'to answer' > drâng-drâng or doʼdrâng
or droʼdrâng 'first to answer and then to do something
immediately'.[6] *It seems hardly efficient to isolate*
forms of the doʼdrâng type as affixal and distinguish
them from words formed on other models of redupli-
cation.[7] There may well be advantages in setting up
a special subgroup of reduplicatives showing certain
features of affixation but, in our view, these should
still be classed as reduplicatives.[8]

As we have sought to show, in the formation of
reduplicatives it is characteristic of Khmer to
disregard the morphological structure of the base
and, hence also, to disregard affixation in the strict
sense. In this connection special attention may be
given a small group of reduplicative adjectives of
definite phonetic pattern out of which reduplicatives
of the second power are formed in the presence of
some initials (m-, k-, kr-, kh-, p-, ph-, phl-)
whereas no further reduplication occurs in the
presence of other initials (t-, tr-), *which instead*
undergo insertion of a monosyllabic infix of fixed
shape: -pɒ-.

Examples of the first type are: iə-miə 'shy' >
iə-mɒ-miə 'very shy'; sə:k-phlə:k 'slowly' >
sə:k-pɒ-phlə:k 'very slowly'; rɛəy-pɛəy 'scattered
here and there' > rɛəy-pɔ-pɛəy 'scattered at random'

e and there'; sul-khul 'far-flung' > sul-kɔ-khul
:-flung and open'.

Examples of the second type are: su:-tru:
:-flung' > su:-pɒ-tru: 'wide and far-flung';
-trao 'spacious' > sao-pɒ-trao 'very spacious';
ɹ-ta:u 'rising sharply' > ra:u-pɒ-ta:u 'high
steep'.

In these last examples the infix resembles an
ərfix. Here too, however, it is more efficient
speak in terms of reduplication to the second
er--both because of the structural analogy between
true reduplicatives and those forms with inserted
- and because of the fact that *-tɒ- never occurs
its place. To all appearances, -pɒ- must be
erpreted as a variant of *-tɒ- attributable to
torical causes as yet unknown.

uplication and Composition
Widespread in Khmer are formations consisting
two notional morphemes selected on the basis of
same rules as those operating in the case of
uplicatives. Examples are: ca:k-ceɲ 'to leave',
a:k 'to leave, go away' + ceɲ 'to go out, set
'; lɛəh-lɛ:ŋ 'to refuse', < lɛəh 'to throw away,
ect' + lɛ:ŋ 'to leave, forsake'. Such formations
be classed as pseudo-reduplicatives.

To the linguist approaching them from the
ection of morphemic analysis they must be com-
nds, since they contain two root morphemes.

Data elicited from native informants indicate,
ever, that the essential feature of such forma-
ns in the language-perception of Khmer-speakers
their repetitive structure, *i.e.* the presence of
nd of such elements as may be regarded as D--which

historically they are not. The D's found in forma-
tions of this kind do not stand in the same relation-
ship as primary and derivative elements; in this
respect they resemble true reduplicatives, which hav
no primary form in the sense that the relationship
between R and r is purely arbitrary.

Bearing this latter circumstance in mind, we
may say that pseudo-reduplicatives meet the basic
requirements of divergent reduplicative transforma-
tions. In our view, the nature of such formations
is dual; accordingly, they must be alternately
characterized as basic (divergent reduplicative
transformations) and as morphemic (transformations
of composition and affixation). Seen as morphemic
transformations these pseudo-reduplicatives are
compounds, with copulative linkage between the
constituents. Seen from the standpoint of redupli-
cation they are reduplicatives.

Reduplication and Attendant Words

There is a large stock of forms in Khmer which
modify the meaning of primary words in the manner
of r in partial reduplicatives but which never occu
independently. The difference between formations
containing such items on the one hand and reduplica
tives on the other lies in the circumstance that th
former fail to manifest the criteria of divergent
reduplicative transformations. Specifically, neith
S nor D can be isolated from the elements making up
the primary word and its modifier.

Examples of such formations are phtɛəh-sɒmbaeŋ
'house with all things in it and its residents', <
phtɛəh 'house' + *sɒmbaeŋ; and chɯ:-thkat 'to get
thoroughly ill', < chɯ: 'to ail' + *thkat.

In Khmer grammatical terminology, reduplicators

a particular class and modifiers of the above type

alike known as *barevasap* 'attendant words', and

eed they fulfill precisely such a function. We

sequently feel justified in grouping the two types

o a single functional class. At the same time it

t be emphasized that the two processes in question

resent quite different phenomena. It behooves us,

refore, to distinguish *barevasap* as reduplicators

reduplicatives from *barevasap* which are not

stituents of reduplicatives.

[1]A number of general problems relating to diver-
t reduplicative transformations have been treated
our "*Ob osnovoj leksiko-morfologičeskoj edinice
erskogo jazyka* [The Main Lexico-Morphological
t in Khmer]," in *Narody Azii i Afriki*, 1972,
2, "*Nekotorije osobennosti strojenija povtorov
me Peculiarities in the Structure of Reduplica-
es]," 11th Congress of Linguists, Bologna, 1972,
"Some Problems in the Structure of Reduplicatives
the basis of the Mon-Khmer languages)," still
manuscript. Specific models of reduplicatives
their meanings have been described in our
mmatika kxmerskogo jazyka [A Grammar of the Khmer
guage] (Moscow: Nauka Publishing House, 1966),
87, 153-4, 208-9.

[2]We make no attempt here to define the struc-
al levels of S and D in phonetic variation.
problem is a rather complicated one, and is
ely of theoretical importance. In the present
e we are concerned with pre-morphemic units which
nevertheless capable of carrying meaning. The
stion of the status of such units has been raised
eatedly in the literature of linguistics. Various

terms (*phonestheme, semantic morpheme, half morpheme* *sub-morphemic unit, non-morpheme, psycho-morph*) have been proposed for what we have provisionally termed "*meaningful nonmorphemic S*" (*see for example the* bibliography in R. Watson, *Reduplication in Pacoh*. M.A. thesis, Hartford, Connecticut, 1966), but none has gained general acceptance. The descriptive nature of the unit under consideration should be obvious. A detailed analysis of phonetic symbolism in Khmer--more accurately, the psycho-associative meanings of certain sounds and sound-combinations-- is given in Long Seam, *Očerki po leksikologii kxmerskogo jazyka* [An Outline of Khmer Lexicology], M.A. thesis, Moscow, 1971.

[3] By "reduplicatives of the second power" we mean reduplicatives formed from reduplicatives. The problem of reduplicatives of the second and higher powers has been considered in "Some Problems in the Structure of Reduplicatives," cited above.

[4] G. Maspero, *Grammaire de la langue khmère (cambodgien)* (Paris: Imprimerie Nationale, 1915), 224-7; J.M. Jacob, "Prefixation and Infixation in Old Mon, Old Khmer, and Modern Khmer," in *Linguistic Comparison in South East Asia and the Pacific* (London: School of Oriental and African Studies, University of London, 1963), 62-70.

[5] In the theory of reduplicative affixation a given affix is, properly speaking, considered to be not some formal unit but a specific model to be filled with the content of the unit undergoing modification.

[6] See E.M. Banker, "Bahnar Reduplication," in *Mon-Khmer Studies I* (Saigon: Linguistic Circle of Saigon, 1964), 124-5.

[7] Banker regards them as reduplicatives; she treats these formations in her paper on reduplication and not in her paper on affixation in the same collection.

[8] Another model of reduplication exhibiting features of affixation is one obtaining in some Austroasiatic languages, though not in Khmer, in which the reduplicator has a fixed and independent divergent base. For instance, Vietnamese sách 'book' > sách-siếc 'books and such, books and the like' (s- = S; -ách = D_R; -iếc = permanent independent D_r. Were it not for the fact that r has S dependent on R it would be possible to speak of affixation; since the base shows divergent reduplication, we must speak of reduplicatives.